ASSESSING READING STRATEGY TRAINING USING A CALL-BASED APPROACH FOR THAI EFL STUDENTS' ENGLISH HYPERTEXT READING

Pitchayapa Chavangklang

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts in English Language Studies

Suranaree University of Technology

Academic Year 2008

การประเมินผลการฝึกกลยุทธ์การอ่านโดยใช้คอมพิวเตอร์ช่วยสอนภาษาสำหรับการอ่านข้อความภาษาอังกฤษซึ่งมีหลายมิติของนักศึกษาไทยที่เรียนภาษาอังกฤษเป็นภาษาต่างประเทศ

นางพิชญาภา ชะวางกลาง

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญามหาบัณฑิต
สาขาภาษาอังกฤษศึกษา
มหาวิทยาลัยเทคโนโลยีสุรนารี
ปีการศึกษา 2551

ASSESSING READING STRATEGY TRAINING USING A CALL-BASED APPROACH FOR THAI EFL STUDENTS' ENGLISH HYPERTEXT READING

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

Thesis Examining Committee

_____

(Dr.Banjert Chongapiratanakul)

Chairperson

_____

(Asst. Prof. Dr. Pannathon Sangarun)

Member (Thesis Advisor)

_____

(Prof. Dr. Andrew Lian)

Member

_____

(Dr. Sirinthorn Seepho)

Member

_____

(Prof. Dr. Pairote Sattayatham)

Vice Rector for Academic Affairs

_____

(Dr. Peerasak Siriyothin)

Dean of Institute of Social Technology

พิชญาภา ชะวางกลาง : การประเมินผลการฝึกกลยุทธ์การอ่านโดยใช้คอมพิวเตอร์ช่วยสอนภาษาสำหรับการอ่านข้อความภาษาอังกฤษซึ่งมีหลายมิติของนักศึกษาไทยที่เรียนภาษาอังกฤษเป็นภาษาต่างประเทศ (ASSESSING READING STRATEGY TRAINING USING A CALL-BASED APPROACH FOR THAI EFL STUDENTS' ENGLISH HYPERTEXT READING) อาจารย์ที่ปรึกษา : ผู้ช่วยศาสตราจารย์ ดร. ปัณณธร แสงอรุณ, 146 หน้า

ถึงแม้ว่าการอ่านข้อความหลายมิติทางอินเตอร์เน็ตจะมีความสำคัญอย่างยิ่งต่อการเรียนภาษาอังกฤษของนักศึกษาไทยที่เรียนภาษาอังกฤษเป็นภาษาต่างประเทศ แต่นักศึกษาจำนวนมากยังขาดทักษะการอ่านที่สำคัญในการทำความเข้าใจข้อความหลายมิติ เพื่อเป็นการพัฒนากลยุทธ์ในการอ่านข้อความหลายมิติ การวิจัยในครั้งนี้จึงได้ฝึกกลยุทธ์ในการอ่านข้อความหลายมิติโดยใช้คอมพิวเตอร์ในการช่วยสอนภาษาสำหรับนักศึกษาไทยที่เรียนภาษาอังกฤษเป็นภาษาต่างประเทศ จำนวน 30 คน เพื่อ: 1) ศึกษาว่าการฝึกกลยุทธ์การอ่านโดยใช้คอมพิวเตอร์ในการช่วยสอนภาษาสามารถพัฒนาการใช้กลยุทธ์การอ่านข้อความหลายมิติหรือไม่ 2) เพื่อศึกษาความคิดเห็นของนักศึกษาที่มีต่อการฝึกกลยุทธ์การอ่านข้อความหลายมิติ

ข้อมูลการวิจัยเก็บรวบรวมจาก 1) แบบสอบถามก่อนและหลังการฝึก 2) แบบทดสอบในการอ่านเพื่อความเข้าใจก่อนและหลังการฝึก และ 3) แบบทดสอบก่อนและหลังบทเรียน แบบฝึกที่ใช้ในการวิจัยสร้างขึ้นโดยใช้กรอบแนวคิดจากทฤษฎีพุทธิปัญญาของแอนเดอร์สัน (Anderson's 1983 cognitive theory) ซึ่งประกอบด้วยกลยุทธ์การอ่านเป้าหมาย 4 กลยุทธ์ ซึ่งใช้เวลาในการฝึกสัปดาห์ละ 2 ชั่วโมง จำนวน 8 สัปดาห์

ผลการศึกษาจากการฝึกกลยุทธ์การอ่านพบว่า: 1) นักศึกษาใช้กลยุทธ์เป้าหมายในการอ่านมากขึ้น; 2) นักศึกษาได้รับคะแนนจากการทดสอบการอ่านเพื่อความเข้าใจหลังการฝึกสูงกว่าคะแนนจากการทดสอบก่อนการฝึก และได้คะแนนจากแบบทดสอบหลังเรียนในแต่ละบทสูงกว่าคะแนนจากแบบทดสอบก่อนเรียน; และ 3) ผลการสัมภาษณ์พบว่านักศึกษามีความคิดเห็นในเชิงบวกต่อการฝึกกลยุทธ์การอ่านข้อความหลายมิติ

ผลการวิจัยในครั้งนี้สนับสนุนผลงานวิจัยที่ผ่านมาซึ่งแสดงให้เห็นว่าการฝึกกลยุทธ์ในการอ่านข้อความหลายมิติโดยใช้คอมพิวเตอร์ในการช่วยสอนภาษาช่วยให้นักศึกษาอ่านข้อความหลายมิติได้ดียิ่งขึ้น

สาขาภาษาอังกฤษ ลายมือชื่อนักศึกษา _____

ปีการศึกษา 2551 ลายมือชื่ออาจารย์ที่ปรึกษา_____

ลายมือชื่ออาจารย์ที่ปรึกษาร่วม_____

PITCHAYAPA CHAVANGKLANG: ASSESSING READING STRATEGY TRAINING USING A CALL-BASED APPROACH FOR THAI EFL STUDENTS' HYPERTEXT READING. THESIS ADVISOR : PANNATHON SANGARUN, Ph. D. 146 PP.

HYPERTEXT READING / EFL STUDENT / READING STRATEGY / CALL

Although reading hypertexts on the Internet is of great importance in learning English for Thai college EFL students, a large number of them still lack essential reading strategies for the comprehension of the hypertexts on the Internet. To enhance their hypertext reading strategies, this study provides a reading strategy training using a CALL-based approach for thirty undergraduate Thai EFL students and investigates: 1) whether the CALL reading strategy training can enhance Thai college EFL students' use of the target reading strategies in comprehending hypertext; and 2) the students' opinion regarding the training.

Data were collected using pre-and post-training questionnaires for reading strategy use, overall pre-test and post-test for reading comprehension, pre-and post-tests for each of the four lessons of the training, and an interview. The CALL lessons were developed using Anderson's (1983) cognitive theory as a framework. It consists of four reading strategies and was run for two hours a week for eight weeks.

The results regarding the CALL lesson training indicate that students: 1) used the target reading strategies more frequently overall; 2) gained higher scores on the overall post-test for reading comprehension and on the post-test of each lessons than the pre-tests; and 3) from the interviews, reported positive views on reading strategy training.

The findings of the present study support the claim of previous research that reading strategy training using a CALL-based approach enhances college EFL students' English hypertext reading.

School of English

Academic Year 2008

Student's Signature _____

Advisor's Signature _____

Co-advisor's Signature _____

ACKNOWLEDGEMENTS

I would like to express my deep gratitude to the following for their help, support, and co-operation from which I benefited in conducting this research.

I wish to express my grateful thanks to my thesis advisor Asst. Prof. Dr. Pannathon Sangarun. She has given me a great advice throughout the course of my study. Through discussions with her in supervision sessions, I have learned to be reasonable, critical and systematic.

I would like to thank all my teachers at Suranaree University of Technology (SUT), especially my Thesis Examining Committee for their help, participation and encouragement. I would like to thank Mr. Cliff Sloane and Mr. Peter Bint, English language lecturers at SUT, for their kind comments and for proof-reading the thesis.

I want also to thank all participants from Nakornratchasima College. Many thanks go to my colleagues: Jitlada Cheunjandang and others during my years of study. Special thanks to Dr. Saran Intakul, who has given me the opportunity to study and valuable supports during my study and my work at Chanapollakan Institute of Technology (C-TECH).

Finally, I would like to thank my dear husband, Mr. Thanaset Chavangklang, for all of his supports in many different ways. He also assisted me in producing the CALL lessons. My dedication extends to my two lovely sons: Shine and Shane, my parents Mr. Sawid and Mrs Sriprai Seubsupab and my sisters, who have all given me great encouragement.

Pitchayapa Chavangklang

TABLE OF CONTENTS

Page

TABLE OF CONTENTS (Continued)

Page

TABLE OF CONTENTS (Continued)

Page

LIST OF TABLES

LIST OF FIGURES

Figure **Page**

CHAPTER 1

INTRODUCTION

1.1 Rationale of the study

Thai college EFL students should be able to read English text on the Internet effectively because they can use the Internet to fulfill their academic requirements, their personal interests, and their future careers. According to Cunningham (1999) the Internet is significant for education for many reasons. Firstly, the Internet provides the possibility of individualized learning on a "as needed" basis for each learner to search for information or to learn English from the Internet. Secondly, the Internet is one of the most useful mediums of communication for learning English. This is because students can use the resources on the Internet for improving their writing, listening, reading and speaking skills. Lastly, hypertextuality, a significant feature of the World Wide Web, provides students with instant access to a wealth of information through hyperlinks to texts, images, sounds and databases across the World Wide Web. Therefore, Thai college EFL students should be able to read English texts on the Internet in order to increase their opportunities for learning English, personal interest and future careers.

However, a large number of Thai college EFL students cannot read English texts on the Internet effectively due to two main reasons. The first reason is that most Thai EFL learners have a low reading ability in English. This may be the result of a history of ineffective English teaching in Thai EFL classrooms. Typically, some Thai

teachers of English teach reading by having students read English texts and answer comprehension questions without any consideration of reading strategies training. Other Thai teachers of English may even teach in Thai, employing a variation of the grammar translation method, to teach reading. This method has the primary objective of translating reading texts in a foreign language into the native language on the basic assumption that the students cannot understand the foreign language directly; hence, they must translate it first. However, there have been many criticisms of the method of translating texts into L1 to teach reading; Dodson (1980) asserts that this method leads to students' frustration, boredom and indiscipline. The second reason is that hypertext reading is more difficult than linear text reading. This is because hypertext reading requires a heavier cognitive load than linear reading. The cognitive load is "the effort and concentration required to maintain several tasks at one time, as readers must know where the information is, decide where to go next, and keep track of where they have been in a network" (Keep, McLaughlin & Parmar, 2000,p.2).

Research on reading (in a second language) shows that training on using reading strategies can improve second language learners' linear text and hypertext reading ability (Ganderson, 1998; Salataci & Akyel, 2002; Kohichi, 2003; Anderson, 2003; Dreyer and Nel, 2003; Schmar-Dobler, 2003; and Dail, 2004). Ganderson (1998) found that L2 French learners used cognitive and metacognitive strategies in reading hypertext. Kohichi (2003) also found that EFL Japanese learners used cognitive strategies (local and global strategies), metacognitve strategies and navigational strategies while they were reading hypertext. Anderson (2003) investigated strategies employed by EFL and ESL learners in the US while reading hypertext and found that the students used metacognitive strategies (i.e. problem

solving strategies and global strategies) and support strategies (i.e. dictionary support, L1 knowledge support). Schmar-Dobler (2003) found that Internet readers had taken the strategies used for reading printed text and applied them to the reading of hypertext. Along with knowing how to navigate the Internet, they also understood the hypertext through their prior knowledge about the topic and the structure of the text. Furthermore, Dail (2004) reported that tenth-grade English language arts students utilized a variety of strategies when reading hypertext via the Internet. These strategies include scrolling the document, skimming the text, note-taking by hand, summarizing information, and relying on prior knowledge. Dreyer and Nel (2003) also found that South African ESL learners who received reading strategy instruction within a technology-enhanced learning environment obtained statistically significantly higher marks on reading comprehension than the group who did not have reading strategy instruction. Similarly, Salataci and Akyel (2002) found that targeted reading strategy instruction has a positive effect on students' English reading comprehension.

In conclusion, L2 research on reading strategies training shows that L2 learner could enhance their reading comprehension by being trained to use reading strategies for both general reading and hypertext reading. However, instruction in either is not widely practiced in Thai college EFL reading classes, as discussed in the previous sections. Also, as CALL is an effective teaching tool nowadays it would be interesting to see its effectiveness in promoting learning. Alessi and Trollip (2001) indicated that CALL is multisensory (i.e. it can display text, images and sound at the same time) and multidimension. They also mentioned that CALL provides interactive learning experience and allows students to study at their own level, interest and needs. This

research therefore investigated how CALL reading strategy training affects EFL learners' hypertext reading comprehension.

1.2 Purposes of the study

The purposes of this study are as follows:

1. To investigate whether the CALL reading strategy training which aims to teach general and hypertext reading strategies can enhance Thai college EFL students' use of the target reading strategies in comprehending hypertext.

2. To investigate the students' opinions regarding the CALL reading strategy training.

1. 3 Research questions

The research questions addressed in this study are:

1. What are the effects of CALL reading strategy training which aims to teach general and hypertext reading strategies on Thai college EFL students' use of the target reading strategies in comprehending English hypertext?

2. What are the opinions of the Thai college EFL students regarding the CALL reading strategy training?

1.4 Hypotheses

The hypotheses of this study are:

Hypothesis 1: Thai college EFL students will be able to use the four target reading strategies to comprehend English hypertexts better after they receive the CALL reading strategy training.

This hypothesis is based on Dreyer and Nel's (2003) research which found that ESL learners who received CALL reading strategy instruction obtained significantly higher marks on reading comprehension than those students who did not have reading strategy instruction.

Hypothesis 2: Thai college EFL students will have positive opinions regarding the CALL reading strategy training.

This hypothesis is based on Salataci and Akyel's (2002), Simthamnimit (2004), Thanasuntornrerk (2004), Suwanabubpha (2006) and Namphadorn (2007) who found that learners were able to perform better in reading comprehension after they had learnt from CALL reading strategy training and the students had positive opinion toward the instruction.

1.5 Definition of terms

Reading strategy

Reading strategy refers to "*the comprehension processes that readers use in order to make sense of what they read. This process may involve skimming, scanning, guessing, recognizing cognates and word families, reading for meaning, predicting, activating general knowledge, making inferences and separating main ideas from supporting ideas*" (Barnett, 1988, p.10)

Hypertext

Hypertext is "*text that is made up of interlinked pieces of text or other objects stored electronically. Each unit of information is called a node, module or topic, and is associated with other modules or external texts or objects by links. Links can be made to external as well as internal ideas*" (Troffer, 2000, p.1).

Hypertext reading strategy

Hypertext reading strategy is "the decision rule (i.e. decision making by the hypertext reader) that a reader follows to navigate through the different nodes of a hypertext" (Salmeron et al. 2004, p 5).

Navigation strategy

Navigation strategy is the strategy that readers use in reading hypertext for example; scrolling up and down the page, clicking links to another page, clicking "refresh", "home", "next", "back", and "search" buttons.

Identifying a core sentence

Identifying a core sentence is "*the act of identifying the subject and the verb in a sentence that results in the ability to comprehend the sentence. There are two core parts of a sentence: the subject and the verb*" (Rongsa-Ard & Poolsawad, 1996, p.123).

Skimming

Skimming is *"the act of finding the main ideas, it is used when readers need to cover a large amount of material in limited time. Skimming helps readers get an overview of an author's main line of argument and helps them to identify the main themes or ideas pursued by the author"* (Rongsa-Ard & Poolsawad, 1996, p.56).

Context clues

Context clues is "*the act of guessing the meaning of a word from its surrounding words, readers can also use different types of context clues, such as definition, restatement, example, and contrast to help them understand texts*". (Rongsa-Ard & Poolsawad, 1996, p.150).

CHAPTER 2

LITERATURE REVIEW

This chapter presents the theoretical framework underlying this study, which includes cognitive theory, usage of reading strategies, the nature of reading comprehension, general text reading strategies, hypertext reading strategy research, general and hypertext reading strategy training, and a model for CALL.

2.1 Theoretical framework

The theoretical framework of the present study is based on Anderson's 1993 cognitive theory. This theory proposes that L2 learning generally proceeds through a series of three stages: cognitive, associative, and autonomous stages (Anderson, 1983). In the first stage, the cognitive stage, learners gradually develop a rough mental representation of a task requirement. Learners also develop a declarative understanding of the reading strategies. In the reading process, learners have a rough picture of reading strategies. They have to understand how to apply reading strategies to a reading task. In the second stage, the associative stage, learners refine and strengthen this representation of learning, but still consciously attend to learning rules and sometimes needs outside support when performing the task. In this process mistakes and misinterpretations learned in the cognitive stages are detected and eliminated while associations between the critical elements involved in the skill are strengthened (Anderson, 2000). To be effective readers after applying useful reading

strategies to a reading task, they have to detect unsuccessful reading strategies. The learners sometimes need outside supports such as training and practice on how to apply useful reading strategies in a reading task. In the third stage, the autonomous stage, the task representation is increasingly refined and the learners are now able to perform the task automatically and autonomously. In the autonomous stage, the learners' skill becomes honed and perfected until it is executed at an expert level (Anderson, 2000). In the context of reading strategy training, the learners are able to apply the successful reading strategies that they have been trained in to other reading tasks autonomously and they are able to comprehend the reading task. According to cognitive theory, while learners are progressing through these three stages, they require extensive practice and feedback, as well as instruction in the use of various useful reading strategies for the task. Only when these conditions are met will the learners develop sufficient proficiency to function at an autonomous level in the learning environment (Anderson, 1983).

The reasons why the present study employed cognitive theory are that cognitive theory has three stages of learning which are appropriate and practical for reading strategy training. The learners learn the reading strategy in the cognitive stage, practice using reading strategy in the associative stage and use reading strategies autonomously in the autonomous stage.

In the present study, the three stages of cognitive theory will be applied in training the participants to use four reading strategies (i.e. navigation, skimming, identifying core sentences, and using context clues) see more detail in chapter 3 section 3.3.5.

2.2 Usage of reading strategies

Reading is a basic life-skill which is a cornerstone for success. It has often been said that the one language skill that students retain throughout their lives is reading. However, most students who learn English as a foreign language (Anderson, 1984, p.1) and second language readers cannot perform reading at the levels required in order to succeed (Carrell, 1988:1). Fluent reading entails heavy demands on the reader's attention and relies on the automatic processes of decoding and comprehension (Samuels, 1994). In the case of ESL/EFL students who are trying to comprehend a text in a language not yet mastered, the task inevitably requires more attention than is available, as their L2 reading is often slower, more laborious and frustrating compared to their L1 reading (Fung, 2003). Indeed, in order to help ESL/EFL students to read more effectively they need reading strategies training.

2.3 Nature of reading comprehension

There are three reading models: bottom-up (Carrell, 1987, p.416), top-down (Smith, 1979), and interactive (Stannovich: 1980, cited in Cohen, 1991, p.86). However, in real reading readers use interactive models for comprehending texts. The three reading models will be explained briefly.

Traditionally, ESL reading instruction has followed the "bottom-up" model of reading (Carrell, 1987: p.416). In this model, reading was viewed as a passive process. The readers decode and reconstruct the author's meaning through recognizing the printed letters and words, then, build up meaning from the smallest textual units at the "bottom" (letters and words) to larger and larger units (phrases, clauses, intersentential linkages) at the top (Carrell, 1988: p.2). Stanovich (1980, cited

in Cohen, 1991:p.86) called these models of reading "text-based" or "data-driven" reading. In this case "data" refers to the letters and words on the page. ESL/EFL readers may use bottom-up reading activities such as using a dictionary and analyzing words or sentence structure in order to get meaning. Cohen (1991: p.86) suggested that the readers avoid this situation by choosing texts which are appropriate for their level of proficiency.

. In 1979, a top-down model of reading was proposed which assume that readers get meaning from the text by using their prior knowledge and experience. Smith (1979) stated that, "the more you already know, the less you need to find out." In other words, the more the readers know about the topic beforehand, the less they use the graphic symbols to help them get meaning or comprehend the text. However, Samuels and Kamil (1984: p.212), claimed that top down model also have problems, as do the bottom-up model. One of the problems is that, for some texts, the reader may have little knowledge about the topic, thus, making predictions is very difficult. A more serious problem is that prediction takes a large amount of time even for a skilled reader. That is to say, it is easier for a skilled reader to recognize the words in the test than to attempt to make predictions.

However, successful readers learn to combine both models while they are reading. The combination of the two models is called the "interactive model of reading" (Stannovich: 1980, cited in Cohen, 1991: p.86). The word "interactive" refers to the interaction of the reader's several kinds of knowledge and the interaction of the reader and the text (Dubin & Eskey, 1986: p.16). According to the interactive model, the reader begins the process by making predictions about the meaning of the topic, then confirming and/or rejecting the predictions (Anderson & Pearson,

1984:255-291), and/or decoding letters and words. Some interactive theorists believed that top-down and bottom-up processes occur almost simultaneously (Hayes, 1991: p.7). This means that readers play an active role if they have a lot of prior knowledge about what they read for information cues (Kamil & Pearson: 1979). On the other hand, passive reading occurs if the readers have little experience or prior knowledge about the topic.

In the present study, the interactive model was used in the design of the reading strategies lessons (for full details see section 3.4.5 in chapter 3).

2.4 Reading strategies

This study concentrates on general reading strategies and hypertext reading strategies.

2.4.1 General reading strategies

General text reading strategies refer to "the comprehension processes that readers use in order to make sense of what they read. This process may involve skimming, scanning, guessing, recognizing cognates and word families, reading for meaning, predicting, activating general knowledge, making inferences and separating main ideas from supporting ideas" (Barnett, 1988: p.10). L2 research on learning strategies shows that active learners consciously use general reading strategies in order to enhance their reading comprehension.

Oxford (1990, 2001b) offers a useful and comprehensive classification scheme of reading strategies used by both L1 and L2 readers. There are two main strategies; (1) direct strategies and (2) indirect strategies. Direct strategies consist of three sub - strategies: (a) memory strategies; (b) cognitive strategies; and (c) compensation

strategies. First, memory strategies are techniques that help readers to store knowledge and retrieve new information. These include grouping, associating/elaborating, placing new words into a context, using imagery, semantic mapping, using keywords, reviewing and using memory strategies for retrieval. Second, cognitive strategies include repeating what is being read, recognizing and using routine formulas and patterns (i.e. identifying core sentences), practicing naturalistically by using the language in an authentic way for reading comprehension. In addition, cognitive strategies also include getting the idea quickly by skimming and scanning text, using resources for receiving and sending messages to find out the meaning of what is read, analyzing and reasoning by translating, transferring, creating structures for input and output (by taking notes, summarizing, highlighting). Finally, compensation strategies include skills such as using inference, which is to look back at the previous page, guess the meaning of words while reading, by using context clues, or by using reference materials, such as dictionaries and footnotes. Indirect strategies related to reading are metacognitive strategies and affective strategies. Metacognitive strategies are behaviors undertaken by the learners to focus, arrange, and evaluate their own learning. Such strategies include (a) directed attention and self-evaluation; (b) organization; (c) setting goals and objectives; (d) seeking practice opportunities and so forth. Affective strategies include self-encouraging behaviors that lower anxiety and encourage learning.

Carrell (1989 and 1998) classified reading strategies into two main categories (1) cognitive and (2) metacognitive strategies. Cognitive strategies deal with the mental processes of learning a target language directly. Cognitive strategies consist of local and global strategies. Local strategies, also called data-driven processing, are

used in bottom-up reading processing (Chun & Plass, 1997; Swaffar et.al, 1991). Local strategies include identifying the meaning of a word, and understanding the structure of a sentence. Global strategies will be used in top-down reading processing, also called conceptually driven or reader-driven processing. They emphasize readers' interpretation and prior knowledge (Chun & Plass, 1997). Global strategies include (a) recognition of coherence and consistency of a text, (b) utilization of knowledge about text structure, (c) inferences and background knowledge about the content of a text.

Metacognitive strategies, on the other hand, include setting goals for reading, revising the use of various cognitive strategies and self-monitoring during reading activities. According to Anderson (2003) metacognitive strategies consist of five components:

1) Prepare and plan for effective reading.
2) Decide when to use particular reading strategies.
3) Know how to regulate the reading strategies they use.
4) Learn how to select various reading strategies.
5) Assess the effectiveness of the reading strategies they use.

In the present study the participants learned three main cognitive reading strategies for enhancing their reading comprehension: skimming, identifying core sentences and using context clues. The reasons for selecting these three general reading strategies are that most Thai college EFL students are not able to use these reading strategies to comprehend text. Due to the time limitation in the present study which lasted only eight weeks the participants were trained to use only three general text reading strategies.

A comparison of the classification of reading strategies proposed by Carell (1989, 1998) and Oxford (1990, 2001b) is presented in the following table.

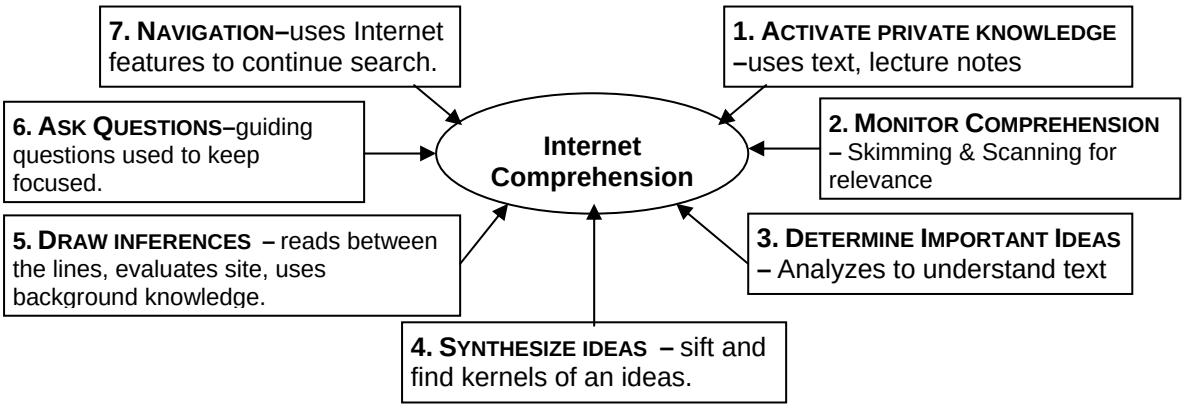
Table 2.1 A comparison of general reading strategies

Researchers		**Strategies**
Oxford (1990,2001b)	Direct strategies	1. Memory strategies
		2. Cognitive strategies
		3. Compensation strategies
	Indirect strategies	1. Metacognitive strategies
		2. Affective strategies
Carrell (1989,1998)	Cognitive	bottom-up and top down processing
	Metacognitive	self-monitoring

2.4.2 Hypertext reading strategy

Hypertext reading strategy is defined as "the decision rule that a reader follows to navigate through the different nodes of a hypertext" (Salmeron, Canas, Kintsch, Fajardo, 2004: p 5). Schmar-Dobler (2003) found that Internet readers have taken the strategies used for reading general text and applied them to text on the Internet. There are six general text reading strategies and one hypertext reading strategy: (1) Activate prior knowledge; (2) Monitor comprehension; (3) Determine important ideas; (4) Synthesize ideas; (5) Draw inferences; (6) Ask questions; and (7) Navigation strategies. The details of each strategy are summarized in the following figure.

Figure 2.1 Internet comprehension reading strategies (Schmar-Dobler, 2003)



Several other research studies have been done in the area of hypertext reading strategies. Konishi, (2003) studied the hypertext reading strategies of six Japanese ESL learners. This study looked at two types of hypertext reading tasks: open task and closed task. Open task is a free browsing in which the learners were allowed to search for information from the Internet without a specific purpose. Closed task has a specific purpose for browsing, such as to find specific information. Three participants were asked to perform the open task and three others were asked to perform the closed task. The data of this study came from a "think aloud protocol", a background questionnaire, recorded screens on the computer of each participant operated during the think aloud session, and the result of computer tracking. It was found that participants used (1) cognitive strategies such as identifying the meaning of words, and (2) meta-cognitive strategies such as goal setting and navigation strategies.

Anderson, (2003) did a survey of online reading strategies used by ESL and EFL students. The objectives of this study were to find out the reading strategies that the participants employed to read hypertext and to compare the hypertext reading

strategies used by ESL and EFL students. The participants of this study were 247 L2 learners (131 EFL learners and 116 ESL learners). The research instrument was the survey of online reading strategies. It was found that the most frequently used strategies in reading online materials by both EFL and ESL learners are metacognitive strategies and problem-solving strategies. There was no significant difference between the metacognitive reading strategies used by ESL and EFL learners. However, EFL learners used more problem-solving strategies, than ESL learners did.

Liou (1994a) used a hypertext reading program to investigate reading strategies used by EFL learners when they read hypertexts. These strategies include the use of dictionary strategies, a re-reading local strategy (i.e. learner will read the text one more time if they do not understand), and pre-reading strategy employed by three groups of EFL learners at different proficiency levels of good and poor learners. The participants were asked to read a hypertext article glossed by the Longman bilingual English-Chinese dictionary. The result indicated that a re-reading local strategy was found to differentiate the three groups of learners. Successful readers were able to comprehend hypertext and they did not look up words in the dictionary. The results from this study indicated that EFL learners employed a dictionary strategy and local cognitive reading strategies to read hypertext.

Ganderson (1998) investigated the reading strategies of six high school intermediate learners of French as a foreign language. The participants were divided into three pairs. They were asked to perform two reading tasks: one involving information retrieval and one involving free browsing. The first task involved searching for daily weather forecasts and another task was to carry on a free search from a French homepage on a topic that they were interested in. The data was

obtained through three main sources: video recording of the computer screen while the participants were working on the computer, audio recording of the participants' discussions during the task, and audio recordings of a post-task interview. The researcher found that the participants focus on known vocabulary or easily recognizable cognates (i.e. phrases) in both tasks, which is cognitive reading strategy (Carrell (1989,1998) ; Oxford (1990,2001b). The research findings from this study also show that the participants read hypertext by using scanning and skimming strategies. This study shows that both cognitive and metacognitive strategies were employed by L2 learners to read hypertext.

Dail (2004) reported that tenth-grade English language arts students utilized a variety of strategies when reading hypertext. These strategies include: hypertext reading strategy and general reading strategy. Hypertext reading strategies found in this study were scrolling the document and navigation strategy. General reading strategies found in this study were skimming the text, note-taking by hand, summarizing information, and relying on prior knowledge. Dail suggested that tenth-grade English language learners should have direct instruction in applying general reading strategies and hypertext reading strategies because the instruction will improve the learners' hypertext reading comprehension.

The above review of L2 research on hypertext reading strategies show that L2 learners employed general text reading strategies which include cognitive and metacognitive strategies to read hypertext along with navigational strategies (Ganderson (1998), Anderson (2003), Dail (2004), Konishi (2003). The hypertext reading strategy that the present study focused on is navigational strategy. The navigational strategies that were trained to the participants in the present study

consisted of two parts. In the first part of the training the participants were trained how to navigate the CALL lessons using the tools provided in the CALL reading strategy training. In the second part of the navigational strategies they were trained to use navigation tools provided by the Web and practice to use the strategy in the Web.

2.5 Reading strategy instruction

In order to read English hypertext successfully, L2 learners need printed text and hypertext reading strategies training.

There are two ways of giving reading strategy instruction - embedded and direct (Chamot, 1990). In embedded instruction, a teacher guides the learners through activities that require the use of a particular strategy, but the teacher does not inform the learners that they are utilizing the strategies being practiced and generalize it to other usages outside that particular lesson. On the other hand, in direct instruction, the teacher informs the learners about the anticipated benefits of utilizing the particular strategy before the training then gives explicit instruction on how to apply and transfer that particular strategy. Previous research on strategy instruction pointed out that embedded strategy instruction did not lead to transfer but direct instruction led to the transfer and maintenance of the trained strategies to new tasks (Chamot, 1990).

Duffy et al. (1986) supported the use of direct strategy instruction for first language reading. Their studies (Duffy et al., 1986 and 1987) indicated that direct instruction in reading strategies were useful to readers in giving them more awareness of the strategies used and how to apply those strategies in the reading practice.

Moreover, Salataci & Akyel (2002) investigated the reading strategies used by Turkish EFL students in Turkish and English. The study also investigated the possible effects of direct reading instruction on reading in Turkish and English. The participants were eight Turkish students enrolled in a pre-intermediate level class. The data were drawn from five sources: think-aloud protocols; observation; a background questionnaire; a semi-structured interview; and the reading component of the PET (Preliminary English Test). The researchers concluded that targeted reading strategy instruction had positive effects on both the students' Turkish and English reading comprehension.

Based on the findings discussed above the direct reading strategy training was used in this present study because it has been found to be more effective than the embedded strategy instruction.

2.6 Computer-Assisted Language Learning (CALL)

CALL is defined as "the search for and study of applications of the computer in language teaching and learning" (Levy, 1997, p.1). The main aim of CALL is to find ways for the teaching and learning of language. To be more specific, CALL is represented by the use of computer technology to promote learning via computer programs such as word processing, presentation packages, guided drills and practice, tutorials, games and simulations, multimedia CD-ROMs, and internet applications such as e-mail, chat, and websites for language learning purposes.

CALL software is effective in promoting language learning according to the finding of the following research. Alessi and Trollip (2001) describes the significant features of CALL software as following:

1. CALL software is multisensory. It can display text, images and sound, at the same time, and allow students to relate what they read to what they hear or see in motion pictures, which reinforces their learning and fosters their retention, retrieval and recall.

2. CALL software is multidimensional and extensible. Learners can access learning materials in many ways. For example, students can use the hypertext to link to other data. Also, students can use glosses, which can appear in text, visuals, motion video or sound.

3. CALL software provides students with an interactive learning experience. This feature enhances students' learning by providing both reinforcing and correcting feedback, and by creating anxiety-free learning.

4. CALL software allows students to learn at their own level, interest and needs. This means that computers allow students to determine what, when and how to learn, including what tools or aids they can use.

In the present study, the CALL software was designed to cover the four significant features as mentioned (see more details in chapter 3 section 3.5)

2.6.1 CALL methodologies

According to Alessi and Trolip (2001), CALL methodologies are tutorials, drills and practice, educational games, simulations and hypermedia.

In tutorials, the teacher designs a computer program to present new information or lessons which the teachers want their students to learn or practice. The lesson activities are developed according to learning objectives. During training the students will interact with the computer program set by the teacher, get feedback from

the program and redo the exercise as much as they need. Successful tutorial instruction should include the following four phases.

1. Information is presented or purposeful skills are modeled.

2. The student is guided through the initial use of the information or skills.

3. The learner practices for retention and fluency.

4. Learning is assessed.

In educational games, learners practice language skills by playing games that allow learners to customize to their own levels of competence and learning style and provide multiple solutions to problems. Some games manage to get progressively harder for those doing well and easier for those doing poorly.

Drills and practice aim to train learners on a particular objective which students had already studied in the classroom, but in which they are not yet competent. The content of drills and practice include reviewing or practicing activities in various types and at various levels of difficulty. Feedback is immediately provided.

A simulation program provides a surrogate of reality that does not require the expense of real life and its risks. A simulation allows learners to experiment in a simulated situation, examine the available choices and make decisions.

Hypermedia has been the primary methodology of data delivery on the Web, on CD ROMs, and other digital media. Hypermedia presents the integration, extension, and enhancement of books and other media in the electronic domain. Hypermedia also improves on books and other media not only by providing better search and navigation abilities, but also by being user modifiable, easily updated and, most importantly, easy to duplicate and distribute. The structure of most hypermedia

programs typically consists of many pages, each of which contains objects (text, images, and sounds) that are cross- linked to other objects or pages.

In summary, there are five CALL methodologies for delivering CALL software and each of them has different purposes and features. In this present study, tutorials and hypermedia will be used in designing the CALL lessons (for more detail see Chapter 3 section 3.5).

2.6.2 Previous research on CALL and reading

CALL has played an important role as a supporting tool in language learning and teaching. Most CALL research on reading strategies focused on the documentation of strategies used by learners and the identification of the strategies used at different proficiency levels. In order to find out the learner's strategies used in a CALL context, some researchers have investigated how reading comprehension is related to CALL strategy-training instruction.

Chou (1992) investigated the effects of four kinds of on-line help in a hypertext reading program: texts only (no help), text with online vocabulary help, text with on-line sentence structural analysis, and text with strategy help (skimming, organizing, following guidelines to paragraphs, and using supplementary information). The researcher then randomly divided 39 high school students into four groups, each group using one of the four versions of the online hypertext reading program. He found that the three different types of help did not make a difference in reading comprehension scores among the groups of the participants; however the participants in these three strategies help groups comprehended the hypertext better than that group which did not receive any strategy help.

Also, in order to investigate whether the CALL programs promoted reading performance, Alkahtani (1999), developed an ESL CALL program on reading. In this study, students read texts on computer screens and responded to questions. It was concluded that the students obtained a better results in reading tests. The researcher also proposed that English teachers should use computers in reading lesson, because reading software could reduce student anxiety and help the students to achieve the learning goals.

In Thailand, Sukamolson (2000) developed a multimedia computer-assisted instruction program for first-year university students to learn Foundation English II by themselves. The program was designed for students to learn and practice four learning skills (i.e. reading, writing, listening and speaking). The researcher allowed the student to study the program by themselves. Therefore, the learners could practice the program whenever they liked. The researcher concluded that the CAI program could assist students to learn the four learning skills including reading by themselves. This study showed that the CAI program was a useful tool for practicing the reading tasks for the learners to practice in their own time and at their own pace. However, in measuring the learning results the researcher in this study did not control the amount of time the learners practiced. Therefore, in the present study the researcher controlled the time for practicing.

Thanasoontornrerk, (2004) developed CAI reading lessons to solve reading problem in comprehending English science texts for EFL undergraduate students in a university in the northeast of Thailand. The purposes of the study were to solve the reading problems that the students have in reading science and technology texts in English, to help the students comprehend these texts by using CAI reading lessons, to

compare the learning achievements between the control group and the experimented group using the CAI reading lessons, and to find out the students' responses to the lessons. The research tools in this study were a questionnaire, CAI reading lessons, interview questions, and students' journals. The results of the study indicated that the students had reading problems due to three reasons: first, a lack of vocabulary knowledge. Second, they were unaware of appropriate reading strategies. Third, the sentences in these texts were unusually complex. After the experiment using the CAI reading lessons, the learning achievements in the experimental group were higher than the control group and the students provided positive feedback on the lessons. The results of this study showed that the students had a better reading comprehension results after using CAI. Also, experimental and control groups were used to compare the treatment of the study. However, there were some arguments that the students in the control group may not have received equal instruction as in the experimental group which unfair for them. Also, in a school setting there is a common problem in social research that is; which is that difficult for the researcher to assign individuals to comparison groups (Charles and Mertler, 2002). Therefore, the present study did not have control group.

Simthamnimit,(2003), constructed a CALL program for reading comprehension in English in order to study the effectiveness of a CALL program in helping undergraduate students develop their reading skills and to find out the students' attitudes to the program. The participants were 47 undergraduate university students in a university in the northeast of Thailand. The research tools were a CALL program on English reading comprehension, direct observation, and interview questions. The result of the study showed that the CALL program could improve the

participants reading comprehension and the participants had positive attitudes towards the CALL lessons. The results of this study showed that the CALL program promoted reading comprehension. However, the researcher in this study used a difficult program which required the services of a programmer. In the present study did not use a difficult program so the researcher was able to edit the program as required.

More recently, Suwannabubpha, (2006) designed a CALL software program to help undergraduate students who were Buddhist monks to read content based text on the Buddhist doctrine of Karma. The objective was to develop efficient CALL software, to compare students' learning achievements in the experimental and control groups, and to find out the students' views on learning through the use of the software. The study instruments were the original CALL software on Karma, direct classroom observation, a questionnaire, and interviews. The results of the study indicated that the software was efficient and the learning achievement of the students in the experimental group was higher than that of the students in the control group. Furthermore, the students had a very good response to the software. The results of this study also showed that CALL was efficient in promoting content based learning. Thus, it would be interesting to see whether CALL software could be used to promote reading in general topics of English hypertext.

Namphadorn (2007) conducted a CALL program to find out whether the program could enhance undergraduate students' strategies for reading comprehension. The participants of the study were ten undergraduate students at a university in the northeast of Thailand. The research tools consisted of a constructed CALL program, the pre- and post-task, an interview, a questionnaire, journals, and a pre-and post-test. The finding of the study showed that the students used the strategies introduced in the

CALL program include scanning, previewing and predicting, guessing the meaning from context, finding topics, finding the main idea, and making inferences as well as questioning. The post-test scores were significantly higher than the pre-test scores at 0.05 levels. The program also enhanced students' strategies for reading comprehension and improved students' reading ability; the interviews indicated the students also enjoyed the CALL lessons. This study showed that CALL lessons were fun to learn and that they were suitable for undergraduate students. Also training in reading strategies enhanced the students' reading comprehension.

The findings of the above research showed that CALL programs are effective in promoting students' reading strategy use, reading comprehension as well as improving students' attitudes towards reading strategy training. Studies by Alkahtani (1999), Sukamolson (2000), Simthamnimit (2004), Thanasoontornrerk (2004) and Suwannabubpha (2006) showed that a lesson in a CALL format is effective in promoting reading comprehension and other learning skills. From the findings of Chou (1992) and Namphadorn, it was seen that after having the learners train to use reading strategies in a CALL format they were able to perform reading tasks more successfully. This is because the CALL program consisted of linked text, sound, video and various visual aids. Also, CALL allows students to learn in their own time, to follow their works at their own pace. Students can determine what, when and how to learn according to their needs. Therefore, in order to enhance the training in reading strategies this present study, CALL format was used.

.

CHAPTER 3

METHODOLOGY

This chapter presents a detailed description of the methodology employed in the study including (1) the participants, (2) research design, (3) research instruments, (4) construction and efficacy of the instruments, (5) data collection, and (6) data analysis.

3.1The participants

The participants of this study were thirty undergraduate second year non – English -major students of the academic year 2007 at a private college in Northeast Thailand. The participants were 19-20 years old. All of the participants were female. Twenty of the participants had studied English for approximately ten years and ten of them for fourteen years. These different periods of study are the result of the Thai National Scheme of Education, in which schools can offer a foreign language as an option.

To invite participants to take part in the present study, the researcher grouped all of the second year students into three groups, according to the grades they received in their first year English II course. These groups are described as advanced level (A to B+), intermediate level (B to C+), and beginner level (below C+). All of the students who were grouped in the intermediate level were invited to participate in the present study and thirty students agreed to participate. The reasons why the researcher

selected the intermediate learners were that, firstly, the intermediate students were the larger group and were interested in participating in the present study. Secondly, the beginner students may not be able to study the CALL lessons because they may not have the necessary vocabularies to comprehend hypertexts, so they may need more time to practice using the target reading strategies. Lastly, the advanced students may not want to participate in the study because they can already use the target reading strategies for reading.

The research purposes, the research instruments and the participants of the present study are presented in the following table.

Table 3.1: The research purposes, instruments and the participants of the study

Research Purposes	**Instruments**	**The participants**
1. To investigate whether the CALL reading strategy training which aims to teach general and hypertext reading strategy can enhance Thai college EFL student's use of the target reading strategies in comprehending hypertext	* Reading strategy training using a CALL based approach * Pre- and post - training questionnaire * Pre- and post-test of overall reading strategies * Pre-and post test of each reading strategy	30 Thai college EFL students
2. To investigate the students' opinions regarding the CALL reading strategy training	* Interview questions	30 Thai collage EFL students

3.2 Research design

The design of the present study is a Single-group-Pre-test-Post-test (Robson, 1999; Nunan, 2001; Charles & Mertler, 2004). This research design is a quasi-experimental methodology that primarily deals with the phenomenon of cause and effect (Walliam, 2001; Thomas, 2003). A quasi-experimental study is conducted under conditions in which it is difficult to control many variables and in which the participants cannot be assigned into experimental and control groups (Nunan, 2001). Moreover, in social scientific research, it is often difficult to control the research environment totally. Also, in a school setting there is a common problem in social research which is that it is difficult for the researcher to assign individuals to comparison groups (Charles and Mertler, 2002). Robson (1999) suggested that there is not a problem in using a quasi-experimental method to simply get a cause and an effect relationship, or to determine where there is an increase after a treatment, or even to assess its statistical significance.

Figure 3.1 Research design

1. Pre-training	**2.Training**	**3. Post-training**
QN1 / Pre-Test	S1/S2/S3/S4	/ Post-Test / QN2 / IN

Note:

QN1 - Pre-training questionnaire
S1 - Navigational strategy
S2 - Identifying core sentence
S3 - Skimming for main idea
S4 - Using context clue

QN2 - Post training questionnaire
IN - Semi-structure interview

The reason for using a Single-group-Pre-test-Post-test design in the present study is that it serves the purpose of the study in investigating the effectiveness of the reading strategies training using a CALL-based approach on the participants' English hypertext reading comprehension before and after the training.

3.3 Research instruments

In this section, details of the research instruments and the process of constructing the instruments are described in detail.

3.3.1 Pre- and post-training questionnaires

The pre-training and post-training questionnaires consisted of twelve questions each with five rating scales (see Appendix 1). The questionnaire was partly adapted from Anderson, (2002). It consisted of two parts: Part I asked about the participants' personal background; and Part II consisted of twelve questions asking about the reading strategies used in reading the hypertext. The first ten questions were adapted from Anderson, (2002) and the last two questions were developed by the researcher. Likert's rating scale was used to construct the questionnaire's 5 points. The scale categories were assigned numeric values, from 1 ("I always do this") to 5 ("I never do this") (See Peterson, 2000).

The purpose of the pre-training questionnaire was, firstly, to investigate the participants' personal data and their familiarity with hypertext. Secondly, to find out what reading strategies they employed to read the hypertext before the training. The

post-training questionnaire was used to find out what reading strategies used after the training. The results in frequency the participants used the reading strategies in hypertext reading before and after the training were analyzed using a t-test to see whether the CALL training was effective in promoting the participants' use of reading strategies. The twelve questions are categorized into the four reading strategies used in training as presented in table 3.2

Table 3. 2 Pre- and post-training questionnaire for reading strategies used

No.	Reading strategy	Questions on Reading Strategies
1	Navigation	I use navigation tools such as the "Next" and the "Back" icons provided by a web page when I read hypertext.
2		I navigate a web site by using the links provided.
3	Skimming	I take an overall view of a hypertext to see what it is about before reading it.
4		I skim a hypertext to find its main idea by reading the first paragraph and the last paragraph.
5		I skim a hypertext by reading the first sentence in each paragraph.
6		I skim a hypertext by reading bold face and italics to identify key word.
7	Core sentence	When reading a hypertext, I try to find the subject and the verb in a sentence in order to help me understand the hypertext.
8		I read slowly and carefully to make sure I can identify the core of a sentence.

(continued)

Table 3. 2 Pre- and post-training questionnaire for reading strategies used (continued)

No.	Reading strategy	Questions on Reading Strategies
9 10	Context clues	I use context clues to help me have a better understanding of a hypertext. When a hypertext becomes difficult, I try to guess the meaning of an unknown word by looking for definition given by the author.
11 12		When a hypertext becomes difficult, I try to guess the meaning of an unknown word by looking for an example given by the author. When a hypertext becomes difficult, I use context clues given by the author.

3.3.2 Overall pre- and post-tests of reading comprehension

The overall pre-and post-tests of reading comprehension consisted of reading tests taken from the reading section of the TOEFL test on the TOEFL web site (www.toefl.com). Each test contains 30 multiple-choice questions with 4- 5 passages to read. Each test takes 2 hours to complete. The pre-and post-test were the same set of questions but the questions were rearranged by the Moodle program (for full details of Moodle see appendix I).

The purpose of the overall pre-and post-tests was to assess students' achievement in reading comprehension. By comparing pre-and post- test scores, the

researcher can see whether students improve their reading comprehension. The researcher constructed the tests as follows:

1. The researcher set the testing objectives corresponding to the learning objectives in the reading strategies training.
2. The researcher selected thirty multiple-choice questions with four alternatives from the reading TOEFL test (www.toelf.com).
3. The tests were posted on the website in the Moodle program.
4. The researcher conducted a pilot study with thirty students from English III class students who were not the participants in the present study.
5. The reliability of the test was determined by using Kuder-Richardson's formula (K.R.20). The reliability of the test was accepted at KR-20 0.7. :

   Rtt = $n/n\text{-}1 \{1- \sum pq/ S^2_t \}$

   n = Number of questions

   p = The number of students who correctly answered each question

   q = The number of students who incorrectly answer each question = 1-p

   S^2_t = Variance of the total score

7. The test items in the post-test were derived from the ones in the pre-test. To avoid the problem of students recall from the pre-test, the computer program in Moodle rearranged the passages and the test items automatically.

3.3.3 Pre-and post- tests of each reading strategy

Using pre- and post- tests of each reading strategy is the ideal method for finding out whether the scores of each reading strategy related to the training. These scores gained from the pre-and post-test were compared to find out the students' ability to use the reading strategies before and after the training. For navigational strategies the test was taken from a navigation text book written by Srisutep (2002). For skimming, identifying core sentences and using context clues the tests were taken from a TOEFL practice text book written by (Rongsa-Ard & Poolsawad, 1996). Each test consisted of 10 multiple-choice questions with 2 passages, which take 10 minutes to complete. The pre- and post-test of each reading strategy was done in a hypertext format and posted on the Moodle program. Before the participants began each lesson they had to do the lesson's pre-test. After the lesson finished the participants had to do the lesson's post-test.

3.3.4 Semi-structured interview

The purpose of interviewing the participants was to gain information about their opinions of the reading strategy training. According to Nunan, (1992) a researcher's decision on the type of interview to be employed in his or her study depends on how much control and the degree of formality s/he requires. This interview also gave an opportunity for the researcher to ask for more information on the effects of the training. Each student was interviewed for approximately 20 minutes (see Appendix C).

Ten guided questions were asked to help the researcher to carry out each interview. The guided questions contained the topics related to the reading strategies

training and the students' opinions on the training. The interview questions were piloted with three groups of two, six, and fifteen students who were chosen from the same population as the group of participants. The purpose was to check the wording of the question and the students' comprehension. Then, the questions were adapted and revised.

3.3.5 The CALL reading strategies training

The CALL reading strategies training was constructed as a learning medium for the participants to learn three general and one hypertext reading strategies for comprehend English hypertext. The training for the present study was done by using a CALL software that was designed by the researcher and developed with the assistance of a programmer using Authorware (Macromedia, 2007), which was the main software for assembling texts, sound, and pictures.

Table 3.3 The CALL reading strategy training

Periods	General and hypertext reading strategy training
1-2	Navigation strategies (hypertext reading strategies and cognitive strategies)
3-4	Skimming for main idea (Cognitive strategies)
5-6	Core sentences (Cognitive strategies)
7-8	Context clues (Cognitive strategies)

The training process started with navigation, skimming, core-sentence and context clues lessons which proceeded through the following three stages of cognitive theory.

1. The training started with the cognitive stage. Firstly, after the participants completed the login process on the Moodle, they read the instructions and the lesson's objectives. This step took minutes. Then, they did the lesson's pre -test. This process took 20 minutes. They studied how to use each reading strategy in the lesson. This process took 80 minutes.

2. In the associative stage, the learners practiced for retention and fluency. They practiced how to apply each of the four reading strategies to read hypertext by doing exercises on the Moodle for 50 minutes. Then, they practiced using each strategy on the websites that the researcher suggested for another 50 minutes.

3. In the autonomous stage, the participants should be able to use each of the reading strategies autonomously for hypertext reading. To assess whether the participants had reached the autonomous stage, they did a post-test which took 20 minutes.

3.4 Construction and efficacy of the CALL lessons

In constructing the CALL lessons, the researcher followed three main stages of design and development: planning, design and development as adapted from Alessi & Trolip (2001) that consisted of the following thirteen steps.

Stage I: Planning

(1) Define the scope

- Goal and Content specification

In this step the researcher determined goals and objectives of the CALL lessons including general and performance objectives, learning strategies, the initial activities, supplementary exercise and tests. The researcher also specified the scope of the CALL lessons according to the course syllabus for English III.

(2) Identify learner characteristics

The researcher studied the target learners' background in advance in order to respond to the learners' needs. The learners' characteristics included: age, educational level, motivation, prerequisite language skills, facility with a computer, access to computers and time availability. In order to do this the researcher produced a learner characteristics chart and the target group of learners was those who fulfilled all the requirements.

(3) Select and collect resources

In this step relevant information resources were collected and made ready for each lesson. The researcher ensured that the materials for content, instructional development and an instructional delivery system such as a computer program and web pages were ready. The resources to be selected and collected can be categorized as follows: -

-Subject matter resources

In the first stage of planning the researcher specified the content of the CALL lessons then the researcher collected material appropriate for the reading strategies. These materials included textbooks, reference materials, and multimedia programs.

- Delivery systems resources

The development software consisted of, (a) Word (Microsoft,2006) for producing of texts, (b) Sound Forge (Sonic Foundry, 2002) for editing sound (c) Flash

(Macromedia, 2004 a) for producing animation, and Authorware (Macromedia, 2007) for constructing and assembling the CALL lessons.

Stage II Design

4. Develop initial content ideas

In this step, the researcher determined the form and characteristics of the instruction by firstly eliminating of ideas. Repeated or impossible ideas were eliminated and the most useful ideas were identified for reconsideration. Secondly, task and concept analysis process was done. The researcher analyzed the tasks and potential content that the students would study until the final content was refined. Thirdly, a preliminary description of the lesson was produced. In designing an effective instructional program, identification of clear learning objectives, type of CALL to be used, steps in learning, learning activities, sequencing, the necessary skills required and the lesson activities were identified. Lastly, evaluation and revision of the design was carried out in order to have a systematic program of instruction.

5. Create flowcharts

In this step, a flow chart was developed. In designing a flow chart, the order or sequence and the instruction that the learners receive during the lesson, i.e. ‘next’ or ‘back’ button or the follow up after the learners finished an exercise was developed. The flowchart shows how the learners’ process can continue smoothly and at the same time improve the learners’ interest and knowledge.

6. Create a storyboard

In this step, the lesson contents were displayed as images for each frame on paper in order to present the lesson content in multiple forms on the computer screen.

In this process the lesson content on the storyboard was evaluated and revised until it was considered satisfactory. The researcher used the data obtain from the previous steps to write the primary text for each lesson, which was the lessons pre-test, the reading strategies lessons, the post-test and exercises. A word processor was used to write the primary text. The information was arranged in lists when appropriate. The content was organized in a clear way, the transitions from one topic to the next when moving from one logical point to another was developed.

Once the researcher had produced drafts of the primary text, the researcher proofread and had experts review the lessons. After that the researcher revised the primary text and wrote the secondary text. The secondary text included a supportive function to the primary text, which included directions, menus, help, and scores. After completion of the texts, the primary and secondary text displays were divided to accommodate the computer display capacity.

- Review the storyboard

This procedure was done to ensure that the storyboards were assembled in appropriate order. In order to do this the researcher located, and noted any problem that occurred, including missing or incomplete directions, lack of interaction, overlapping and poorly spaced displays, redundant or irrelevant topics, poor transitions, and poor learner guidance. After the review the researcher made revisions where necessary.

- Prepare scripts

The researcher prepared a script of both written and spoken texts that were used in the CALL lessons.

Stage III Development

7. Prepare media

- Prepared text

The researcher typed the texts using Microsoft Word.

- Create graphics.

The pictures and animation were created using Flash MX.

- Make audio recording

Audio was recorded or edited using Sound Forge V.7.

8. Program the lessons

At this stage, the storyboard was shifted into the CALL program using the storyboard on paper. The Macromedia® program, a well-known authoring program, was used to produce the CALL software.

9. Carry out an alpha test

In alpha testing the researcher, the programmer and experts tests the CALL program using the following using an evaluation form in appendix F.

- Check look and feel

- Font style, color and size of text

- Use of colors

- Overall screen layout

- Look and placement of buttons

- Check style and conventions

- Grammar (such as use of active and passive voice, tense and moods)

- Punctuation

- Spelling

- Graphics

Check forms

- Subject matter

- Auxiliary information

- Interface

- Navigation

- Pedagogy

- Robustness

The researcher gave the expert an evaluation form to check all the above items. They suggested that the lessons should have bigger fonts, more attractive moving picture and the exercise in the lessons should be shorter.

11. Revise material

After doing an Alpha test, the information from the evaluation form were used to revise the CALL lessons.

12. Perform a beta test

This kind of test is a full test of the final product by the participants. The researcher followed these steps: select the learners, determine prior knowledge, explained the procedure, observe the learners going through the program, interviewed the learners afterwards and assess their learning. In order to do this test, the researcher used three steps.

The first step was to try out the program with a second Year College student, who was not from the research participants; from a private college in Northeast Thailand. Before learning the hypertext reading strategies lessons, the participant was asked to do the pre-training questionnaire, the overall pre-test, the lesson pre-test. The

researcher then explained the procedure to her and she followed the training program. The participant took eight 60-minute periods to complete the lessons. When she finished all the lessons, she was asked to do the overall post-test, the post-training questionnaire, and a CALL assessment questionnaire to assess the learning. After that she was interviewed about the lessons. The data obtained from this process were used to rewrite the lessons.

The next step was to try-out the program with a small group, consisting of six second -year college students were selected. The same procedures were carried out with this group of students. After analyzing the data from the exercises and test scores, and from the pre-and post training questionnaires, the CALL assessment questionnaire and the interview, the researcher revised the lessons accordingly.

The last step was to try out the program with the field. In this step, 30 second year students from a private college in northeast of Thailand were agreed to participate in the lessons. The same procedures were carried out as before. After this, the CALL lessons met the prescribed criteria of 80/80 level according to E1/E2 formula (Brahmawong, 1978). The efficacy of the reading strategies lessons was 81.47/ 84.61.

The lessons' activities included both instructional and practical activities. The scores from all the exercises during the learning and post-test were used to examine the efficacy of the software based on the 80/80 standard using the E1/E2 formula (Brahmawong, 1978) as follows:-

Effectiveness Index = E1/E2

Formula 1

$$E1 = \frac{\overline{X}}{A} \times 100$$

E1 = Efficacy of the process

X = Average score students obtained from the exercises

A = Total score of the exercises in the lesson

$$E2 = \frac{\overline{X}}{A} \times 100$$

E2 = Efficacy of the learning outcomes

X = Average score students obtained from the post-test

B = Total score of the post-test

(13) Make final revision

After the researcher had the beta test of the lessons, the CALL lessons were revised accordingly and the programs were ready to be used.

Screen appearances

On screen 1 (marked as program intro), the screen shows the name of the program, a welcome message and the developer's name. The learners just simply wait until all the displays are shown. After that the learners click the 'next' button to enter the program.

On screen 2 (marked as program menu), the screen shows the program menu which consists of the reading lessons. The learners have to click on the reading lessons to go to the next screen.

On screen 3 (marked as lesson intro), there is a message asks whether the learners are ready to learn, if they are ready they click the “Go” button, if they are not ready, they click the “Go back” button.

On screen 4 (marked as lesson menu), the screen shows reading strategies list that the students have to learn. They are recommended to start with navigation, core-sentence, skimming and context clues.

Most of the activities of the four lessons are the same: each lesson starts with the objectives, a pre-test, a reading strategy, exercises and a post-test. The learners are recommended to study the lessons in order. After they learn navigation strategy, they are able to navigate the program more easily. At the bottom of the lesson page there is a main menu button for the student to navigate back to the main page of the program. This button helps the learners whenever they are lost or when they want to go back to the main page.

After the learners learn the navigation strategy they are able to navigate by using the buttons provided on the left side of the screen which show the following: previous page, next page, main menu, search information, and exit buttons.

3.5 Data Collection

The present study used a Single - group Pre - test and Post - test design. The procedures for data collection were as follows:-

1. The participants answered a pre-training questionnaire to find out their familiarity with the Internet and how they read hypertext.
2. All the participants took the overall pre-test of reading comprehension on the web site at the beginning of the study in order to determine their hypertext reading comprehension before the study.
3. The participants were asked to study the general and hypertext reading strategies lessons for eight 2 hour periods.
4. One day after the last class, the researcher asked the participants to do overall post-test of reading comprehension.
5. One day after the post-test, the researcher asked the participants to do a post-training questionnaire. Then, each student was interviewed in Thai. Each student took fifteen to twenty minutes to complete the interview.

3.6 Data analysis

The researcher analyzed the data according to the following:-

3.6.1 Pre-and post-training questionnaires

Information about the degree of familiarity with the computer in part I of the questionnaire was categorized into groups to find out whether students with different familiarity with the computer used the reading strategy taught differently. Information in part II of the questionnaires was analyzed and calculated using the SPSS software program for Windows to find out the arithmetic mean.

3.6.2 Overall pre- and post-tests of reading comprehension and pre-and post-tests of each lesson

The t-test for two related samples was used to analyze the two sets of data of the present study. The first set of data was the overall pre-and post-test of reading comprehension scores, the second set was the pre- and post-test scores for each lesson. This test was used to determine whether any change had taken place before and after the experimental treatments (Roscoe, 1975). The SPSS software program for Windows was used for the analysis.

3.6.3 Semi-structured Interview

The responses obtained from the interviews were categorized to support data gained from the questionnaires and other instruments regarding their opinions toward reading strategies training.

CHAPTER 4

RESULTS OF THE STUDY

This chapter presents the results of the present study according to the research questions which are as following:

1. What are the effects of CALL reading strategy training, which aims to teach general and hypertext reading strategies, on Thai college EFL students' use of the target reading strategies in comprehending English hypertext?

2. What are the opinions of the Thai college EFL students regarding the CALL reading strategy training?

According to the research questions the results of the study has been described in two main sections. The first section presents the effects of the reading strategies training on the students' ability to use the reading strategies and their reading comprehension. In the third part, the findings of the participants' opinions regarding the reading strategies training were described.

4.1 The effects of the CALL reading strategies training on the reading strategies used

To identify the effects of the CALL reading strategy training on the reading strategies used, the present study used three main research instruments to find out the

effectiveness of the training. The first part reports the findings of the reading strategy use before and after learning using a pre-and post-training questionnaire.

The pre-and post-training questionnaires were used to investigate the students' familiarity with the Internet and how frequently the students used the target reading strategies to read hypertext before and after the training. The results in the first part of the pre-training questionnaire indicated that half of the students preferred reading on the computer whereas the other half did not. The results of this part after the training indicated that seventy-five percent of the participants preferred to read from the computer. Other twenty five percent of the participants had the same opinion as before the training. This means that the reading strategy training using CALL-based approach motivated the students to use reading strategies to read hypertext.

The second part of the questionnaire showed a comparison of the mean scores obtained from the pre-and post-training questionnaires. These reflected the difference in the use of the reading strategies before and after the training. The data obtained from the five-point rating scale was calculated for arithmetic means and standard deviations and t-test results. Table 4.1 presents the means and standard deviations and t-test results of the pre-and post-training questionnaires.

Table 4.1 Means, standard deviations and t-test results from the pre- and post – training questionnaires for reading strategies used

No.	Questions on Reading Strategies	Pre Strategy		Post Strategy		P-value
		Mean	**S.D.**	**Mean**	**S.D.**	
1	I use navigation tools such as "Next" and "Back" icons provided by a web page when I read hypertext.	3.60	0.50	3.80	0.66	0.206
2	I navigate a web site by using the links provided.	3.33	0.80	3.43	0.57	0.557
3	I take an overall view of a hypertext to see what it is about before reading it.	3.73	1.20	4.13	0.82	0.097
4	I skim a hypertext to find its main idea by reading the first paragraph and the last paragraph.	3.00	0.37	4.33	0.48	0.000*
5	I skim a hypertext by reading the first sentence in each paragraph.	2.97	0.76	4.00	0.79	0.000*
6	I skim a hypertext by reading bold face and italics to identify key word.	3.80	0.92	4.00	0.64	0.206
7	When reading a hypertext, I try to find the subject and the main verb in a sentence in order to help me understand the hypertext.	2.83	0.65	4.00	0.74	0.000*
8	I read slowly and carefully to make sure I can identify the core of a sentence.	2.80	0.66	3.87	0.73	0.000*

(continued)

Table 4.1 Means, standard deviations and t-test results from the pre- and post – training questionnaires for reading strategies used (continued)

No.	Questions on Reading Strategies	Pre Strategy		Post Strategy		P-value
		Mean	**S.D.**	**Mean**	**S.D.**	
9	I use context clues to help me have a better understanding of a hypertext.	3.13	1.17	3.53	0.51	0.097
10	When a hypertext becomes difficult, I try to guess the meaning of an unknown word by looking for a definition given by the author.	3.07	0.69	3.40	0.72	0.030*
11	When a hypertext becomes difficult, I try to guess the meaning of an unknown word by looking for an example given by the author.	3.07	0.25	3.27	0.45	0.056
12	When a hypertext becomes difficult, I use context clues given by the author.	2.93	0.78	4.20	0.71	0.000*
	All Strategies	3.21	0.31	3.81	0.16	0.000*

It can be seen from Table 4.1, that the post–training questionnaire mean scores for general and hypertext reading strategies are higher than those from the pre-training questionnaire. The total average score for the pre-training questionnaire is 3.21 (S.D. = 0.31) while the post-training questionnaire score is 3.81 (S.D. =0.16). Thus, the scores for the post-training questions are all higher than 3.00, while the mean scores

for the four reading strategies from the pre-training questions are below 3.00. These strategies are a) I skim by reading the first sentence in each paragraph, when reading a hypertext, b) I try to find the subject and a verb in a sentence in order to help me understand the hypertext, c) I read slowly and carefully to make sure I can identify the core of a sentence**,** and d) when a hypertext becomes difficult, I use context clues given by the author. The reading strategy that students reported that they used most frequently was "I take an overall view of a hypertext to see what it is about before reading it.", which showed an increase from 3.73 (S.D. = 1.20) for pre-training to 4.13 (S.D. =0.82) for post training. The reading strategy that the students used the least before the lessons was "I read slowly and carefully to make sure I can identify the core of a sentence." which received the score of 2.80 (S.D.=0.66). The reading strategy that students reported that they used the most frequently after the training was **"**I skim a hypertext to find its main idea by reading the first paragraph and the last paragraph".

Despite the data from Table 4.1 which shows that most of the post-training questionnaire scores are higher than the pre-training questionnaire scores, it is necessary to investigate further for the significance of these differences. According to the t-test results in Table 4.1, there are five reading strategies that are significantly different in the post - and pre-training scores, represented by having p-values less than .05. Firstly, the overall score of all strategies for pre- and post-training questionnaire are significant, having $p = .000$. Moreover, there are five reading strategies in which test scores are significantly different. They are question number four ($p = 0.000$), question number seven ($p = .000$), question number eight ($p = .000$), question number ten ($p = .030$) and question number twelve ($p = 0.000$). These strategies have p-

values of less than .05. It means that the students claimed to use these reading strategies significantly more frequently than they did before the lesson. Although differences on the pre- and post- training questionnaire in other strategies were not significant, it is obvious that the post- training questionnaire scores for half of the reading strategies were significant, indicating that the students reported that they performed reading strategies more often than they had before. This means that the reading strategy training using CALL-based approach enhance the students' use of four reading strategy taught successfully.

The differences in mean scores of each reading strategy obtained from the pre- and post-training questionnaire results can be viewed in a line graph in Figure 4.1 below.

Figure 4.1 Mean scores for the pre- and post-training questionnaires for reading strategies used

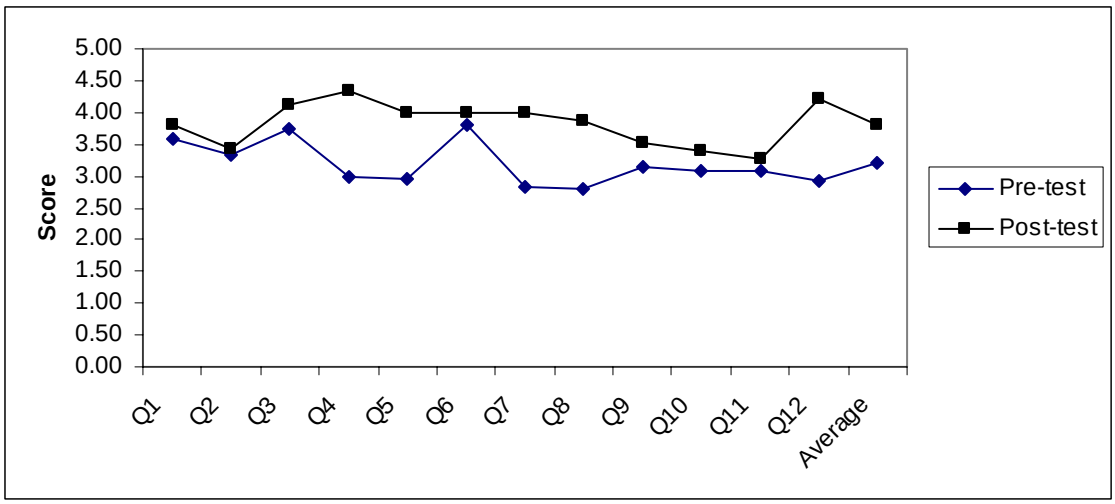


Figure 4.1 shows the mean scores for the pre-and post-training questionnaires for reading strategies used. It can be seen that the average mean scores from the post-training questionnaire, the participants reported that they used the reading strategies

more often after the training. Interestingly, the reading strategies that were used the most frequent were that skimming strategy (no.4) and context clues (no. 11) whereas the reading strategies that were used less frequently were the navigation and core sentence strategies. In summary, the students claimed to use reading strategies more often after taking the CALL lessons than they did prior to the course which means that the reading strategy training using CALL-based approach corresponded to the hypothesis as stated in chapter 1.

In conclusion, the results from the pre-and post-training questionnaire were that after doing the training, the students said they used the trained strategies more often. The average mean scores of 3.21 in pre-training to 3.81 in post-training questionnaires show a statistically significant level at 0.000.

4.2The effects of the CALL reading strategies training on reading comprehension

In order to find out the participants' ability to comprehend hypertext, the following table compares the means scores, standard deviations and t-test results for the overall pre-and post-test.

Table 4.2 Means and standard deviations for the overall pre-and post-tests for reading comprehension

Comparisons	Mean	S.D.	Mean Differences	S.D.	Df	p-value
Pre-test	14.87	1.63	**2.10**	**3.60**	**29**	**0.003***
Posttest	16.97	3.02				

Table 4.2 shows that the overall post-test score for reading comprehension score is higher than the score of the overall pre - test for reading comprehension. That is, the mean test score increases from 14.87 (S.D.= 1.63) prior to the lessons to 16.97 (S.D.=3.02) after the lessons. These scores show clearly that the mean score for the overall post test on reading comprehension is higher than the mean score for the overall pre- test on reading comprehension. The p-value shown in Table 4.2 is less than .05, representing a significant difference between the overall pre-test and post-test scores. That is, the post lesson test score is 2.10 points higher than the pre-lesson test score, having $p = .003$.

In conclusion, the researcher compared the different mean scores from the pre – and post – reading comprehension tests. The results showed that the average mean score for the post-test (16.97) was higher than the average mean score for the pre-test (14.81) which has a statistically significant difference at 0.003. The results correspond well to the first hypothesis that Thai EFL students would be able to use the four target reading strategies to comprehend English hypertexts better after they received the CALL reading strategy training. Thus, it can now be stated that the CALL lessons promote students' hypertext reading comprehension.

To investigate further whether reading strategy training using CALL-based approach enhance English hypertext reading comprehension, pre-and post-test scores for each reading strategy were compared. This section presents a comparison between the test scores for pre-test and post test of each reading strategy.

Table 4.3 Means scores, standard deviations and T-test results for pre-and post-tests for each reading strategy

Comparisons	Pre-test		Post-test		MD	S.D.	Df	p-value
	Mean	S.D.	Mean	S.D.				
Navigation	2.97	1.03	5.20	1.30	2.23	1.55	29	0.000*
Skimming	6.10	1.97	6.80	1.54	0.70	1.02	29	0.001*
Core Sentence	5.37	1.85	5.80	1.77	0.43	1.52	29	0.130
Context Clue	5.87	1.41	7.07	1.20	1.20	1.69	29	0.001*

Table 4.3 shows that the mean of the post-test scores for all strategies are higher than the mean scores than the pre-test. For the navigation lesson, the mean scores increased from 2.97 (S.D.=1.03) to 5.20 (S.D.=1.30). The mean scores for skimming increased from 6.10 (S.D.=1.97) to 6.80 (S.D.=1.30). Likewise, there is a positive change in the mean scores for core sentences, from 5.37 (S.D. = 1.85) in the pre-test to 5.80 (S.D. = 1.77) in the post-test. Finally, the mean scores for the context clues improves from 5.87 (S.D. = 1.41) to 7.07 (S.D. = 1.20).

Concerning the pre- and post-test scores of each reading strategy through the CALL lessons, the average mean scores of the four strategies use increased in term of their different mean scores for the pre– and post-tests. The navigational strategies increased from 2.97 in the pre–test to 5.20 in the post–test. For the skimming strategy, the post – test score was 6.80 from 6.10 in the pre–test whereas identification of core sentences increased from 5.37 in the pre–test to 5.80 in the post–test. Using context clues had a post–test score of 7.07 and 5.87 in the pre–test. It can be seen that the

reading strategy that the students reported using the most were the navigational and using context clues strategies. Also, the results of the different mean scores for the pre- and post–test of the three reading strategies supports the results of the different mean scores for the overall reading strategy test.

It can, therefore, be concluded that for each lesson, the post-test scores for navigation, skimming, and using context clues, are significantly higher than the pre-test score with a p-value of less than 0.05 for those reading strategies which have p-values of .000, .001, .001 , respectively. Whereas the t-test result for identifying core sentences is not significant.

4.3 The results of the participants' opinions toward the CALL reading strategy training using a CALL-based approach

These results were presented using the information from the interviews. Students' interviews were conducted after the participants had finished taking all the four lessons. The interviews were semi-structured and consisted of ten main points to elicit participants opinions towards the reading strategy training using a CALL-based approach. The results from the semi-structured interview were presented according to the four reading strategies taught as follows.

1. Navigation strategy

The results from the interview which ask about navigation strategy that if the participants used any navigation tools provided by the websites that the researcher suggested and on the Moodle, eighty percent of them answered that they used the navigation tools provided from website that the researcher's suggested. Twenty

percent of them answered that they did not use navigational tools provided from the websites that the researcher suggested, but all of the participants used navigational tools on the Moodle because it was compulsory.

2. Skimming strategy

With regard to the skimming strategy, when the participants were asked if they used the skimming strategy taught in comprehending the hypertexts, eighty percent of the students said that they used the skimming strategy for finding the main idea of the texts. Twenty percent did not use this strategy but they prefer to use bottom-up reading strategy for reading.

3. Core sentence

When asked whether the core sentence strategy helped them to understand a hypertext better, fifty percent of the participants said that they understood a hypertext better after they learned how to identify the core sentence. Whereas the other fifty percent did not reply positively to this reading strategy (see more detail in the discussion in chapter 5).

4. Context clues

When the participants were asked to answer what they did when they did not understand a word in a hypertext, and whether they used context clues to guess the meaning of a word, eighty percent of the students said they used context clues to guess the meaning of a word. The other twenty percent preferred to read by using a bottom-up reading strategy.

Moreover, when the participants were asked about their opinions towards the overall lesson, all of them responded positively toward the lessons. The reasons given are that the lessons helped them to read faster. Second, the lesson was effective in

improving their hypertext reading comprehension. Third, the lessons helped them to use reading strategies in comprehending English hypertext. Lastly, the lessons were enjoyable as they were presented in multimedia formats that included hypertext, sound, pictures and motion pictures. It can be summarized that generally, the participants found the lessons were enjoyable and interesting to learn.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

This chapter discusses the results of the study, and makes recommendations for future research. The discussion of the results will correspond to the research questions. The next section of the chapter discusses the implications (a) the effects of the CALL reading strategy training on the reading strategies used, and (b) the effects of the CALL reading strategy training on reading comprehension and (c) students' opinion. And the following section of the chapter explains the limitations of the study, the teaching implications, and the last section includes suggestions for future research.

5.1 Discussion

This section discusses the results of the study according to the hypotheses stated in chapter 1.

The first hypothesis of the present study is:

Hypothesis 1: Thai college EFL students will be able to use the four target reading strategies to comprehend English hypertexts better after they receive the CALL reading strategy training.

a) The effects of the reading strategy training on the reading strategies used

The research findings from this present study show that there are some reading strategies that students reported using at significantly different rates in the pre-and

post-training questionnaires, at a statistically significant difference of less than .05. These strategies include navigation, skimming and using context clues.

1. Navigation strategy

Results from the interview indicated that eighty percent of the participants reported that the navigation strategy improved their hypertext reading for two main reasons. The first reason is that the training helped them to read faster and they could comprehend hypertext better than before. To illustrate:

Excerpt 1

> I could read English from the Internet faster, when I learned how to use the navigation tools from the software.
>
> (Student no.12)

The second reason is that the navigation strategy taught on the website that the researcher suggested helped the participants to search information more efficiently. This is because the participants used the search functions provided by the websites that the researcher suggested such as 'next', 'back', 'history', 'home', 'history', and 'refresh' buttons. This is due to cognitive theory (Anderson, 1983), these buttons came to their mind first whenever they were lost as they were trained to use these buttons in the lessons, so then they were able to use the buttons autonomously. Students tended to use the navigation tools provided by the Web. To illustrate:

Excerpt 2

> Whenever I lost where I was in the websites I mostly clicked "BACK" or "Home" icons. Moreover, the navigation strategy helped them find information in the Internet faster.
>
> (Student no. 2)

Moreover, navigation strategy helped them to find information in the Internet more quickly. To illustrate:

Excerpt 3

> I learned how to use the search from this training, I think when I want to search for any information I just simply click the button at the top of the page.
>
> (Student no.5)

However, twenty percent of the participants did not reply positively to the navigation strategy taught. For example, some students, who did not follow links provided from the websites that researcher suggested, said that sometimes they got lost whilst reading and then they did not want to waste time in returning to the main page. To illustrate:

Excerpt 4

> I was lost in the space when I just clicked and clicked and it took me a lot of time to navigate back to where I was before.
>
> (Student no 8)

This information showed that if the websites that the researcher suggested provided a "main page" button for the students to navigate back on every single page the participants would not get lost. That is the reason why the present study provided the "main page" button on every page in the lessons to prevent for getting lost.

Also, if the interview results are compared with the results of the questionnaires on the use of the navigation strategies, it can be seen that the participants used the navigational strategy differently, but not significance differently, before and after the study. One participant who did not use navigation strategy on the websites that the researcher suggested answered that

Excerpt 5

> I did not use the navigational tool taught on the websites that the researcher suggested because some functions such as search took a long time to search for information I need, I preferred to use a search engine like Google web site to find the information I needed.
>
> (Student no. 20)

Excerpt 6

> I did not understand why I had to follow a link provided from the websites that the researcher suggested because sometimes it took me to a web site that I did not need, it wasted my time, I just wanted to go directly to the web site I needed.
>
> (Student no 19)

This opinion showed that if these participants were instructed on how to do a search properly, they would be able to use a search function from the websites that the researcher suggested more effectively. This interview data indicated that the navigation strategy taught using a CALL based approach can enhance most of the participants to use of navigation strategies to read hypertext more efficiently as they can use the navigation tools autonomously after being trained how to use them.

It can be concluded that most of the participants used the navigation strategies taught more effectively and efficiently after the training.

2. Skimming strategy

The participants reported that they used the skimming strategy the most in hypertext reading according to the results from the pre-and post- test on the skimming strategy and from the interview. This is because the participants can use the skimming strategy taught helped them to find the main ideas of the hypertext. To illustrate:

Excerpt 7

> I think skimming is a very useful strategy for me to find the main idea of a text. I liked to read the first sentence of the paragraph to find the main idea.
>
> (Student no. 3)

Excerpt 8

> I like to find the main idea of a hypertext by skimming through it and to find whether there are any bold or italic words or not.
>
> (Student no.12)

Excerpt 9

> I like to use the skimming strategy very much when I read hypertext. Now I can just read the first and last paragraph to find the main idea of a hypertext, if there are many paragraphs, but if there is only one paragraph, I just skim its first sentence.
>
> (Student no. 9)

These opinions correlate well with the results from the pre-and post-training questionnaires on the reading strategies, which showed that skimming strategy was used with a significant difference before and after the training. According to cognitive theory (Anderson, 1983), after learners study the skimming strategy in the cognitive stage and practice using the skimming strategy in the associative stage, they are then able to use the skimming strategy autonomously.

It can therefore be stated that the skimming strategy taught increased their comprehension of English hypertext.

3. Core-sentence

When asked whether the core sentence strategy helped them to understand a hypertext better, fifty percent of them said that they could understand a hypertext better after they learned how to identify the core sentence. Half of the students replied positively towards core sentence reading strategy. This is because the strategy helped them to understand the text more clearly. To illustrate:

Excerpt 10

> I did not know how to find a core sentence before, but after the lesson, I was able to do this.
>
> (Student no. 11)

Excerpt 11

I am very happy that I could read English faster after I took the CALL lessons

(Student no. 7)

However, the other half of the students did not reply positively to core sentence strategy. They suggested that a longer and more complicated core sentence lesson with more examples of sentences should be developed in order to enhance reading comprehension. An example of these comments was as follow:

Excerpt 12

I think the core sentence lessons are difficult to understand, if there were more examples of sentences it would be better.

(Students no. 27)

Moreover, regarding the results from pre- and post-tests of each reading strategy, this strategy was not significantly different. The following is an example of when the participants did not use the strategy taught. To illustrate:

Excerpt 13

I just wanted to make sure I knew the meaning of every word I read. I liked to find the meaning of unknown words and translated them in to Thai rather than to identify the core sentences.

(Student no. 2)

This problem can be solved in future research by making the students realize that reading by using core sentence helps them to comprehend texts faster. From the students' opinions about the core sentence lesson, it can be summarized that the lesson was beneficial in promoting hypertext reading. Furthermore, a more effective

core sentence lesson which provides more examples of core sentences should be developed in a future study.

4. Context clues

Regarding the results of the interview, the students were asked what they did when they did not understand a word in a hypertext, and whether they used context clues to guess the meaning of a word. Eighty percent of the students said they used context clues to guess the meaning of a word. Also, the results from the pre-and pos-test regarding the use of context clues were significantly different. Using context clues was a reading strategy that helped the participants to comprehend hypertext more effectively. To illustrate:

Excerpt 14

> Using the context clues technique helped me to find the main idea of a text. Whenever I didn't know a meaning of a word I tried to guess its meaning from a definition given by the author.
>
> (Student no.21)

Excerpt 15

> I think guessing the meaning of a new word by using context clues helps me a lot in terms of saving time because I don't need to look up that word in a dictionary anymore, just use the context clues provided by the author.
>
> (Student no. 9)

The above interview data of the three reading strategies (i.e. navigation, skimming and context clues) were consistent with those in Anderson's (2003) study which indicated that EFL learners used general reading strategies (i.e. cognitive strategies) such as skimming and context clues to read hypertext. The finding is also similar to that of Ganderson (1998) and Dail (2004) which reported that the

participants used general and hypertext reading strategies such as skimming, context clues and navigation strategies to read hypertext.

Nevertheless, there were some students who did not use context clues to guess the meaning of the unknown words; they mentioned that they preferred to read carefully and slowly. To illustrate:

Excerpt 16

> I am a careful person; I like to do things carefully. Even in reading I want to make sure I understand nearly every word I read
>
> (Student no. 5)

This problem should be solved in a further study by raising the students' awareness of the usefulness of using context clues and giving more examples of how to use context clues in the lessons.

b) The effects of the CALL reading strategy training on reading comprehension

In terms of the effects of the CALL lessons on reading comprehension, the results from the overall reading strategies from the pre-and post tests showed that the mean scores for the post-test were higher than the mean scores from the pre-test for all the reading strategies. This result suggests that the CALL reading strategies training assisted students in comprehending hypertext better. For example, some of the students stated that they could read a hypertext faster after they learned the CALL lessons. To illustrate:

Excerpt 17

> I am very happy that I can read English faster after I took the CALL lessons.
>
> (Student no. 7)

Excerpt 18

> The CALL reading strategy training helps me find the main idea of a text, whenever I don't know the meaning of the vocabulary, I try to understand its meaning from a definition given by the author
>
> (Student no.11)

The findings of the present study are consistent with results reported by Chou (1992) who indicated that students used skimming strategies after the training to read hypertext. Also the studies of Simthamnimit (2004), Suwanabubpha (2006) and Namphadorn (2007) which showed that learners were able to perform better in reading comprehension after they studied the CALL reading strategy lessons. Furthermore, learners showed positive views on using the CALL lessons.

Students' opinions towards the training

Regarding the participants' opinions of the CALL reading strategies training, most of them responded positively. The reasons given are that first the lesson helped them to read faster. To illustrate:

Excerpt 19

> There were some interesting activities that helped me have a better understanding of the lessons such as skimming and using context clues. They were very useful for me in improving my reading skills. The lessons stimulated me to learn, get involved in the activities, and do exercises, these lessons were very good"
>
> (Student no. 15)

Second, the lesson is effective in improving their hypertext reading comprehension.

Excerpt 20

> Learning from CALL lessons was very interesting. The lessons improved my English hypertext reading comprehension and I can use the four strategies taught for hypertext reading.
>
> (Student no.9)

Excerpt 21

> This navigational strategy was easy to understand because it had demonstration pictures. To illustrate:
>
> (Student no.6)

Lastly, the lessons were enjoyable as they were presented in multimedia formats that include hypertext, sound, pictures and motion pictures. To illustrate:

Excerpt 22

> The CALL lessons were enjoyable as I like the pictures and useful activities. But I think somehow the teacher's lecture is also helpful because when I want to check my understanding I can ask the teacher.
>
> (Student no.14)

In conclusion, three out of the four lessons (i.e. navigation, skimming and context clues) in the present study helped the participants to comprehend hypertext more efficiently, which is consistent with the results of the previous research (Chou, 1992; Ganderson, 1998; Anderson, 2003; Simthamnimit, 2004; Thanasuntornrerk, 2004; Suwanabubpha, 2006; and Namphadorn, 2007)

5.2 Limitations of the study

Although the current study reveals that training in reading strategies training using a CALL-based approach can assist students' English hypertext reading comprehension, it has some limitations in interpretation of the study's results concerning the location of the college and the research data collection methods. Firstly, the present study was conducted in a private college located in the northeastern part of Thailand. The students at this college cover a wide range of characteristics, such as differing background knowledge, relative language English language ability and other personal factors, that may be different from students in

other parts of Thailand. Secondly, this study employed questionnaires, pre-and post-tests as well as interviews questions to collect the data. The results would be different if other research instruments had been used, for example, using think aloud protocol techniques. Thus, the results from the training in reading strategy training using the CALL software found in this study need to be used with consideration of other factors that may impact upon students' hypertext reading comprehension in different groups and settings.

5.3 Teaching implication

The present study has three teaching implications based on the research results.

1. Reading strategy training using a CALL-based approach should be conducted to help university students learners comprehend English hypertext. This is because the CALL software helps the students to read faster, improve their English hypertext reading comprehension and motivates them to read.

2. Reading strategy training using a CALL-based approach should give clear examples of how to identify core sentence and using context clues in order to enhance English hypertext reading comprehension.

3. Before implementing a reading strategy training using a CALL-based approach, the researcher should make students understand the advantages of the reading strategies to comprehend hypertext.

5.4 Recommendations for future research

The following recommendations based on the results of this study are proposed for future research.

5.5.1 Similar research should be conducted with students at other levels of English language ability who are required to read hypertext. They may have various or different problems and need different levels of reading strategies training in order to comprehend hypertext.

5.5.2 The development of other CALL lessons on hypertext reading strategies in a comparative study with two groups of students (i.e. control and experimental group) should be conducted to find out the lessons' effectiveness using other forms of research design.

5.5.3 The study of hypertext reading using CALL via the Internet with an interactive web board should be developed in order to have more effective CALL lessons. This is because when a student needs help or wants to contact with the teacher they can post a message on the web board, then the teacher can reply to the students via the same medium.

5.5.4 A comparative study of the learning achievements of students who learn through CALL lessons in a computer lab with a limited time to study and those who learn with no time limit should be carried out to find out the most suitable time and way to facilitate the most effective reading lessons.

REFERENCES

Alessi, S. & Trollip, (1991). CAI. [on-line]. Available:http://www2.sjsu.edu/ depts/ it/itcdpdf/cai.pdf

Alessi, S.M. & Trollip, S.R. (2001). *Multimedia for learning : methods and development.* Massachusetts: Allyn & Bacon.

Alkahtani, S. (1999). Teaching ESL reading using computers. *TESL Journal, 5(11).*

Anderson, J.R. (1983). *The architecture of cognition.* Cambridge, MA: Harvard University Press.

Anderson, J.R. (1984). *Cognitive psychology and its implications (2nd ed.)* New York: Freeman.

Anderson, N.J. (2002). The Role of Metacognition in Second Language Teaching and Learning. *ERIC Digest*. Washington, DC:ERIC *Clearinghouse on Languages and Linguistics*.

Anderson, N.J. (2003). Scrolling, Clicking, and Reading English: Online reading strategies in a second/foreign language. *The Reading Matrix*. 3(3),1-33.

Anderson, R.C., & Pearson, P.D. (1984). *A schema-theoretic view of basic processes in reading comprehension.* New York: Longman.

Barnett, M. (1988). Teaching through context: How real and perceived strategy use affect L2 comprehension. *The Modern Language Journal, 77*, 150-162.

Brahmawong, C. (1978). *Teaching material system.* Bangkok: Chulalongkorn University Press.

Carrell, P.L. (1989). Metacognitive awareness and second language learning. *Modern Language Journal*, 73, 7-14.

Carrell, P.L. (1998). Can reading strategies be successfully taught? *The Language Teacher*, 22, (3), 7-14.

Charles, C.M. & Mertler, A.C. (2004). *Introduction to Educational Research (4th ed.).* Beijing: Foreign Language Teaching and Researching Press.

Chamot, A.U. (1990). Cognitive instruction in the second language classroom. In J.E. Alatis (ed.), *Linguistics, language teaching and language acquisition: The interdependence of theory, practice and research* (PP.496-513). Washington, DC: Georgetown University Press.

Chapelle, C.A. (1994). CALL activities: Are they all the same? *System* 22(1), 33-45.

Chou, C.T. (1992). Reading comprehension strategies and computer-assisted English language learning, *Research Report* (NSC 81-0301-H003-11) National Science Council. Taipei, Taiwan, ROC.

Chun, D. (2001). *L2 Reading on the Web: Strategies for Accessing Information in Hypermedia.* Computer Assisted Language Learning, 14(5), 367-403)

Chun, D.M. & Plass, J.L. (1997). Research on text comprehension in multimedia environments. *Language Learning and Technology*, 1(1), 60-81.

Cohen, A. D. (1998). Strategies in learning and using a second language. New York: Longman. Holec.

Cunningham, C.A. (1999). Significance of the Internet for Education. *Presentation to C.A.P.E. planning group.* October 9, 1999. Retrieved October, 6, 2006 from http://webinstituteforteachers.org/talks/cape10-9.htm

Dail, J.S. (2004). Reading in an online hypertext environment: A case stud of tenth-grade English students. *A thesis for Doctor of Philosophy*. The Florida States University.

Dodson, C.J. & Jones,M. (1980). Disadvantage in Education, vol. 3, No 1, Spring 1980, 5-6 : *Langauge Learning*, 31, Dec 1981, pp. 439-64

Duffy, G., Roehler, L., Meloth, M., Vavrus, L., Book, C., Putnam, J., Wesselman, R. (1986). The relationship between explicit verbal explanation during reading skill instruction and student awareness and achievement: A study of reading teacher effects. *Reading Research Quarterly*, 21, 237-252.

Duffy, G., Roehler, L., Sivan, E., Rackliffe, G. Book, C., Meloth, M. (1987). Effects of explaining the reasoning associated with using reading strategies. *Reading Research Quarterly*, 22, 347-368.

Dryer, C. & Nel, C. (2003). Teaching reading strategies and reading comprehension within a technology-enhanced learning environment. *System*, 31, 349-365.

Dubin, F D. Eskey, & W. Grabe (Eds.), Teaching second language reading for academic purposes *Reading*, Mass.: Addison- Wesley (pp. 51-76).

Fung, I., Wikinson, I.A. & Moore, D.W.(2003). L1-assisted reciprocal teaching to improve ESL students' comprehension of English expository text. *Learning and Instruction*, 13,(1), 1-31.

Ganderson, R. (1998). New Strategies for a New Medium? Observing L2 reading on the World Wide Web. *On CALL Journal*. Retrieved October, 20,2004 from http://www.oncalljournal.com

Kamil, M., & Pearson, P. (1979). Theory and Practice in Teaching Reading. *New York University Education Quarterly*, Winter, 10-16.

Keep, C., McLaughlin, T., & Parmar, R. (2000). *The Electronic Labyrinth.* Retrieved February 2, 2002. http://www.iath.virginia.edu/elab/elab.html

Konishi, M. (2003). Strategies for Reading Hypertext by Japanese ESL Learners. *The Reading Matrix*, 3, 97-119.

Lee, L. & Gundersen, E. (2002). *Select Readings*. Oxford; Oxford University Press.

Levy, M. (1997). *Computer – assisted language learning: context and conceptualization.* Oxford; Clarendon Press.

Liou, H.C. (1994a). A Study on Reading and Word Consultation Strategies Used by EFL Students with an On-Line Bilingual Dictionary. *Paper presented at Computers in Applied Linguistics Conference*. Iowa State University, 9-13 July,1994.

Liou, H.C. (2000). Assessing Learner Strategies Using Computers: New Insights and Limitations. *Computer Assisted Language Learning*, 13, 65-78.

Maccromedia. (2004a). Flash MX 2004 [Computer software]. San Francisco: Author.

Maccromedia. (2004b). Authorware 7.01 [Computer software]. San Francisco: Author.

Mayes, Terry, Kibby, Mike, Anderson, Tony, (1990). Learning about Learning from Hypertext, Designing Hypermedia for Learning, *NATO ASI Series*, Volume F67, Springer Verlag, 1990.

Moodle, version 1.9 (2007) http://moodle.org

Namphadorn, W. (2007). *Enhancing Students' Strategies for Reading Comprehension through a CALL Program.* Master of Arts Thesis in English, Graduate School, Khon Kaen University.

Nunan, D. (1992). *Research methods in language learning.* Cambridge: Cambridge University Press.

Nunan, D. (2001). *Research Methods in Language Learning.* USA: Cambridge University Press.

O'Mally,J.M. Chamot, A.U. Stewner-Manzanares.G.Russo.R.P. &Kupper.L. (1985a). Learning strategy applications with students of English as a second language. *TESOL Quarterly, 19(3), 557-584.*

O'Malley, J.M. (1987). The effects of training in the use of learning strategies on learning English as a second language. In A. Wenden & J. Rubin (Eds.), *Learner strategies in language,* 133-144. Englewood Cliff, NJ: Prentice Hall International.

O'Malley, J. M. & Chamot, A. U. (1990). *Learning Strategies in Second Language Acquisition.* Cambridge: Cambridge University Press.

Oxford, R.L. (1990). *Language learning strategies: What every teacher should know.* New York: Newbury.

Oxford, R.L. (2001b). Language learning strategies. In R. Carter & D. Nunan (Eds.), *The Cambridge guide to teaching English to speakers of other languages*, 166-172. New York: Cambridge University Press.

Peterson, R.A. (2000). *Constructing effective questionnaires:* London: Sage.

Robson, C. (1999). *Real World Research- A resource for Social Scientists and Practitioner- Research.* Oxford: Blackwell Publishers Ltd.

Rongsa-Ard, A. & Poolsawad, S. (1998). *TOEFL reading comprehension.* Bangkok: TGRE Institute Publications.

Roscoe, J.T. (1975). *Fundamental Research Statistics for the Behavioral Sciences (2nd)*. Hotl, New York: Rinehart and Winston, Inc.

Samuels, S. J. (1994). Toward a theory of automatic information processing in reading, revisited. In R. B. Ruddell, M. R. Ruddell, and H. Singer (Eds.), *Theoretical models and processes of reading* (4th ed.) (pp. 816-837). Newark, DE: International Reading Association.

Simthamnimit, S. (2004). *A Construction of CALL on Reading Comprehension in English.* An Independent Study Report for the Master of Arts in English, Graduate School, Khon Kaen University.

Smith, F. (1982). *Understanding reading*, 3rd ed. New York: Holt, Rinehart and Winston.

Stanovich, K.E. (1980). Toward an Interactive-Compensatory Model of Individual Differences in the Development of Reading Fluency *Reading Research Quarterly*, Vol. 16, No. 1 (1980), pp. 32-71

Schmar-Dobler (2003). Reading on the Internet: The Link between literacy and technology. *Journal of Adolescent & Adult Literacy*. 47(1) http://www.readingonline.org/newliteracies/lit_index.asp?HREF=/newliteracies/jaal/9-03_column/

Salataci, R & Akyel, A. (2002). *Possible effect of strategy instruction on L1 and L2 reading.* Reading in a Foreign Language. Vol. 14. http:// www.nflrc.hawaii.edu/rfl/April2002/salataci/salataci.html

Salmeron, L., Canas, J.J., Kintsch, W. & Fajardo, I. (2004). Reading strategies and hypertext comprehension. *Research department in Experimental Psychology, University of Granada*, Granada: Spain.

Sukamolson, S. (2000). *Conducting and developing a multimedia computer-assisted instruction program for teaching Foundation English IIII.* Chulalongkorn University, Language Institute.

Suwannabubpha, S. (2006). *Content-based language learning software on Kamma*. M.A. thesis, Suranaree University of Technology, Thailand.

Thanasoontornrerk, B. (2004).*The development of English reading lessons in science and technology for English I students at Suranaree University of Technology.* M.A.thesis, Suranaree University of Technology, Thailand.

Thomas, R. M. (2003). *Blending Qualitative & Quantitative Research Methods in Theses and Dissertations.* USA: Corwin Press Inc.

TOEFL website (http://www.toefl.com)

Troffer, A. (2001). *Writing effectively online. How to compose*. Retrieved February 2,2002 from http:// corac.cwrl.utexas.edu/cac/online/01/troffer/htpinter.version.html

Walliam, N. (2001). *Your Research Project – a step-by-step guide for the first time researcher.* London: SAGE Publications Inc.

Yopp, R.H., & Yopp, H.K.(1992). *Literature-based reading activities.* California: Allyn and Bacon.

APPENDICES

Appendix A

Pre-training questionnaire

Part I; Personal background
Directions: Read each question and tick the answer that is appropriate to you.

1. Name…….

2. Gender
   □ Male □ Female

3. Do you like to read English hypertexts from the Internet?

   □ Yes □ No

Part II; Survey of Hypertext Reading Strategies

Directions:
The purpose of this survey is to collect information about the various strategies you use when you read English hypertext. After each statement will be five numbers, 1,2,3,4, and 5, and each number means the following:

'1' means that '**I never or almost never do this'** when I read hypertext.
'2' means that '**I do this only occasionally'** when I read hypertext.
'3' means that '**I sometimes do this**' when I read hypertext. (about half of the time)
'4' means that '**I usually do this**' when I read hypertext.
'5' means that '**I always or almost always do this**' when I read hypertext.

After you finish reading each statement, put a mark (✓) in an appropriate box, which applies to you. Note that there is no right or wrong responses to any of the statements on this survey.

No	Statements	1 Never	2 Occasionally	3 Sometimes	4 Usually	5 Always
1	I use navigation tools such as "Next" and "Back" icons provided by a web page when I read hypertext.					
2	I navigate a web site by using the links provided.					
3	I take an overall view of a hypertext to see what it is about before reading it.					
4	I skim a hypertext to find its main idea by reading the first paragraph and the last paragraph.					
5	I skim a hypertext by reading the first sentence in each paragraph.					
6	I skim a hypertext by reading bold face and italics to identify key words.					
7	When reading a hypertext, I try to find the subject and a verb in a sentence in order to help me understand the hypertext.					
8	I read slowly and carefully to make sure I can identify the core of a sentence.					
9	I use context clues to help me have a better understanding of a hypertext.					
10	When a hypertext becomes difficult, I try to guess the meaning of an unknown word by looking for a definition given by the author.					
11	When a hypertext becomes difficult, I try to guess the meaning of an unknown word by looking for an example given by the author.					
12	When a hypertext becomes difficult, I use context clues given by the author.					

(Adapted from Anderson, N.J. (2002). *The Role of Metacognition in Second Language Teaching and Learning.* ERIC Digest. Washington, DC:ERIC Clearinghouse on Languages and Linguistics).

(Thai version)

แบบสอบถามก่อนการฝึก

ส่วนที่ 1 ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

อ่านและตอบคำถามต่อไปนี้

1. ชื่อ…….
2. เพศ

   ☐ ชาย ☐ หญิง
3. คุณชอบอ่านภาษาอังกฤษจากอินเตอร์เนตหรือไม่?

   ☐ ชอบ ☐ ไม่ชอบ

ส่วนที่ 2 การใช้กลยุทธ์การอ่านทางอินเตอร์เนต

วัตถุประสงค์ของการสำรวจนี้เพื่อเก็บข้อมูลต่างๆเกี่ยวกับกลยุทธ์ในการอ่านจากอินเตอร์เนตในการอ่านภาษาอังกฤษ หลังจากอ่านข้อความจะมีตัวเลข 1,2,3,4 และ 5 และตัวเลขแต่ละตัวมีความหมายดังต่อไปนี้

‘1’ หมายถึง **‘ฉันไม่เคยหรือเกือบไม่เคยทำ’** เมื่ออ่านจากอินเตอร์เนต

‘2’ หมายถึง **‘ฉันทำบ้างเล็กน้อย’** เมื่ออ่านจากอินเตอร์เนต

‘3’ หมายถึง **‘ฉันทำบางครั้ง’** เมื่ออ่านจากอินเตอร์เนต (เกือบครึ่งของทั้งหมด)

‘4’ หมายถึง **‘ฉันทำบ่อยๆ’** เมื่ออ่านจากอินเตอร์เนต

‘5’ หมายถึง **‘ฉันทำทุกครั้งหรือเกือบทุกครั้ง’** เมื่ออ่านจากอินเตอร์เนต

หลังจากอ่านข้อความแล้ว ใส่เครื่องหมาย(✓) ในช่องที่เหมาะสมซึ่งเหมาะสมกับคุณ ไม่มีคำตอบที่ถูกหรือผิดในการทำแบบสอบถามในครั้งนี้

ลำดับ	ข้อความ	1 ไม่เคยทำ (0%)	2 ทำบ้าง (20-30)	3 ทำปานกลาง	4 ทำบ่อยครั้ง	5 ทำเสมอ (100
1	ฉันใช้เครื่องมือในการเสาะหาเช่น"ถัดไป" หรือ "กลับไป" ที่มีให้ในเว็ปไซด์ เมื่อฉันอ่านข้อความจากอินเตอร์เนต					
2	ฉันเสาะหาข้อมูลในเว็ปไซด์โดยการใช้การเชื่อมต่อที่มีให้					
3	ฉันมองภาพโดยรวมของข้อความจากอินเตอร์เนตว่าเกี่ยวกับเรื่องอะไรก่อนที่จะอ่านทั้งหมด					
4	ฉันอ่านแบบกวาดสายตาเพื่อหาใจความสำคัญในสิ่งที่กำลังอ่านโดยการอ่านย่อหน้าแรกและย่อหน้าสุดท้าย					
5	ฉันอ่านแบบกวาดสายตาโดยการอ่านประโยคแรกของแต่ละย่อหน้า					
6	ฉันอ่านแบบกวาดสายตาโดยสังเกตข้อความตัวเข้มและตัวเอียงเพื่อหาคำสำคัญ					
7	เมื่อฉันอ่านข้อความจากอินเตอร์เนตฉันพยายามที่จะหาประธานและคำกริยาในประโยคเพื่อให้ฉันอ่านเข้าใจมากยิ่งขึ้น					
8	ฉันอ่านอย่างช้าๆและระมัดระวังเพื่อให้แน่ใจว่าฉันเข้าใจใจความสำคัญในประโยค					
9.	ฉันใช้บริบทช่วยเพื่อให้ฉันอ่านเข้าใจการอ่านข้อความจากอินเตอร์เนตมากยิ่งขึ้น					
10	เมื่อการอ่านข้อความจากอินเตอร์เนตเกิดความยาก ฉันจะพยายามเดาความหมายของคำที่ไม่รู้โดยการอ่านคำจำกัดความที่ผู้เขียนให้มา					
11	เมื่อการอ่านข้อความจากอินเตอร์เนตเกิดความยาก ฉันจะพยายามเดาความหมายของคำที่ไม่รู้โดยการอ่านตัวอย่างที่ผู้เขียนให้มา					
12	เมื่อการอ่านข้อความจากอินเตอร์เนตเกิดความยาก ฉันจะพยายามเดาความหมายจากบริบท					

(ดัดแปลงมาจาก Anderson, N.J. (2002). *The Role of Metacognition in Second Language Teaching and Learning.* ERIC Digest. Washington, DC:ERIC).

Appendix B

Post- training questionnaire

1. Name…….

2. Gender
   □ Male □ Female

3. After the training, do you like to read English hypertexts from the Internet?

   □ Yes □ No

Survey of Hypertext Reading Strategies

Directions:
The purpose of this survey is to collect information about the various strategies you use when you read hypertext in English hypertext after you took general and hypertext reading strategies CALL lessons. After each statement will be five numbers, 1,2,3,4, and 5, and each number means the following:

'1' means that '**I never or almost never do this'** when I read hypertext.

'2' means that '**I do this only occasionally'** when I read hypertext.

'3' means that '**I sometimes do this**' when I read hypertext. (About half of the time)

'4' means that '**I usually do this**' when I read hypertext.

'5' means that '**I always or almost always do this**' when I read hypertext.

After you finish reading each statement, put a mark(✓) in an appropriate box, which applies to you. Note that there is no right or wrong responses to any of the statements on this survey.

No	Statements	1 Never	2 Occasionally	3 Sometimes	4 Usually	5 Always
After learning the reading strategies training CALL lessons						
1	I use navigation tools such as "Next" and "Back" icons provided by a web page when I read hypertext.					
2	I navigate a web site by using the links provided.					
3	I take an overall view of a hypertext to see what it is about before reading it.					
4	I skim a hypertext to find its main idea by reading the first paragraph and the last paragraph.					
5	I skim a hypertext by reading the first sentence in each paragraph.					
6	I skim a hypertext by reading bold face and italics to identify key words.					
7	When reading a hypertext, I try to find the subject and a verb in a sentence in order to help me understand the hypertext.					
8	I read slowly and carefully to make sure I can identify the core of a sentence.					
9	I use context clues to help me have a better understanding of a hypertext.					
10	When a hypertext becomes difficult, I try to guess the meaning of an unknown word by looking for a definition given by the author.					
11	When a hypertext becomes difficult, I try to guess the meaning of an unknown word by looking for an example given by the author.					
12	When a hypertext becomes difficult, I use context clues given by the author.					

(Adapted from Anderson, N.J. (2002). *The Role of Metacognition in Second Language Teaching and Learning.* ERIC Digest. Washington, DC:ERIC).

(Thai version)
แบบสอบถามหลังการฝึก

1. ชื่อ…….
2. เพศ
   ☐ ชาย ☐ หญิง
3. หลังจากการฝึกคุณชอบอ่านภาษาอังกฤษจากอินเตอร์เนตหรือไม่?
   ☐ ชอบ ☐ ไม่ชอบ

การใช้กลยุทธ์การอ่านทางอินเตอร์เนต

วัตถุประสงค์ของการสำรวจนี้เพื่อเก็บข้อมูลต่างๆเกี่ยวกับกลยุทธ์ในการอ่านจากอินเตอร์เนตในการอ่านภาษาอังกฤษ หลังจากอ่านข้อความจะมีตัวเลข 1,2,3,4 และ 5 และตัวเลขแต่ละตัวมีความหมายดังต่อไปนี้

'1' หมายถึง **'ฉันไม่เคยหรือเกือบไม่เคยทำ'** เมื่ออ่านจากอินเตอร์เนต

'2' หมายถึง **'ฉันทำบ้างเล็กน้อย'** เมื่ออ่านจากอินเตอร์เนต

'3' หมายถึง **'ฉันทำบางครั้ง'** เมื่ออ่านจากอินเตอร์เนต (เกือบครึ่งของทั้งหมด)

'4' หมายถึง **'ฉันทำบ่อยๆ'** เมื่ออ่านจากอินเตอร์เนต

'5' หมายถึง **'ฉันทำทุกครั้งหรือเกือบทุกครั้ง'** เมื่ออ่านจากอินเตอร์เนต

หลังจากอ่านข้อความแล้วเติมเครื่องหมาย (✓) ในช่องที่เหมาะสมกับคุณ ไม่มีคำตอบที่ถูกหรือผิดในการทำแบบสอบถามครั้งนี้

ลำดับ	ข้อความ	1 ไม่เคยทำ	2 ทำบ้าง (20-	3 ทำปานกลาง	4 ทำบ่อยครั้ง	5 ทำเสมอ
	หลังจากการฝึกกลยุทธ์การอ่านแล้ว					
1	ฉันใช้เครื่องมือในการเสาะหาเช่น"ถัดไป" หรือ "กลับไป" ที่มีให้ในเว็ปไซด์ เมื่อฉันอ่านข้อความจากอินเตอร์เนต					
2	ฉันเสาะหาข้อมูลในเว็ปไซด์โดยการใช้การเชื่อมต่อที่มีให้					
3	ฉันมองภาพโดยรวมของข้อความจากอินเตอร์เนตว่าเกี่ยวกับเรื่องอะไรก่อนที่จะอ่านทั้งหมด					
4	ฉันอ่านแบบกวาดสายตาเพื่อหาใจความสำคัญในสิ่งที่กำลังอ่านโดยการอ่านย่อหน้าแรกและย่อหน้าสุดท้าย					
5	ฉันอ่านแบบกวาดสายตาโดยการอ่านประโยคแรกของแต่ละย่อหน้า					
6	ฉันอ่านแบบกวาดสายตาโดยสังเกตข้อความตัวเข้มและตัวเอียงเพื่อหาคำสำคัญ					
7	เมื่อฉันอ่านข้อความจากอินเตอร์เนตฉันพยายามที่จะหาประธานและคำกริยาในประโยคเพื่อให้ฉันอ่านเข้าใจมากยิ่งขึ้น					
8	ฉันอ่านอย่างช้าๆและระมัดระวังเพื่อให้แน่ใจว่าฉันเข้าใจใจความสำคัญในประโยค					
9.	ฉันใช้บริบทช่วยเพื่อให้ฉันอ่านเข้าใจการอ่านข้อความจากอินเตอร์เนตมากยิ่งขึ้น					
10	เมื่อการอ่านข้อความจากอินเตอร์เนตเกิดความยาก ฉันจะพยายามเดาความหมายของคำที่ไม่รู้โดยการอ่านคำจำกัดความที่ผู้เขียนให้มา					
11	เมื่อการอ่านข้อความจากอินเตอร์เนตเกิดความยาก ฉันจะพยายามเดาความหมายของคำที่ไม่รู้โดยการอ่านตัวอย่างที่ผู้เขียนให้มา					
12	เมื่อการอ่านข้อความจากอินเตอร์เนตเกิดความยาก ฉันจะพยายามเดาความหมาย จากบริบท					

(แปลงมาจาก Anderson, N.J. (2002). *The Role of Metacognition in Second Language Teaching and Learning.* ERIC Digest. Washington, DC:ERIC).

Appendix C

Interview questions

1. Do you use any navigation tools provided by a web site? How?
2. What do you do to help you find a main idea and supporting details in a text?
3. Do you think the navigational strategies taught help you understand a hypertext better? Why?
4. What do you do when you do not understand a word in hypertexts?
5. Do you think the identifying core sentence strategy you studied helps you understand hypertexts better? Why?
6. Do you think the skimming strategy you studied helps you understand hypertexts better? Why?
7. Do you think using the context clues strategy you studied helps you understand hypertexts better? Why?
8. What is your opinion toward the general and hypertext reading strategies lessons?
9. Do you think the general and hypertext reading strategy lessons helps you to read hypertext more successfully?
10. Do you think general and hypertext reading strategy lessons is effective in improving your hypertext reading comprehension?

(Adapted from Chun, D. (2001). *L2 Reading on the Web: Strategies for Accessing Information in Hypermedia.* Computer Assisted Language Learning, 14(5), 367-403)

(Thai version)
คำถามในการสัมภาษณ์

1. คุณใช้เครื่องมือในการเสาะหาข้อมูลที่ให้มาโดยเว็ปไซด์หรือไม่ ถ้าใช่ใช้อย่างไร
2. คุณทำอย่างไรที่จะช่วยให้คุณหาใจความสำคัญและข้อความสนับสนุนในข้อความจากอินเตอร์เนต
3. คุณคิดว่ากลยุทธ์ในการเสาะหาข้อมูลคุณเรียนไปช่วยให้คุณเข้าใจข้อความจากอินเตอร์เนตมากขึ้นหรือไม่ ถ้าได้ได้อย่างไร
4. คุณจะทำอย่างไรเมื่อคุณไม่เข้าใจคำบางคำในข้อความจากอินเตอร์เนต
5. คุณคิดว่ากลยุทธ์ในการหาประโยคหลักที่คุณเรียนไปช่วยให้คุณเข้าใจข้อความจากอินเตอร์เนตมากขึ้นหรือไม่ ถ้าได้ได้อย่างไร
6. คุณคิดว่ากลยุทธ์ในการอ่านแบบกวาดสายตาที่คุณเรียนไปช่วยให้คุณเข้าใจข้อความจากอินเตอร์เนตมากขึ้นหรือไม่ ถ้าได้ได้อย่างไร
7. คุณคิดว่ากลยุทธ์ในการเดาความหมายจากบริบทที่คุณเรียนไปช่วยให้คุณเข้าใจข้อความจากอินเตอร์เนตมากขึ้นหรือไม่ ถ้าได้ได้อย่างไร
8. คุณมีความคิดเห็นอย่างไรต่อการเรียนกลยุทธ์การอ่านทั่วไปและกลยุทธ์การอ่านจากอินเตอร์เนตในครั้งนี้

9. คุณมีความคิดเห็นอย่างไรต่อการเรียนกลยุทธ์การอ่านแบบทั่วไปและการอ่านจากอินเตอร์เนต คุณคิดว่าการฝึกครั้งนี้ช่วยให้คุณอ่านข้อความจากอินเตอร์เนตประสบผลสำเร็จมากขึ้นหรือไม่

10. คุณคิดว่าการใช้บทเรียนการอ่านแบบทั่วไปและการอ่านจากอินเตอร์เนตในครั้งนี้มีประสิทธิภาพในการช่วยให้คุณอ่านข้อความจากอินเตอร์เนตเพื่อความเข้าใจได้หรือไม่

(ดัดแปลงจาก Chun, D. (2001). *L2 Reading on the Web: Strategies for Accessing Information in Hypermedia.* Computer Assisted Language Learning, 14(5), 367-403)

Appendix D

Lesson plan for the CALL lessons

Title : **The reading strategies training using CALL**

Participants : **30 English III students**

Subject : **English III**

Periods : **8 (16 hours)**

Objectives :

1. **Students will be able to use navigation tools provided.**
2. **Students will be able to use skimming strategies to read hypertexts.**
3. **Students will be able to identify core sentences in hypertexts.**
4. **Students will be able to use context clues to understand hypertexts.**

Instructor : **Pitchayapa Chavangklang**

Period	Contents	Activities	Teaching Aids	Evaluations
1-2	CALL Introduction Learning objectives. Navigation strategies.	1. The teacher introduces the CALL lessons, including the objectives, and assessments. 2. Students study the objectives of the navigation lesson. 3. They are assigned to do the lesson's pre - test. 4. Students study the navigation lesson. 5. The students practice using navigation tools on the Moodle and on a website that the researcher suggested. 6. Students do the lesson's post-test.	1. Computers connected to the Internet	Pre-test and post-test results.
3-4	Skimming strategy	1. Students study the objectives of the skimming lesson. 2. They are assigned to do the lesson's pre - test. 3. Students learn the skimming lesson. 4. After the students study how to use skimming strategy to read hypertext, they are assigned to do the lesson's exercises in the Moodle. 5. Students do the lesson's post-test.	1. Computers connected to the Internet	Pre-and post-tests results.

Period	Contents	Activities	Teaching Aids	Evaluations
5-6	**1. Core sentences**	**1. Students study the objectives of the core sentence lesson.** **2. They are assigned to do the lesson's pre - test.** **3. Students learn the core sentence lesson.** **4. After the students study how to use core sentence strategy to read hypertext, they are assigned to do the lesson's exercises in the Moodle.** **5. Students do the lesson's post-test.**	**1. Computers connected to the Internet.**	**Pre-and post-tests results.**
7-8	**Using context clues**	**1. Students study the objectives of the context clues lesson.** **2. They are assigned to do the lesson's pre - test.** **3. Students learn the context clues lesson.** **4. After the students study how to use context clues strategy to read hypertext, they are assigned to do the lesson's exercises in the Moodle.** **5. Students do the lesson's post-test.**	**1. Computers connected to the Internet**	**Pre-and post-tests results.**

Appendix E

Effective Index of the lessons (E1/E2)

The individual trials for the effectiveness of the CALL reading strategy training

Navigational strategies

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
1	4	8	7
Total Score	**4**	**8**	**7**
Mean score	**4.00**	**8.00**	**7.00**
Percentage	**40.00**	**80.00**	**70.00**

Using context clues

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
1	5	6	8
Total Score	**5**	**6**	**8**
Mean score	**5.00**	**6.00**	**8.00**
Percentage	**50.00**	**60.00**	**80.00**

Core sentences

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
1	4	8	9
Total Score	**4**	**8**	**9**
Mean score	**4.00**	**8.00**	**9.00**
Percentage	**40.00**	**80.00**	**90.00**

Skimming

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
1	6	8	7
Total Score	**6**	**8**	**7**
Mean score	**6.00**	**8.00**	**7.00**
Percentage	**60.00**	**80.00**	**70.00**

Lesson	Lesson Name	Pre-test score	Exercise score	Post-test score	E1	E2
1	Navigation	40.00	80.00	70.00		
2	Context clue	50.00	60.00	80.00		
3	Core sentence	40.00	80.00	90.00		
4	Skimming	60.00	80.00	70.00		
Total		**190.00**	**300.00**	**310.00**		
Percentage		**47.50**	**75.00**	**77.50**	**75.00**	**77.50**

The small group trial for the effectiveness of the CALL reading strategy training

Navigational strategies

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
1	6	6	8
2	5	8	7
3	5	7	9
4	5	6	7
5	4	8	8
6	5	8	7
Total Score	**30**	**43**	**46**
Mean score	**5.00**	**7.17**	**7.67**
Percentage	**50.00**	**71.67**	**76.67**

Using context clues

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
1	5	8	9
2	4	6	8
3	5	8	7
4	6	8	9
5	5	8	7
6	6	8	9
Total Score	**31**	**46**	**49**
Mean score	**5.17**	**7.67**	**8.17**
Percentage	**51.67**	**76.67**	**81.67**

Core sentence

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
1	4	7	8
2	5	9	9
3	4	7	8
4	4	7	8
5	4	8	7
6	5	8	9
Total Score	**26**	**46**	**49**
Mean score	**4.33**	**7.67**	**8.17**

Percentage	**43.33**	**76.67**	**81.67**

Skimming

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
1	6	8	6
2	4	8	9
3	4	8	9
4	4	7	8
5	4	8	7
6	5	6	8
Total Score	**27**	**45**	**47**
Mean score	**4.50**	**7.50**	**7.83**
Percentage	**45.00**	**75.00**	**78.33**

Lesson	Lesson Name	Pre-test score	Exercise score	Post-test score	E1	E2
1	Navigation	50.00	71.67	76.67		
2	Context clue	51.67	76.67	81.67		
3	Core sentence	43.33	76.67	81.67		
4	Skimming	45.00	75.00	78.33		
Total		**190.00**	**300.00**	**318.33**		
Percentage		**47.50**	**75.00**	**79.58**	**75.00**	**79.58**

The field trial for the effectiveness of the CALL reading strategy training

Navigational strategies

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
	10	10	10
1	4	7	9
2	5	8	9
3	5	7	9
4	6	8	10
5	4	8	9
6	4	8	9
7	5	8	8
8	6	8	8
9	5	8	8
10	6	8	8
11	6	8	9
12	6	8	9
13	6	8	7
14	5	9	7
15	4	8	9
Total Score	**77**	**119**	**128**
Mean score	**5.13**	**7.93**	**8.53**
Percentage	**51.33**	**79.33**	**85.33**

Using context clues

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
	10	10	10
1	5	9	8
2	4	9	8
3	5	8	8
4	5	7	9
5	4	8	7
6	5	8	8
7	6	8	9
8	6	8	8
9	5	8	8
10	6	8	8
11	5	7	8
12	5	9	9
13	6	9	9
14	4	9	9
15	6	8	8
Total Score	**81**	**131**	**133**
Mean score	**5.06**	**8.19**	**8.31**
Percentage	**50.63**	**81.88**	**83.13**

Core sentence

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
	10	10	10
1	4	9	9
2	5	8	8
3	4	8	8
4	5	8	10
5	6	8	8
6	6	9	9
7	4	8	8
8	5	8	9
9	6	8	9
10	6	8	9
11	6	8	8
12	5	8	9
13	6	8	9
14	5	8	8
15	5	9	9
Total Score	**78**	**123**	**130**
Mean score	**5.20**	**8.20**	**8.67**
Percentage	**52.00**	**82.00**	**86.67**

Skimming

Student Number	Pre-test score (10 Points)	Exercise score (10 Points)	Post-test score (10 Points)
	10	10	10
1	4	7	8
2	4	7	8
3	6	8	8
4	5	9	10
5	5	8	9
6	4	9	8
7	5	8	8
8	5	8	8
9	5	8	8
10	5	8	8
11	5	8	9
12	6	9	8
13	4	9	8
14	6	9	9
15	4	9	8
Total Score	**73**	**124**	**125**
Mean score	**4.87**	**8.27**	**8.33**
Percentage	**48.67**	**82.67**	**83.33**

Lesson	Lesson Name	Pre-test score	Exercise score	Post-test score	E1	E2
1	Navigation	51.33	79.33	85.33		
2	Skimming	50.63	81.88	83.13		
3	Core sentence	52.00	82.00	86.67		
4	Context clues	48.67	82.67	83.33		
Total		**202.63**	**325.88**	**338.46**		
Percentage		**50.66**	**81.47**	**84.61**	**81.47**	**84.61**

Appendix F

Evaluation form for CALL lessons

Program: **CALL reading strategy training**

Reviewer: **…….** **Date:** **……**

ITEM	ACCEPTABLE	NEEDS WORK	COMMENTS
Subject matter			
Language, style, grammar			
Reading level			
Technical terms			
Spelling, grammar, and punctuation			
Auxiliary Information			
Introduction			
Directions			
Affective consideration			
Motivation			
Interface			
Displays			
Presentation modes			
Text quality			
Animation and graphics			
Audio			
Navigation			
Navigation aids			
Consistency			
Restarting			
Pedagogy			
Methodology			
Interactive			
Cognitive capacity			
Learning strategies			
User control			
Questions			
Answering questions			
Quality of feedback			
Format of feedback			
Invisible features			
Too much data			
Robustness			
On different computers			

Adapted from Alessi and Trollip, 2001.

(Thai version)

แบบประเมินบทเรียน

ชื่อบทเรียน: **…….**

ผู้ประเมิน: **……. วันที่:** **……..**

หัวข้อการประเมิน	**ยอมรับได้**	**ต้องปรับปรุง**	**ข้อเสนอแนะ**
เนื้อหา			
ภาษา รูปแบบและไวยกร			
ระดับความยากในการอ่าน			
คำศัพท์เฉพาะ			
ตัวสะกดและการใส่เครื่องหมาย			
ข้อมูลเกี่ยวกับตัวช่วยต่างๆ			
การแนะนำบทเรียน			
คำสั่ง			
ข้อมูลเกี่ยวกับการจูงใจ			
การจูงใจ			
การออกแบบจอภาพ			
ผลการแสดงหน้าจอ			
รูปแบบการนำเสนอ			
คุณภาพของตัวหนังสือ			
แอนนิเมชั่นและกราฟิค			
เสียง			
การใช้ระบบเนวิเกชั่น			
ตัวช่วยในการเนวิเกท			
ความสม่ำเสมอ			

หัวข้อการประเมิน	ยอมรับได้	ต้องปรับปรุง	ข้อเสนอแนะ
การเริ่มต้นใหม่			
ด้านการเรียนภาษาและการจัดการในบทเรียน			
วิธีการนำเสนอ			
การมีส่วนร่วมของผู้เรียน			
ความสามารถในการเรียนรู้ของผู้เรียน			
กลยุทธ์การเรียนรู้			
การควบคุมของผู้ใช้			
คำถาม			
การตอบคำถาม			
คุณภาพของการสนองกลับ			
รูปแบบของการสนองกลับ			
ข้อมูลที่มองไม่เห็น			
ข้อมูลมากเกินไป			
ข้อมูลเกี่ยวกับความพิวเตอร์			
เมื่อใช้กับคอมพิวเตอร์เครื่องอื่น			

ดัดแปลงมาจาก Alessi and Trollip, 2001.

Appendix G

Overall pre-and post-tests for reading comprehension
Printed Version

Questions 1-5

The next famous woman writer to be considered is Dorothy Parker, an American poet, short story writer, and literary critic who became famous in the early twentieth century for her witty but cynical observations on life. She got her first paying job as a writer in 1916 at the age of 23 when she began working for a women's magazine, and nine years later she became a contributor to The New Yorker as a book reviewer.

In addition to her magazine work, she published volumes of poetry and short stories with the recurrent themes of disappointment with life and the loss of idealism. One of her most famous observations, "Men seldom make passes / At girls who wear glasses,' Came from the poem "News Item," Which was published in the volume Enough Rope (1926). This volume of poetry was followed by Sunset Gin (1928), Death and Taxes (1931), and a collection of short stories Here Lies (1939).

1. According to the passage, Dorothy Parker was Not famous for
A. poetry
B. humor
C. book reviews
D. autobiography

2. Dorothy Parker's first job was
A. for a women's magazine
B. for The New Yorker
C. as a literary critic
D. as a short story writer

3. In line 7, the word "recurrent" could best be replaced by which of the following?
A. Related
B. Flowing
C. as a literary critic
D. as a short story writer

4. In what year did "News Item" appear?
A. 1916
B. 1928
C. 1928
D. 1931

5. With what topic does the paragraph preceding the passage most likely deal?
A. Dorothy Parker's early childhood
B. American literature of the nineteenth century
C. An introduction to literary criticism
D. A well-known female author other than Dorothy Parker

Questions 6-10

Desert tundra, or cold desert, occurs on the Arctic edges of North America, Europe, and Asia. In these areas the near eternal freezing temperatures cause an environment in which the year means that vegetarian lacks sufficient moisture for growth. During the short period of time when the temperature increases enough for the ice to melt, there is generally a large volume of water. This excess of water, couple with lack of drainage through the frozen subsoil, does not allow vegetation to flourish.

6. What would be the most appropriate title for the passage?
A. Where Desert Tundra is found
B. The Weather in the Arctic
C. Why cold Deserts Occur
D. The Variety of Plant Life in Desert Tundra

7. According to the passage, desert tundra is found
A. throughout North America, Europe, and Asia
B. in Antarctica
C. on the Arctic borders of the northern continents
D. at the North Pole

8. According to the passage, what makes plant life almost impossible in areas of desert tundra during most of the year?
A. Excessive water on the plants
B. The frozen state of the water
C. The increase in temperature
D. The lack of ice

9. Which of the following happens when the weather heats up?
A. Plants can flourish.
B. Vegetation lacks sufficient moisture.
C. The days become shorter.
D. There is too much water.

10. According to the passage, why can't the water drain after it melts?
A. The land beneath the surface is still frozen.
B. The temperature is too high.
C. The period of time is too short.
D. The vegetation is flourishing.

Questions 11-14

It is the role of the Federal Reserve, known simply as the Fed, to control the supply of money in the U.S. through its system of twelve regional Federal Reserve Banks, each with its own Federal Reserve District Bank. Many commercial banks belong to the Federal Reserve System and as members must follow the Fed's reserve requirements, a ruling by the Fed on the percentage of deposits that a member bank must keep either in its own vaults or on deposit at the Fed. If the Fed wants to change the money supply, it can change reserve requirements to member banks; for example, an increase in the percentage of deposits required to be kept on hand would reduce the available money supply. Member banks can also borrow money from the Fed. An increase in the discount rate would reduce the funds available to commercial banks and thus shrink the money supply. In addition to using reserve requirements and the discount rate to control the money supply, the Fed has an additional powerful tool: open-market operations.

11. According to the passage, the main purpose of the Federal Reserve System is to
A. increase reserve requirements
B. increase or decrease the amount of money available
C. increase the number of Federal Reserve Banks
D. increase the money kept on deposit by member banks

12. When the Fed controls the percentage of deposits kept on hand by member banks, it controls
A. district banks
B. the discount rate
C. the reserve requirement
D. borrowing by commercial banks

13. The passage implies that a lowering of the discount rate would lead to
A. an increase in the money supply
B. a decrease in borrowing from the Fed by commercial banks
C. a decrease in the money available
D. an increase in the reserve requirement

14. The paragraph following the passage most likely to discuss
A. the need for controlling the money supply
B. the structure of the Federal Reserve System
C. recent changes in reserve requirements
D. open-market purchases and sales

Questions 15-19

Fog occurs when damp air above the surface of the earth is cooled to the point at which it condenses. Of the two types of fog, advection fog occurs along the ocean coast or near rivers or lakes. This type of fast moving fog, which may cover vast

areas, occurs when warm winds blow across a cold surface of land or water. In this collision of heat and cold, the warm air is cooled to the point at which the water vapor condenses into fog. Radiation fog, quite different from advection fog, is immobile cloud-like moisture generally found hovering over wintertime valleys. It occurs on clear nights when the earth's warmth escapes into the upper atmosphere.

15. According to the passage, fog is found when wetness in the air is
A. vaporized
B. cooled
C. dampened
D. heated

16. According to the passage, advection fog is found
A. in valleys
B. in the ocean
C. near bodies of water
D. only in small, enclosed areas

17. In the passage, radiation fog is said to be
A. similar to advection fog
B. found in coastal areas
C. fast-moving
D. trapped moisture hanging over inland valleys

18. According to the passage, which of the following statements about fog is true?
A. Advection fog is caused when cold winds blow across a heated land surface.
B. Advection fog is the type of fog that occurs in small valleys on clear nights.
C. Radiation fog occurs when cooled atmosphere meets with heat from the earth.
D. Radiation fog generally moves quickly across vast areas of land.

19. The author's purpose in this passage is to
A. explain the different types of fog
B. describe where different types of fog are found
C. discuss advection fog
D. give a scientific description of various types of precipitation

Question 20-24

It is a strong belief among certain groups of people that the medical community should take every possible step to keep a person alive, without regard for the quality of that person's life. But other people argue just as strongly that patients who are facing a life of pain and incumberance on others have the right to decide for themselves whether or not to continue with life-prolonging medications and therapies.

The question, however, is really far more difficult than just the issue of a terminally ill patient of sound mind who directs the physician not to continue with any treatment that does not cure the disease but only helps to draw out a painful death. When the quality of life has disintegrated, when there is no hope of reprieve, when is

intense and ever present pain, does the patient have the right to be put to death? The patient in this case in not asking the physician to discontinue treatment but instead is requesting the physician, to supposed protector of life, to purposefully bring a life to a close.

20. With what subject is the passage mainly concerned?
A. Community beliefs
B. Ways to prolong life
C. The right to die
D. The role of the physician

21. The phrase "medical community" (sentence 1) means
A. the area around a hospital
B. medicines and therapies
C. doctors and nurses
D. medical journals

22. "However", as it is used in the first sentence of the second paragraph, could best be replaced by which of the following?
A. On the contrary
B. Thus
C. In effect
D. Certainly

23. In which situation does the author suggest that a patient might have the right to be put to death?
A. When the patient is of sound mind
B. When pain has disintegrated
C. At the request of the physician
D. When the patient is facing great pain and inevitable death

24. Which of the following statements best applies to the idea presented in the passage?
A. The question of the patient's right to die is rarely faced by physicians.
B. The author firmly states his opinion on the right to die.
C. All people are in agreement as to a patient's right to die.
D. Putting a patient to death is more serious than allowing a patient to die.

Questions 25-30

A binary star is actually a pair of stars that are held together by the force of gravity. Although occasionally the individual stars that compose a binary star can be distinguished, they generally appear as one star. The gravitational pull between the individual stars of a binary star causes one to orbit around the other. From the orbital pattern of a binary, the mass of its stars can be determined: the gravitational pull of a star is in direct proportion to its mass, and the strength of the gravitational force of one star on another determines the empty space. It has been suggested that such a star

and the empty space really compose a binary star. The empty space is known as a black hole, a star with such a strong gravitational force that no light is able to get through.

25. A binary star could best be described as
A. Stars that have been forced apart
B. A star with a strong gravitational force
C. Two stars pulled together by gravity
D. A large number of attached stars

26. According to the passage, what happens as a result of the gravitational force between the stars?
A. One star circles the other.
B. The mass of the binary star increases.
C. A black hole is destroyed.
D. The gravitational force decrease.

27. According to the passage, what can scientists learn from the pattern of a binary star's orbit?
A. The proportion of the star's gravitational pull to its mass
B. How to distinguish the stars that compose a binary
C. Why there is no light in a black hole?
D. The mass of the stars that compose the binary

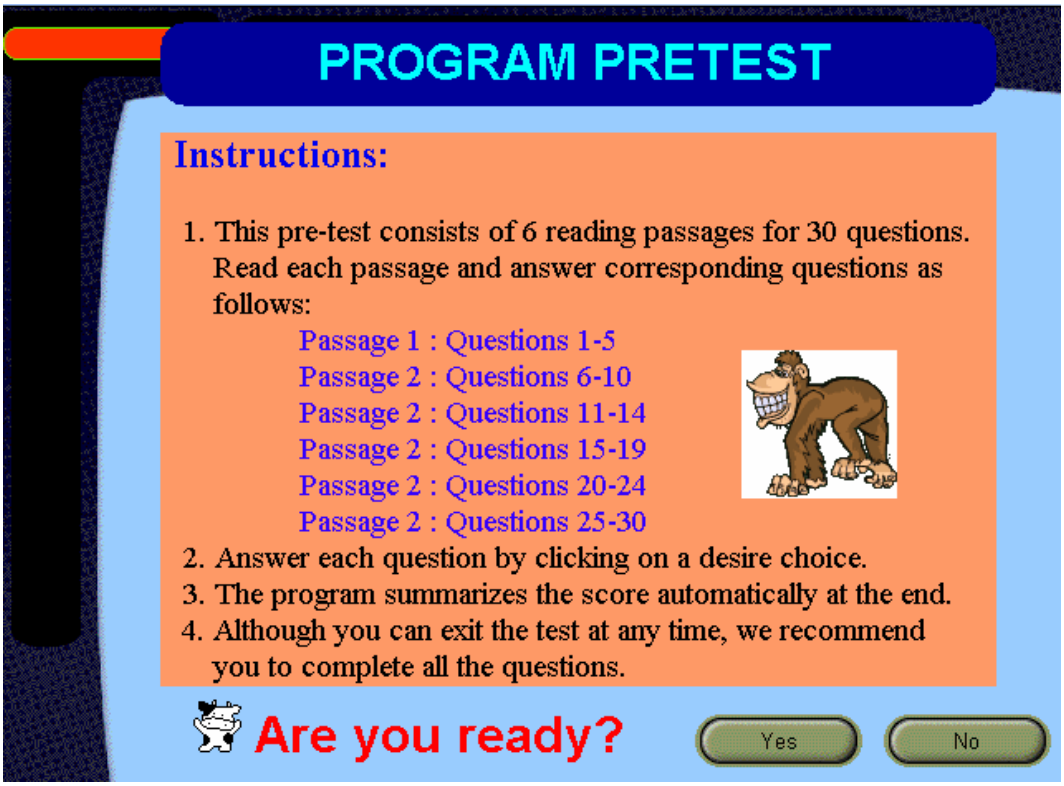
28. According to the passage, what is a black hole?
A. An empty space around which nothing orbits
B. A star with close to zero gravity
C. A star whose gravitational force blocks the passage of light.
D. An empty space so far away that no light can reach it.

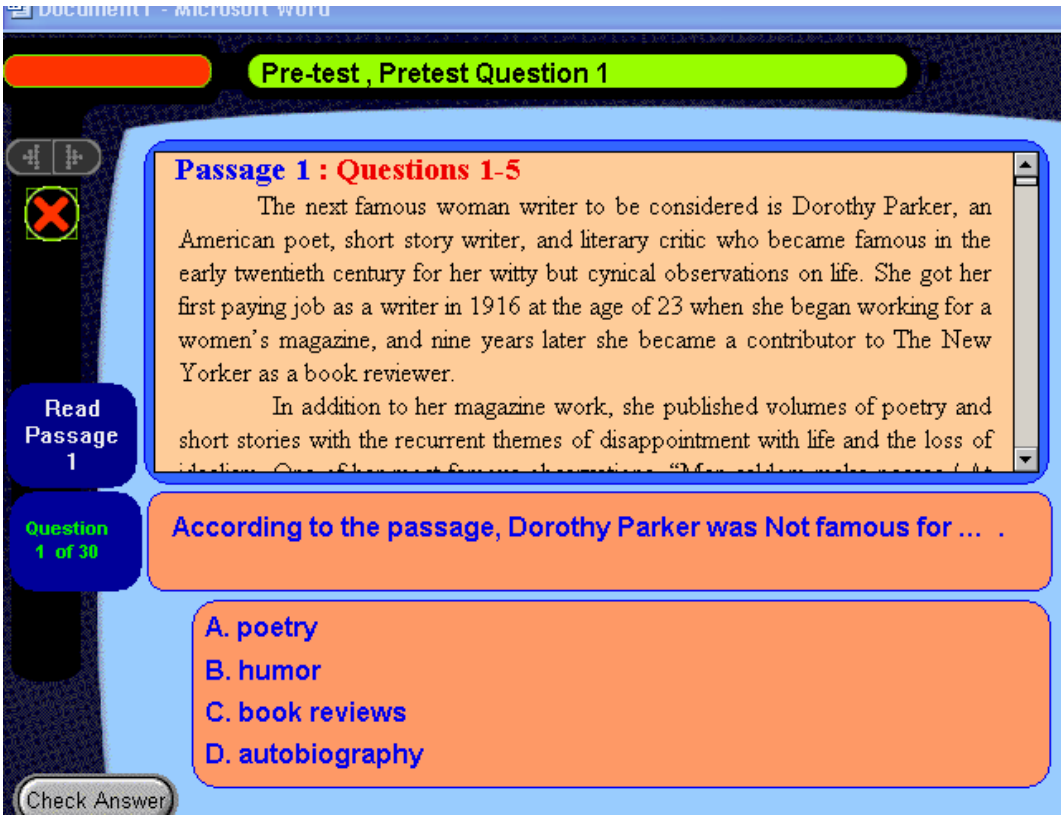
29. Which of the following statements about black holes is Not true?
A. A black hole can have a star orbiting around it.
B. A binary star can be composed of a black hole and visible star.
C. All empty space contains black holes.
D. The gravitational pull of a black hole and a visible star.

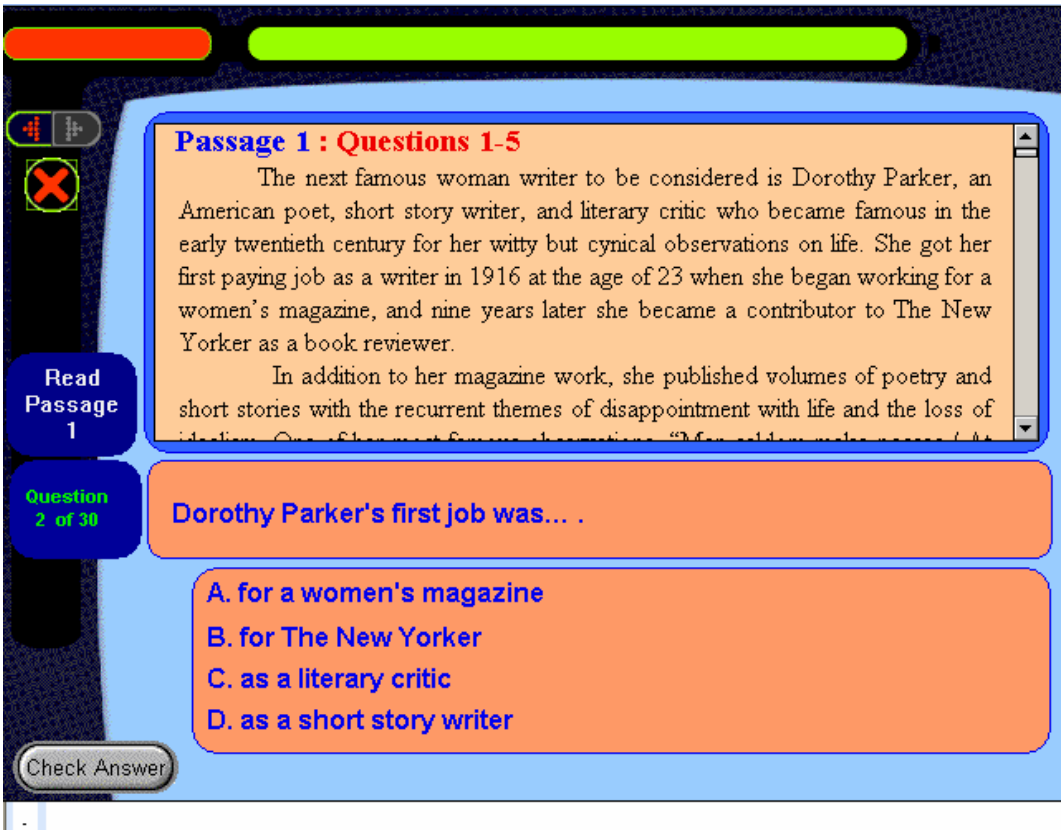
30. This passage would most likely be assigned reading in a course on
A. botany
B. astrophysics
C. geology
D. astrology

Overall Reading strategies pre-and post-tests

Hypertext version




Pre-test , Pretest Question 1
Passage 1 : Questions 1-5
The next famous woman writer to be considered is Dorothy Parker, an American poet, short story writer, and literary critic who became famous in the early twentieth century for her witty but cynical observations on life. She got her first paying job as a writer in 1916 at the age of 23 when she began working for a women's magazine, and nine years later she became a contributor to The New Yorker as a book reviewer.
In addition to her magazine work, she published volumes of poetry and short stories with the recurrent themes of disappointment with life and the loss of
Read Passage 1
Question 1 of 30
According to the passage, Dorothy Parker was Not famous for ... .
A. poetry
B. humor
C. book reviews
D. autobiography
Check Answer


Passage 1 : Questions 1-5
The next famous woman writer to be considered is Dorothy Parker, an American poet, short story writer, and literary critic who became famous in the early twentieth century for her witty but cynical observations on life. She got her first paying job as a writer in 1916 at the age of 23 when she began working for a women's magazine, and nine years later she became a contributor to The New Yorker as a book reviewer.
In addition to her magazine work, she published volumes of poetry and short stories with the recurrent themes of disappointment with life and the loss of
Read Passage 1
Question 2 of 30
Dorothy Parker's first job was... .
A. for a women's magazine
B. for The New Yorker
C. as a literary critic
D. as a short story writer
Check Answer

Appendix H

Pre-and post test of each lesson

Navigation strategy

1. What is the space for the Internet users to type in the web site address?
a. Open URL
b. Back
c. Forward
d. History
2. When you want to go back to the previous page, what button do you click?
a. Open URL
b. Back
c. Forward
d. History
3. When do you want to go back to visit websites yesterday or last week, what button will you click?
a. Open URL
b. Back
c. Forward
d. History
4. When do you want to browse to store a website to be revisit, which button do you use?
a. Open URL
b. Bookmark
c. Refresh
d. History
5. If you want to display the detail of the URL you visiting, which area would you point the mouse pointer over?
a. Open URL
b. Status bar
c. Forward
d. History
6. If you want to reload the current webpage, what would you like to click on?
a. Open URL
b. Refresh
c. Forward
d. History
7. Which icon brings you to the first page of the website?
a. Home
b. Back
c. Forward
d. History

8. What is the importance of navigation systems in the Internet?

a. It tells direction in the Internet
b. It helps the users to access information
c. It helps the users not to get lost in the Internet
d. All correct

9. What is the basic navigation system which links web pages from the top to the bottom and from the bottom to the top?

a. Hierarchical
b. Global
c. Local
d. Ad Hoc

10. Which navigation system allows the links to other web pages by using icons at the top and the bottom of every page in the web site?

a. Hierarchical
b. Global
c. Local
d. Ad Hoc

Skimming strategy

Read the passage and identify the topic.

The ground around the outside of a house should be graded in such a manner as to prevent dampness. Your lot should slope away from the house on all sides to allow proper drainage and to prevent water that is draining off other lots from standing on your lots. Water should not be allowed to stand next to a house because it will eventually seep through the foundation walls. When disturbing established lot drainage patterns by installing such items as new lawns, landscaping, patio or planters, extreme care should be taken to maintain proper grades. To assure positive drainage at all times, periodic removal of silt and other obstructions from drainage swales and facilities is required, and areas subject to settlement, wash and erosion may require patching and replanting periodically.

1. The topic is
   a. Patio construction
   b. Drainage
   c. Foundations
   d. Plantings
2. How can you prevent dampness?
   a. house should be graded in such a manner
   b. water should not allow to stand next to a house.
   c. your lot should slope
   d. all of the above

You shop for credit the way you shop for anything else. It's best to shop at more than one place. And it's best to know what to look for. A typical household with a good credit rating can save enough for an annual vacation by shopping for the money it "rents" in order to buy now and pay later.

Here are some pointers to help you shop for money for installment buying through contracts and through credit cards and other kinds of revolving charge plans. This chapter will not deal with financing a home or other real property.

3. The author
   a. Wants to save your money
   b. Doesn't approve of credit buying
   c. Is personally in debt
   d. Wants to loan money
4. The author thinks that
   a. You should not buy on credit
   b. You should shop for credit
   c. All people should have the same credit rating
   d. Credit ratings are not accurate

5. Why you should shop for credit?
   a. you can save for an annual vacation
   b. you can pay later
   c. you should not pay cash
   d. you can buy anything you want

Dear Editor,

Our city council has lost its sense of what is good for the community. The latest insanity is the proposal to buy the Smith farm to add to the park system. We already have much more park land than we can afford. Parks do not pay taxes. They cost tax money to buy and maintain. A look at the parks we have now will show that we are not taking care of them. In addition, they are becoming impossible to enjoy. They are filled with loud, rude, inconsiderate young people who don't care who they bother with their loud music and their flying saucers.

The council should spending its time doing something about improving conditions in the city for its residents instead of constantly spending tax money on foolishness.

Sincerely,
An Irate Citizen

6. The writer
   a. Is a member of the city council
   b. Is probably a new resident
   c. Likes loud music
   d. Doesn't want the city to buy more park land
7. The writer
   a. Wants taxes increased
   b. Wants taxes spent on more parks
   c. Wants taxes reduced
   d. Enjoys the parks
8. The reader
   a. Is a an editor
   b. Is probably a new resident
   c. Like loud music
   d. doesn't want the city to buy more park land
9. The writer
   a. wants taxes increased
   b. wants taxes spent on more parks
   c. does not want anymore park
   d. enjoys the parks
10. The topic is
   a. park land
   b. no more park land
   c. buy more park land
   d. need more park land

Core sentence

Read the passage and answer the questions

Italy enjoyed a highly developed and specialized civilization from about 264 B.C. until the fall of the Roman Empire in 476 A.D. important contributions were made in art, science, education, religion, and architecture. Remains of Roman aqueducts and amphitheaters can still be seen in various parts of Africa and Europe today. Probably the most lasting of the Roman heritage to the world can be found in laws based on Roman legal principles as found in England, Latin America, and the United States, as well as the Roman alphabet which forms the basis of many languages among which are English, Spanish, and German.

1. During how many centuries did Italy enjoy an advanced civilization?
    a. 3
    b. 4
    c. 6
    d. 8

2. Which of the following is considered to be the most enduring heritage of the Romans?
    a. art
    b. science
    c. law
    d. education

3. Where can we still find evidence of Roman architecture today
    a. Latin America
    b. Africa
    c. Germany
    d. United States

4. Which of the following languages is not given as using the Roman alphabet
    a. English
    b. German
    c. Russian
    d. Spanish

5. Which of the following areas was not mentioned as having legal code based on the ancient Roman code?
    a. China
    b. Latin America
    c. England
    d. United States

Question 6-10

A recent investigation by scientist at the U.S. Geological Survey shows that strange animal behavior might help predict future earthquakes. Investigators found such occurrences in a ten-kilometer radius of epicenter of a fairly recent quake. Some birds screeched and flew about wildly; dogs yelped and ran around uncontrollably.

Scientists believe that animals can perceive these environmental changes as early as several days before the mishap.

In 1976 after observing animal behavior, the Chinese were able to predict a devastating quake. Although hundreds of thousands of people were killed, the government was able to evacuate millions of other people and thus keep the death toll at a lower level.

6. What is the topic?
a. a recent investigation
b. Geological Survey
c. Earthquakes.
d. non of the above

7. What prediction may be made by observing animal behavior?
a. an impending earthquake
b. the number of people who will die
c. the ten-kilometer radius of the epicenter
d. environment changes

8. Why can animals perceive these changes when human cannot?
a. Animals are smarter than humans
b. Animals have certain instincts that humans don't posses.
c. By running around the house, they can feel the vibrations.
d. Humans don't know where to look.

9. Which of the following is not true?
a. Some animals may be able to sense an approaching earthquake.
b. By observing animal behavior scientist perhaps can predict earthquakes
c. The Chinese have successfully predicted an earthquake and saved many lives.
d. All birds and dogs in a ten-kilometer radius of the epicenter went wild before the quake.

10. In this passage, the word evacuate most nearly means
a. remove
b. exile
c. destroy
d. emaciate

Context clues

Question 1-5

A tapeworm is a parasite that lives in the intestines of humans and animals. Some tapeworms attach themselves to the intestinal wall by means of suckers in their heads. Others float freely in the intestines and absorb food through the walls of their bodies.

A tapeworm consists of numerous segments. When a new segment forms, older ones move to the back of the animal. Each segment contains hermaphroditic sexual organs (that is, organs of male and female). The uterus of each segment fills with eggs, which develop into embryos. Generally, when the egg is ready to hatch, the segment breaks off and is eliminated through the host's excretory system. These embryos continue their development only if ingested by an intermediate host.

One may be infected by tapeworms by eating undercooked beef, pork, or fish. Symptoms include irregular appetite, abdominal discomfort, anemia, weakness, and nervousness.

1. Which of the following statements can we assume from the passage is not true?
a. An embryo will cease to develop if not ingested by a host.
b. A tapeworm will continue to live even when segments break off.
c. The segment farthest back on the tail is the oldest.
d. Tapeworms always float freely in the digestive system.

2. A hermaphrodite is
a. A tapeworm
b. A segment containing an embryo
c. A being that contains male and female sexual organs
d. An animal made of segments

3. Which of the following is probably not a symptom of tapeworm infestation?
a. Unusual eating habits
b. Excitability
c. Deficiency of red blood cells
d. Euphoria

4. Which of the following statement is true?
a. A tapeworm uterus contains one egg.
b. Overcooked beef is a cause of tapeworms.
c. A male tapeworm must always be ingested before reproduction will occur.
d. Tapeworms vary in their method of ingesting food.

5. What would be the best title for this reading passage?
a. Parasites
b. Reproduction of the Tapeworm
c. The Tapeworm, a Harmful Parasite
d. Segmented Parasites

Question 6-10

Ever since humans have inhabited the earth, they have made use of various forms of communication. Generally, this expression of thoughts and feelings has been in the form of oral speech. When there is a language barrier, communication is accomplished through sign language in which motions stand for letters, words, and ideas. Tourists, the deaf, and the mute have had to resort to this form of expression. Many of these symbols of whole words are very picturesque and exact and can be used internationally; spelling, however, cannot.

Body language transmits ideas or thoughts by certain actions, either intentionally or unintentionally. A wink can be a way of flirting or indicating that party is only joking. A nod signifies approval, while shaking the head indicates a negative reaction.

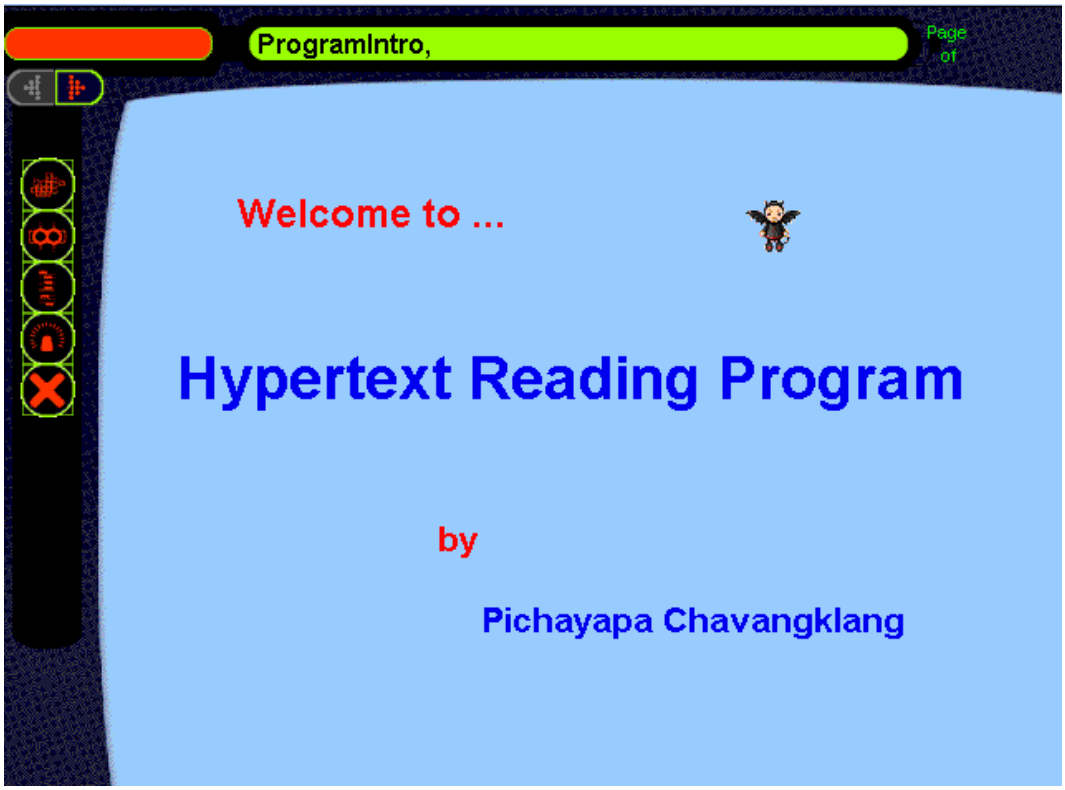
Other forms of nonlinguistic language can be found in Braille (a system of raised dots read with the fingertips), signal flags, Morse code, and smoke signals. Road maps and picture signs also guide, warn, and instruct people.

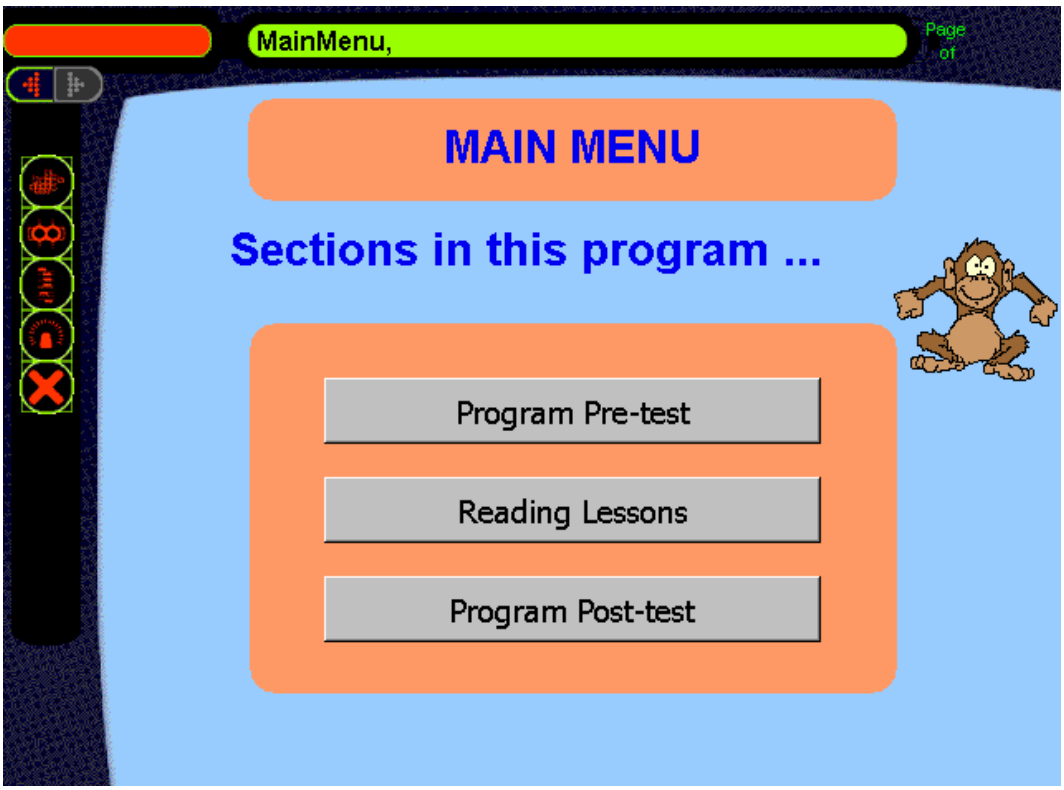
While verbalization is the most common form of language, other systems and techniques also express human thought and feelings.

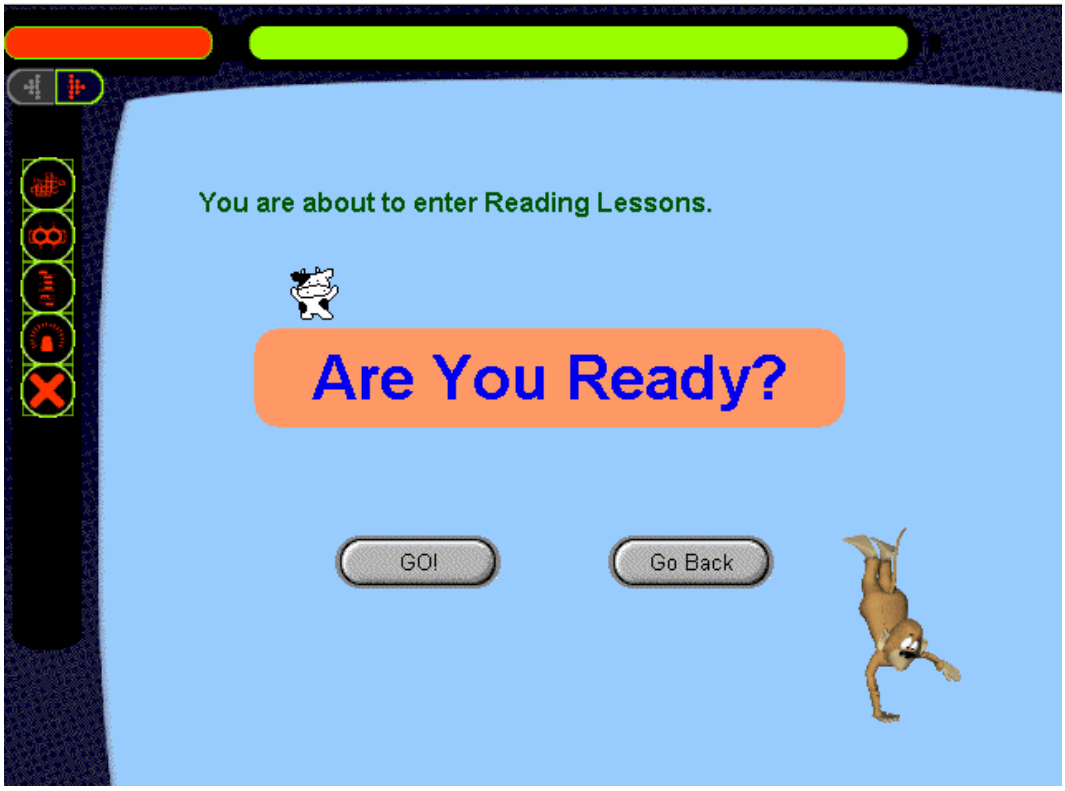
6. Which of the following best summarizes this passage?
a. When language is a barrier, people will find other forms of communication.
b. Everybody uses only one form of communication.
c. Nonlinguistic language is invaluable to foreigners.
d. Although other forms of communication exist, verbalization is the fastest.
7. Which of the following statements is not true?
a. There are many forms of communication in existence today.
b. Verbalization is the most common form of communication.
c. The deaf and mute use an oral form of communication.
d. Ideas and thoughts can be transmitted by body language.
8. Which form other than oral speech would be most commonly used among blind people?
a. picture signs
b. Braille
c. Body language
d. Signal flags
9. How many different forms of communication are mentioned here?
a. 5
b. 7
c. 9
d. 11
10. Sign language is said to be very picturesque and exact and can be used internationally except for…….
a. spelling
b. ideas
c. whole words
d. expressions

Appendix I

Example of CALL lessons on general and hypertext reading strategies

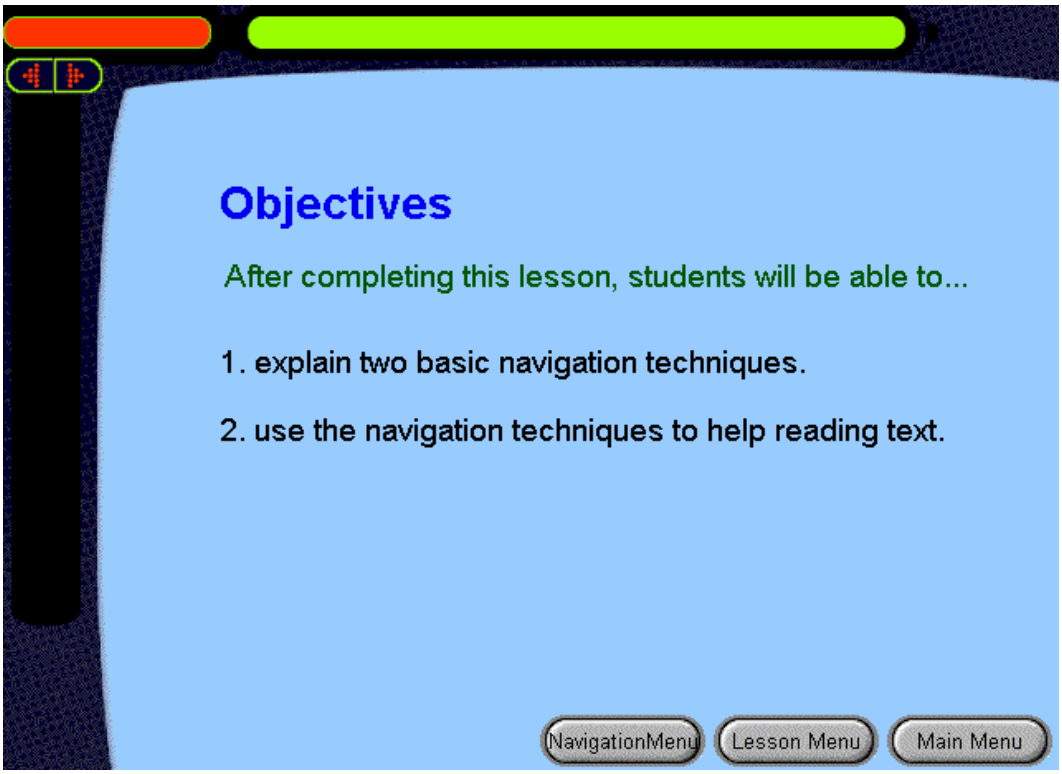


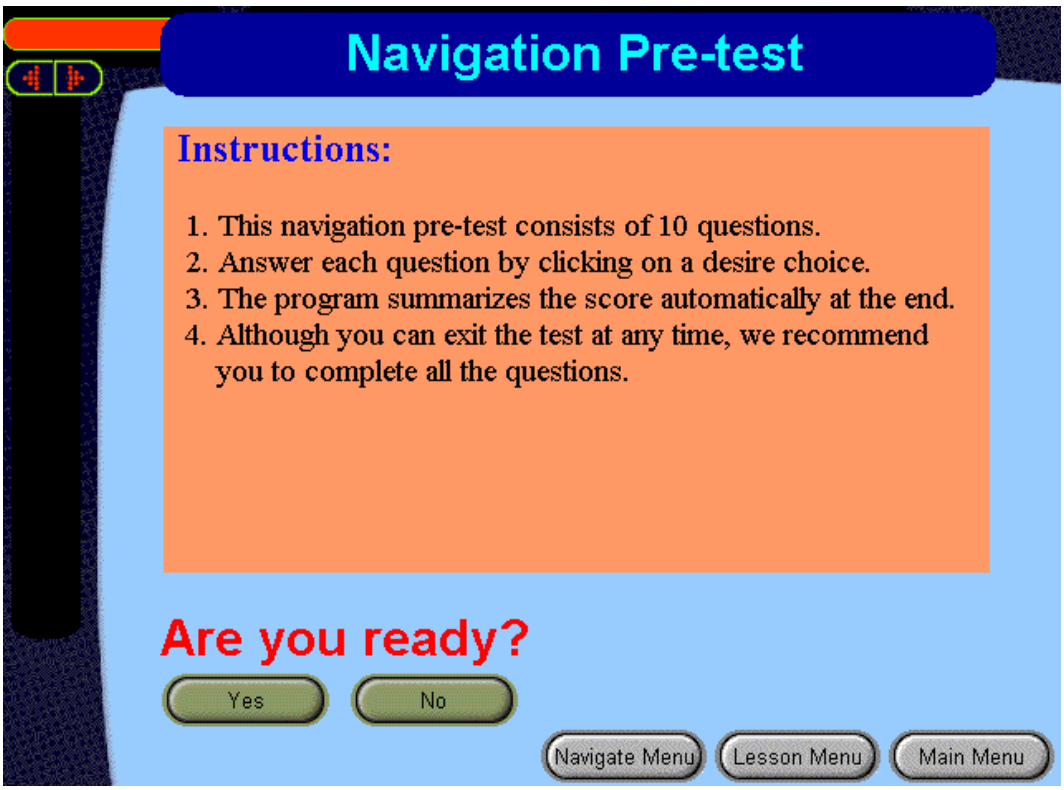

MainMenu,
Page
of
MAIN MENU
Sections in this program ...
Program Pre-test
Reading Lessons
Program Post-test

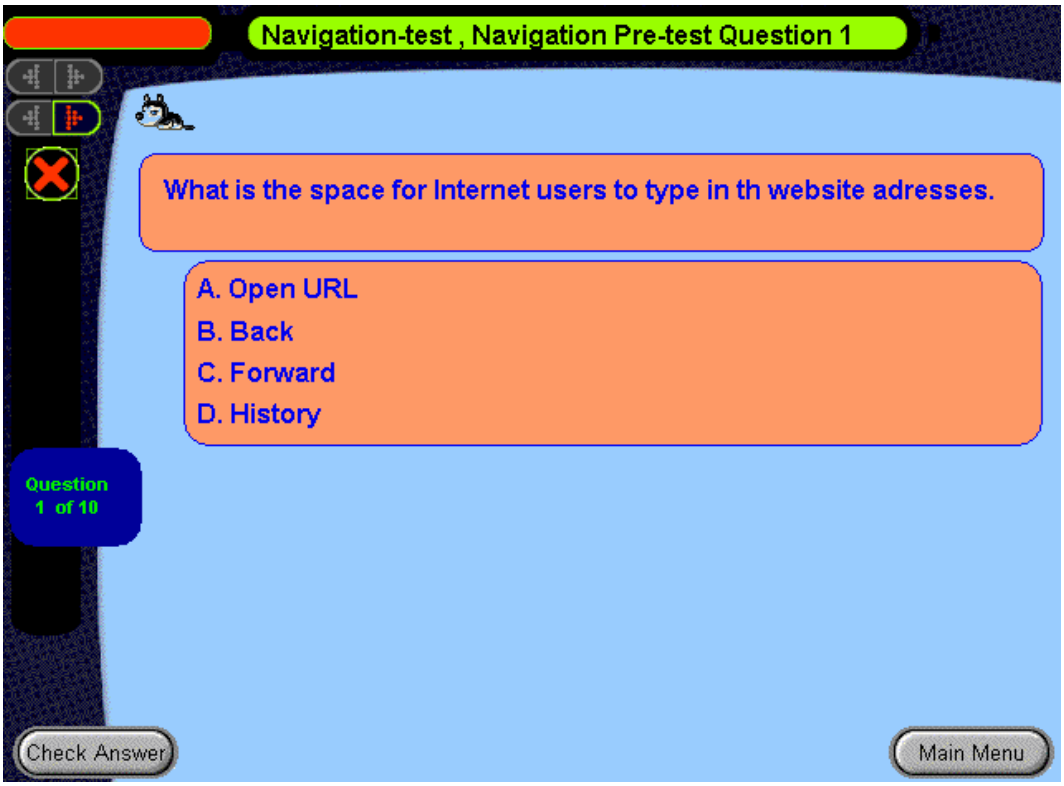

You are about to enter Reading Lessons.
Are You Ready?
GO!
Go Back

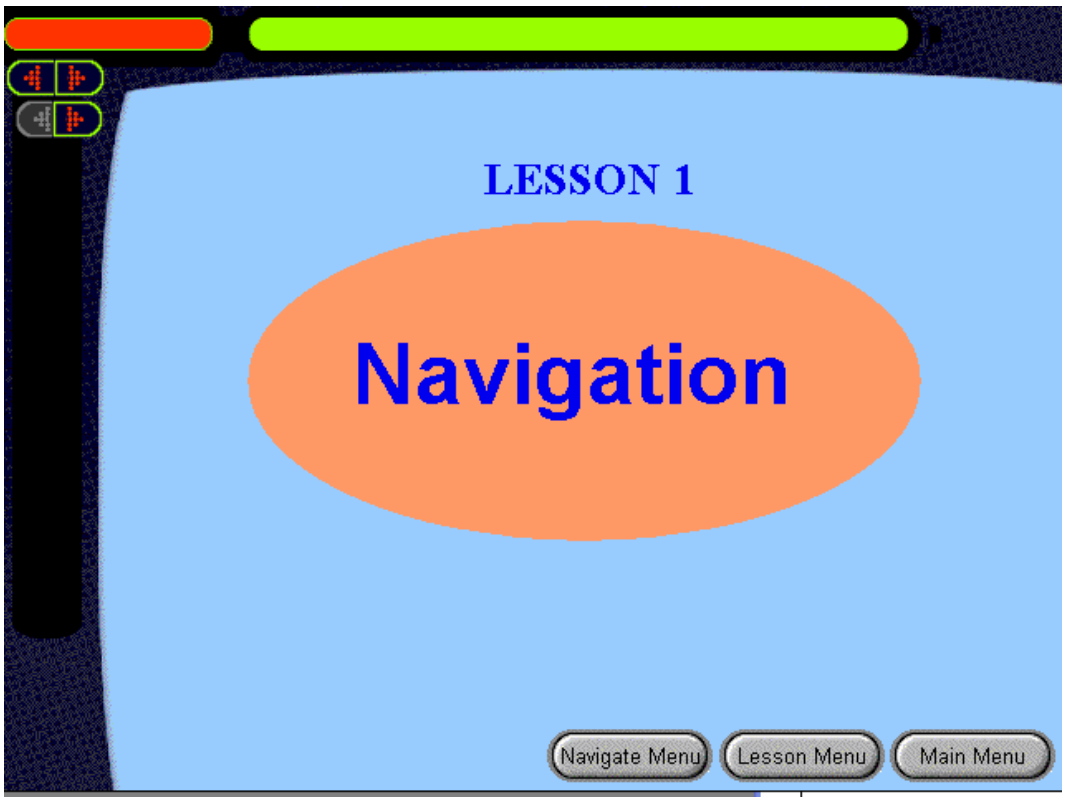

Lesson Menu,
Page
0 of 30
LESSON MENU
Lessons in this program ...
Navigation
Skimming
Identifying Core Sentence
Using Context Clues
Main Menu


LESSON 1: Navigation
Objective
Pre-test
What is navigation?
Exercise
Post-test
Lesson Menu
Main Menu

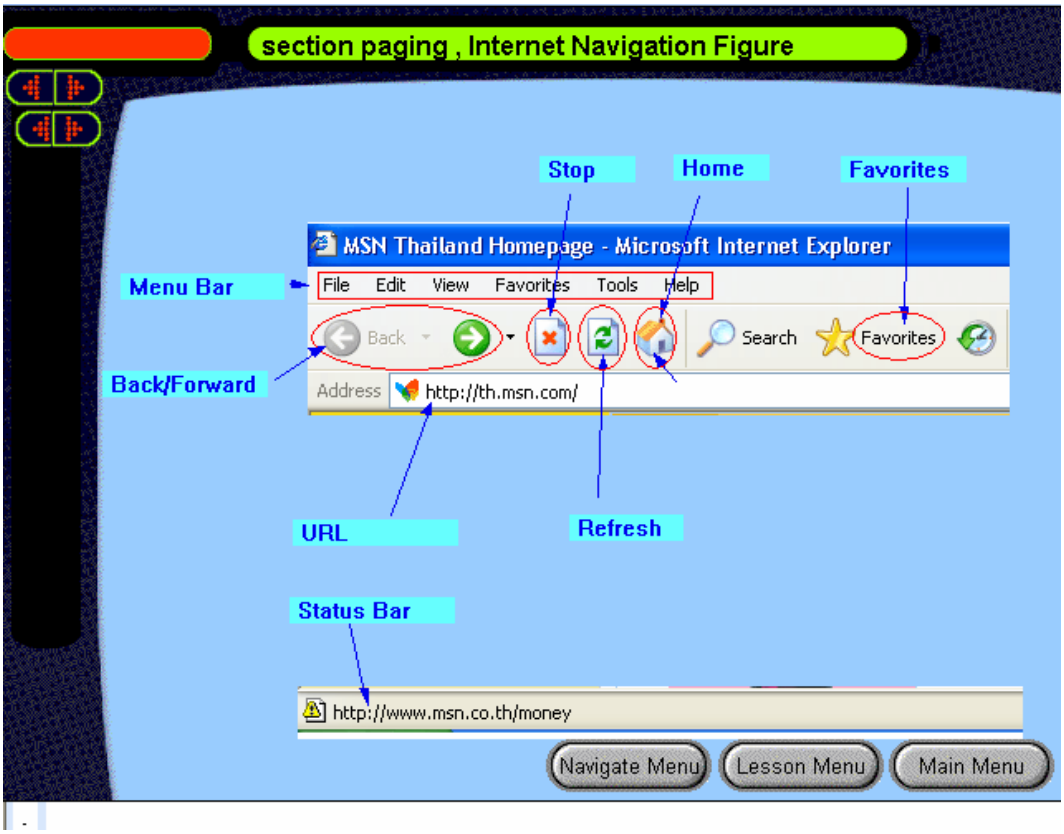

Objectives
After completing this lesson, students will be able to...
1. explain two basic navigation techniques.
2. use the navigation techniques to help reading text.
NavigationMenu
Lesson Menu
Main Menu

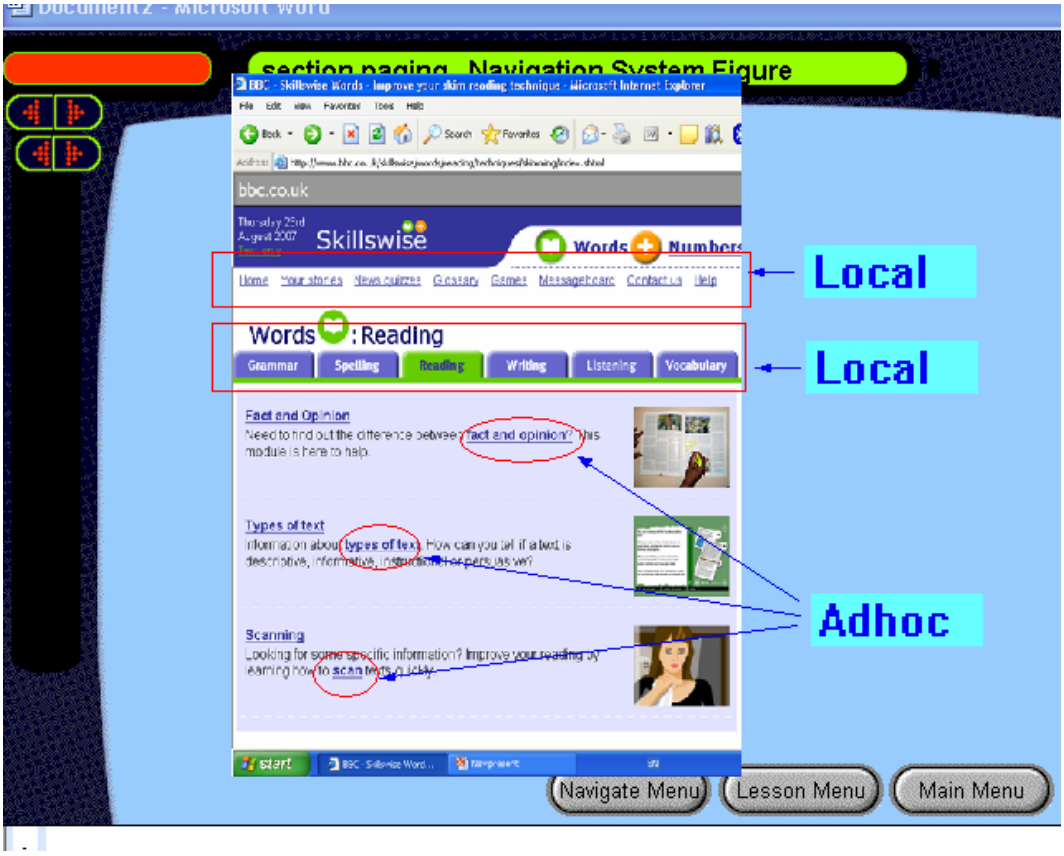

Navigation Pre-test
Instructions:
1. This navigation pre-test consists of 10 questions.
2. Answer each question by clicking on a desire choice.
3. The program summarizes the score automatically at the end.
4. Although you can exit the test at any time, we recommend you to complete all the questions.
Are you ready?
Yes
No
Navigate Menu
Lesson Menu
Main Menu


Navigation-test , Navigation Pre-test Question 1
What is the space for Internet users to type in th website adresses.
A. Open URL
B. Back
C. Forward
D. History
Question 1 of 10
Check Answer
Main Menu

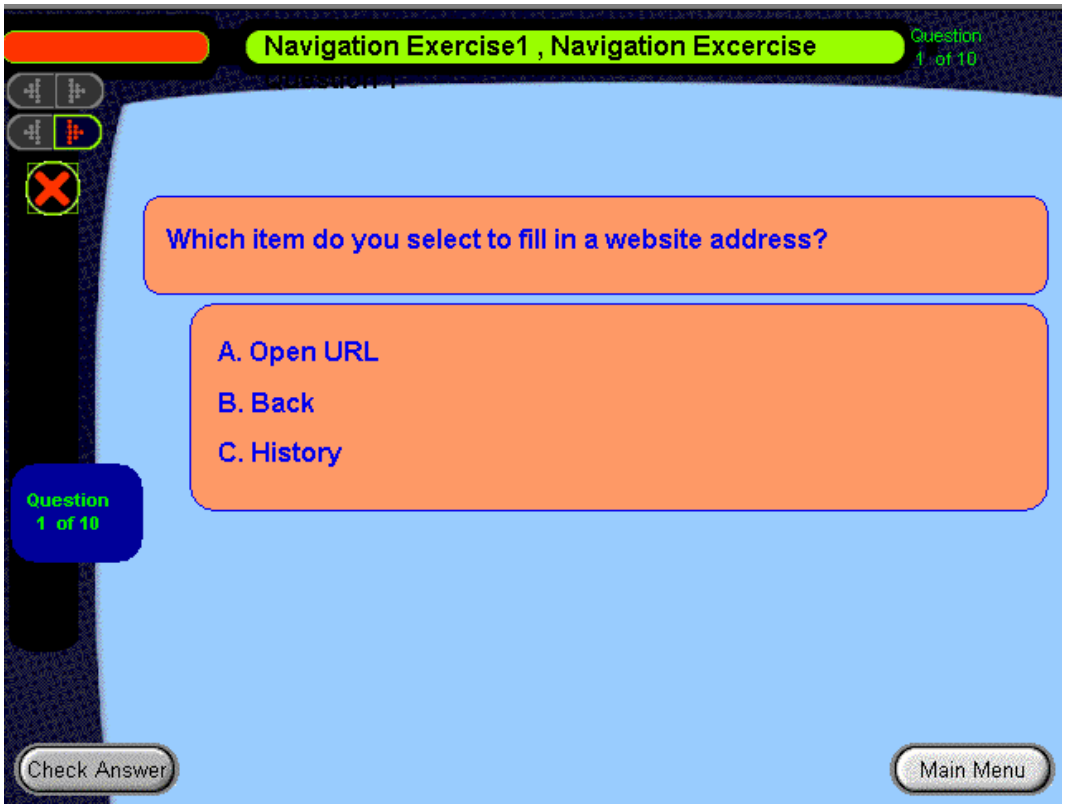

LESSON 1
Navigation
Navigate Menu
Lesson Menu
Main Menu

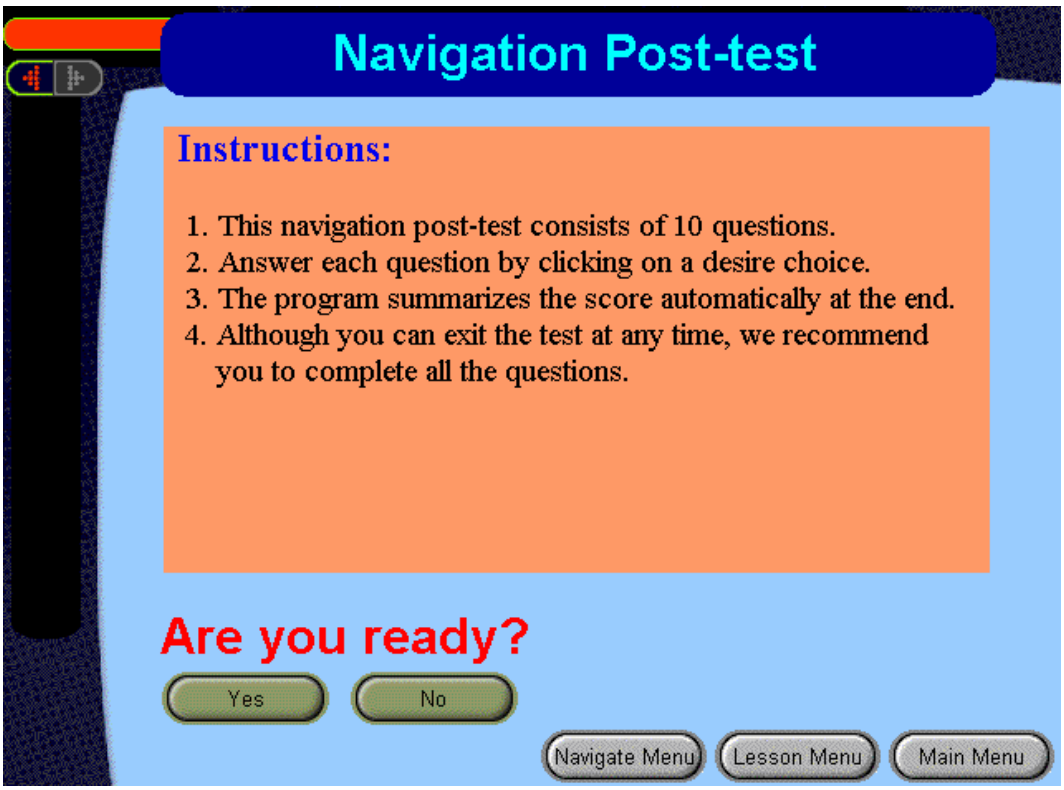

Program Navigation
Previous Page
Jumps to the previous page.
Next Page
Jumps to the next page.
Find
Displays a dialog to find text.
Help
Displays this help screen.
Quit
Displays a dialog to quit the application.
Navigate Menu
Lesson Menu
Main Menu

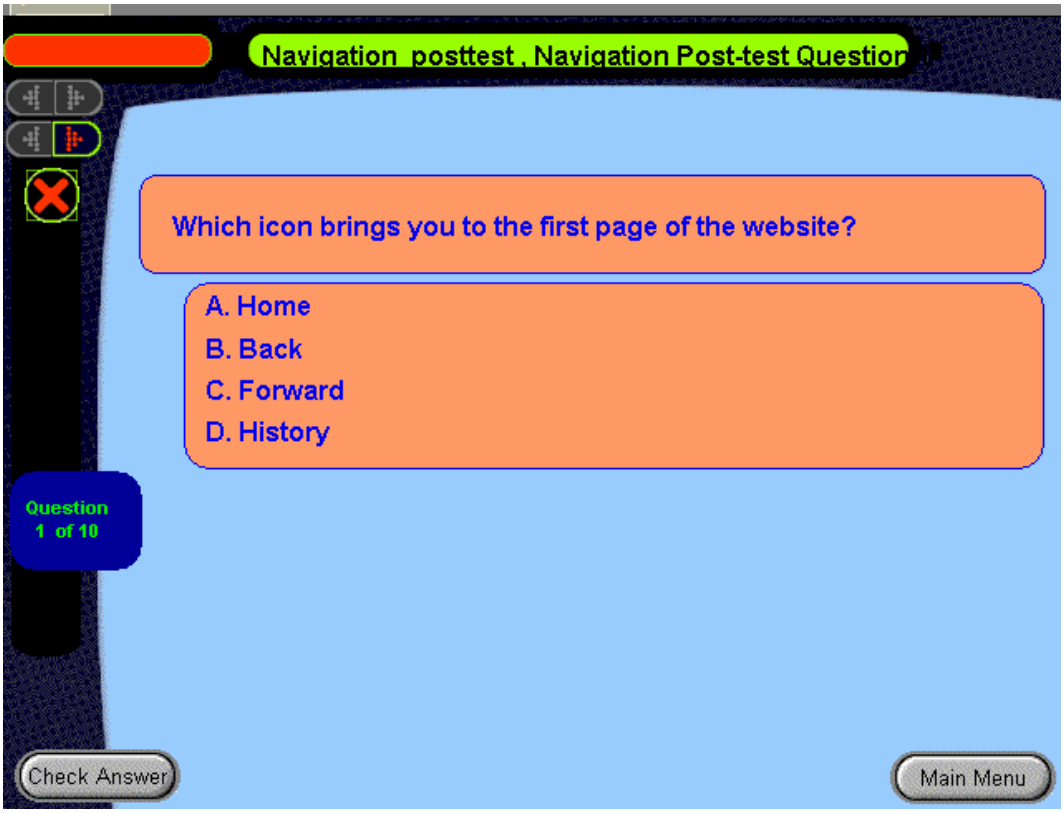

section paging , Internet Navigation Figure
Stop
Home
Favorites
MSN Thailand Homepage - Microsoft Internet Explorer
Menu Bar
File Edit View Favorites Tools Help
Back
Search
Favorites
Back/Forward
Address
http://th.msn.com/
URL
Refresh
Status Bar
http://www.msn.co.th/money
Navigate Menu
Lesson Menu
Main Menu


section paging , Navigation System Figure
bbc.co.uk
Skillswise
Words
Numbers
Home
Your stories
News quizzes
Glossary
Games
Messageboard
Contact us
Help
Words : Reading
Grammar
Spelling
Reading
Writing
Listening
Vocabulary
Fact and Opinion
Types of text
Scanning
Local
Local
Adhoc
Navigate Menu
Lesson Menu
Main Menu

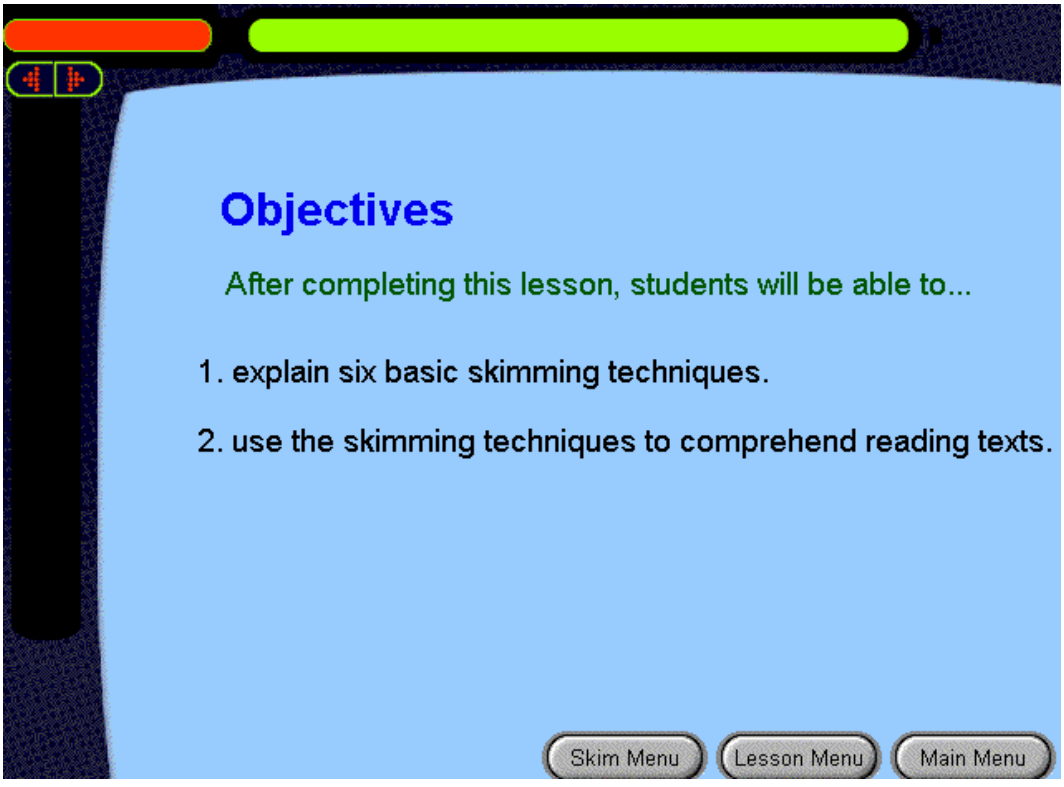

Navigation Exercise
Navigation Exercise
Main Menu

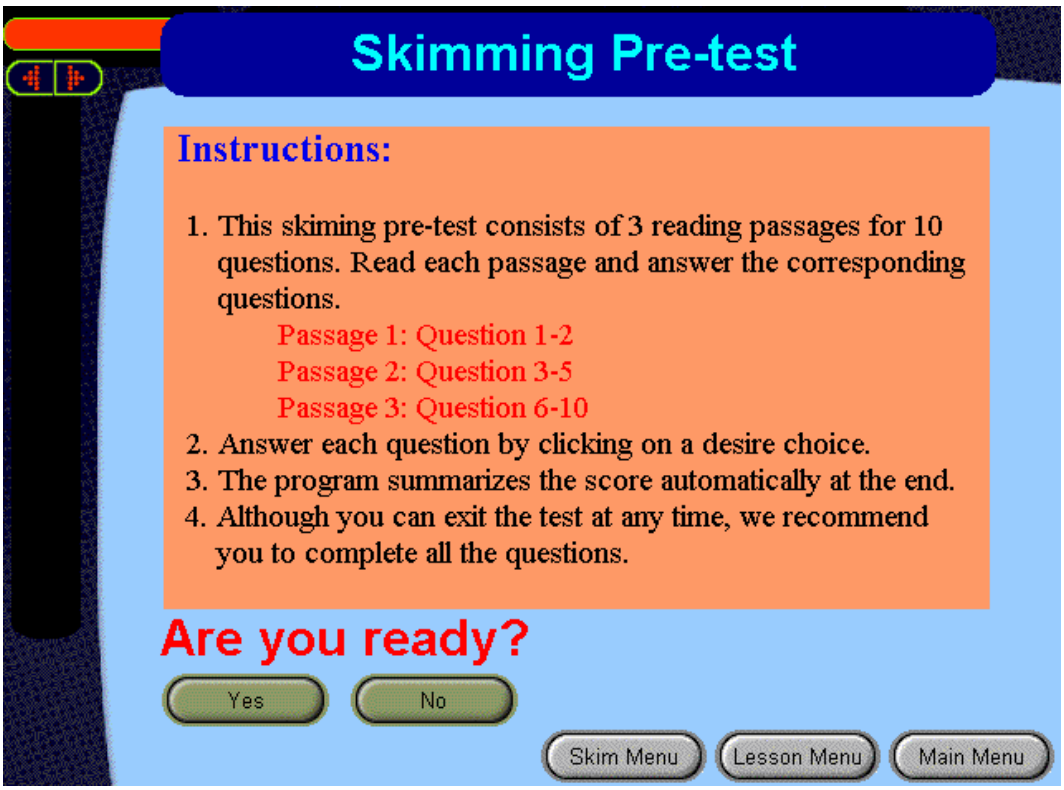

Navigation Exercise1 , Navigation Excercise
Question 1 of 10
Which item do you select to fill in a website address?
A. Open URL
B. Back
C. History
Question 1 of 10
Check Answer
Main Menu

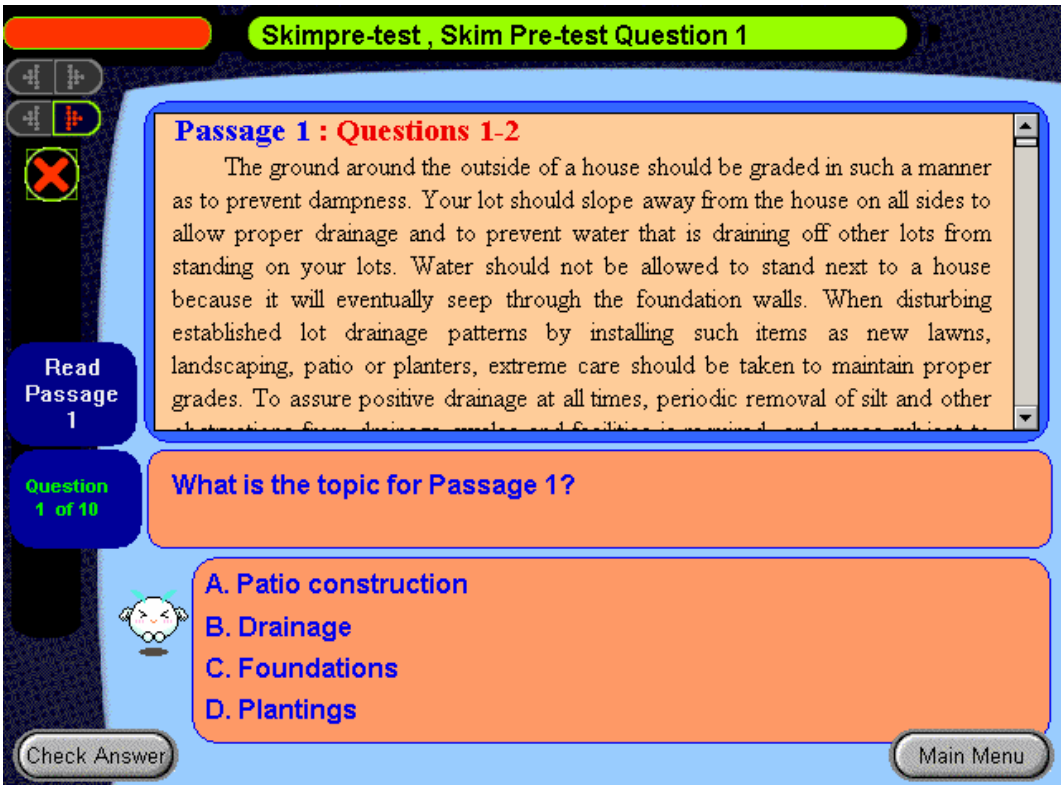

Navigation Post-test
Instructions:
1. This navigation post-test consists of 10 questions.
2. Answer each question by clicking on a desire choice.
3. The program summarizes the score automatically at the end.
4. Although you can exit the test at any time, we recommend you to complete all the questions.
Are you ready?
Yes
No
Navigate Menu
Lesson Menu
Main Menu

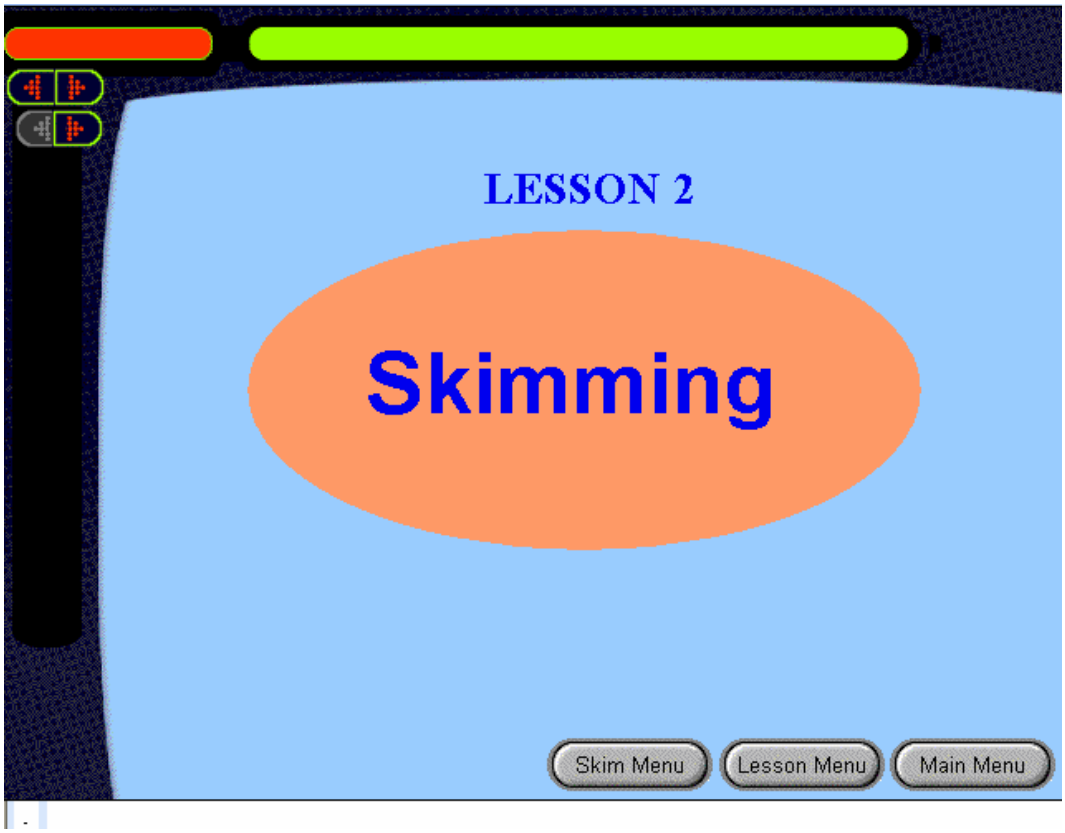

Navigation_posttest , Navigation Post-test Question
Which icon brings you to the first page of the website?
A. Home
B. Back
C. Forward
D. History
Question 1 of 10
Check Answer
Main Menu

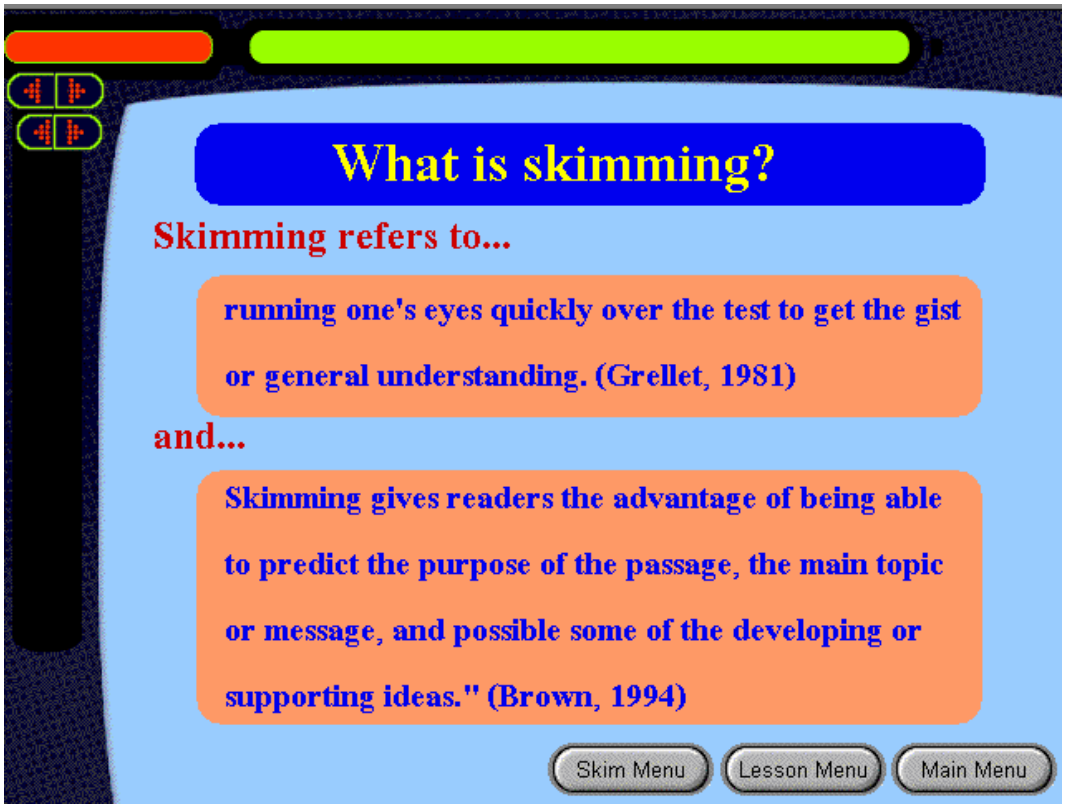

LESSON 2: Skimming
Objective
Pre-test
What is skimming?
Exercises
Post-test
Lesson Menu
Main Menu

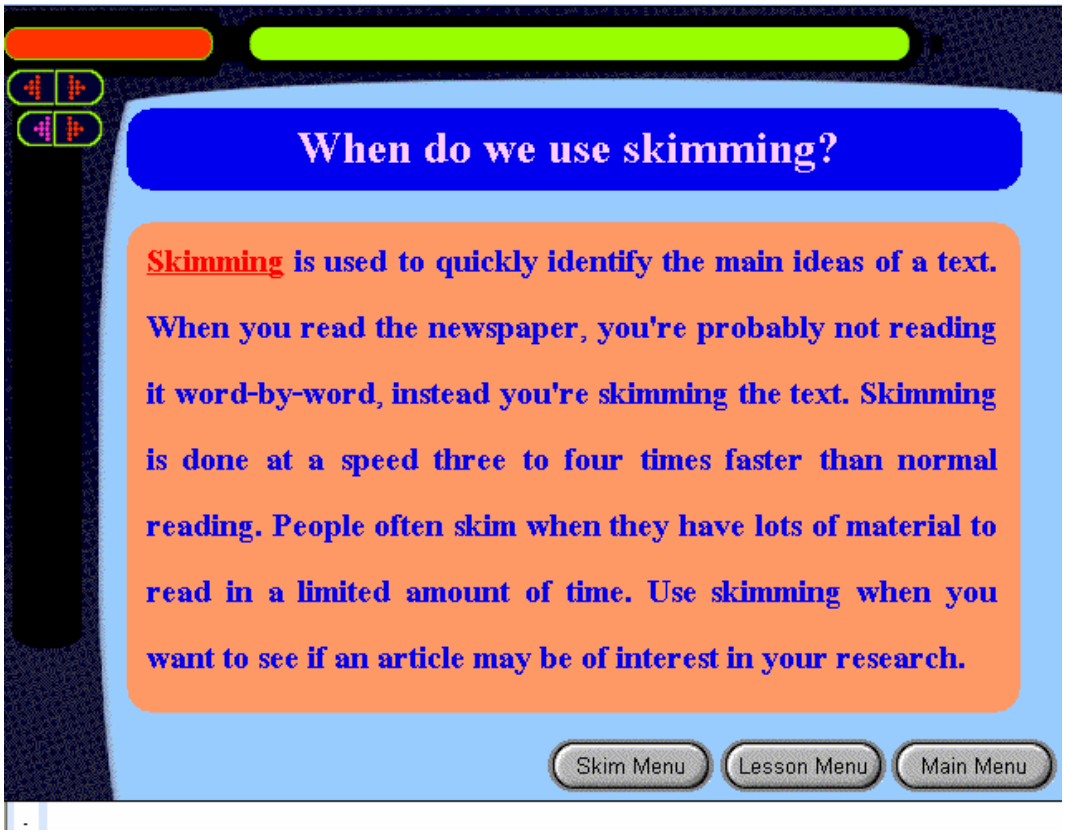

Objectives
After completing this lesson, students will be able to...
1. explain six basic skimming techniques.
2. use the skimming techniques to comprehend reading texts.
Skim Menu
Lesson Menu
Main Menu


Skimming Pre-test
Instructions:
1. This skiming pre-test consists of 3 reading passages for 10 questions. Read each passage and answer the corresponding questions.
Passage 1: Question 1-2
Passage 2: Question 3-5
Passage 3: Question 6-10
2. Answer each question by clicking on a desire choice.
3. The program summarizes the score automatically at the end.
4. Although you can exit the test at any time, we recommend you to complete all the questions.
Are you ready?
Yes
No
Skim Menu
Lesson Menu
Main Menu


Skimpre-test , Skim Pre-test Question 1
Passage 1 : Questions 1-2
The ground around the outside of a house should be graded in such a manner as to prevent dampness. Your lot should slope away from the house on all sides to allow proper drainage and to prevent water that is draining off other lots from standing on your lots. Water should not be allowed to stand next to a house because it will eventually seep through the foundation walls. When disturbing established lot drainage patterns by installing such items as new lawns, landscaping, patio or planters, extreme care should be taken to maintain proper grades. To assure positive drainage at all times, periodic removal of silt and other
Read Passage 1
Question 1 of 10
What is the topic for Passage 1?
A. Patio construction
B. Drainage
C. Foundations
D. Plantings
Check Answer
Main Menu

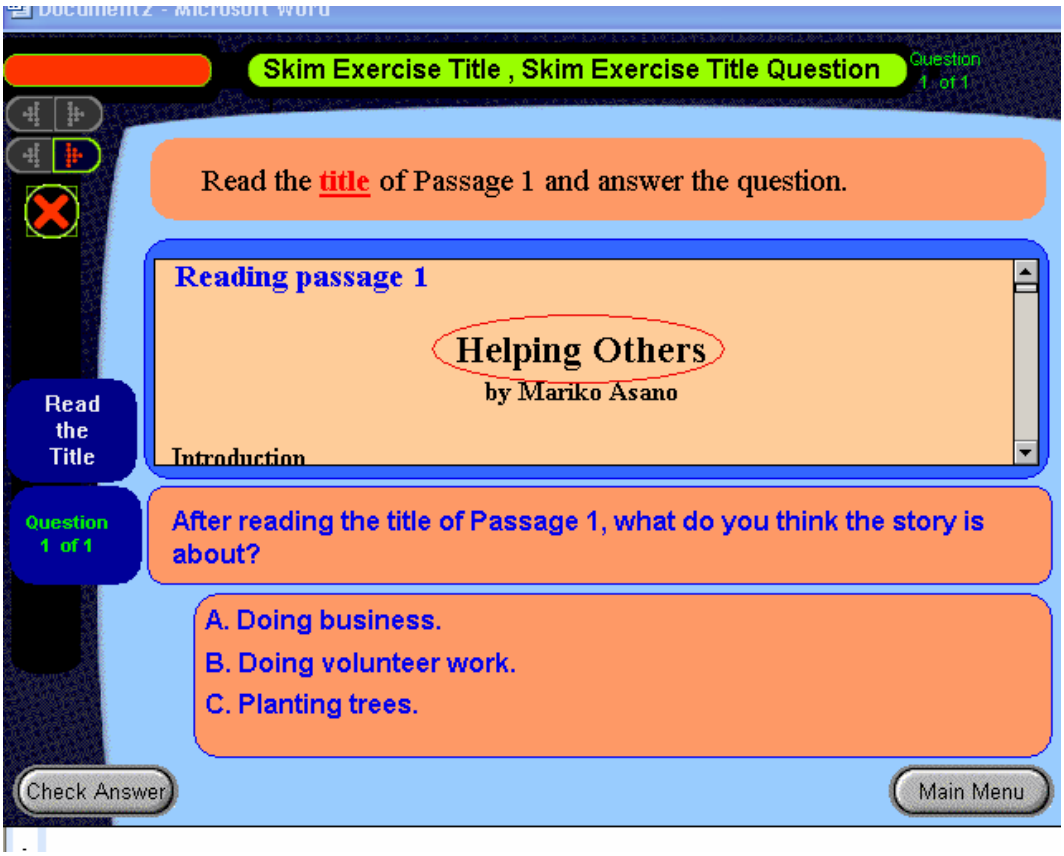

LESSON 2
Skimming
Skim Menu
Lesson Menu
Main Menu

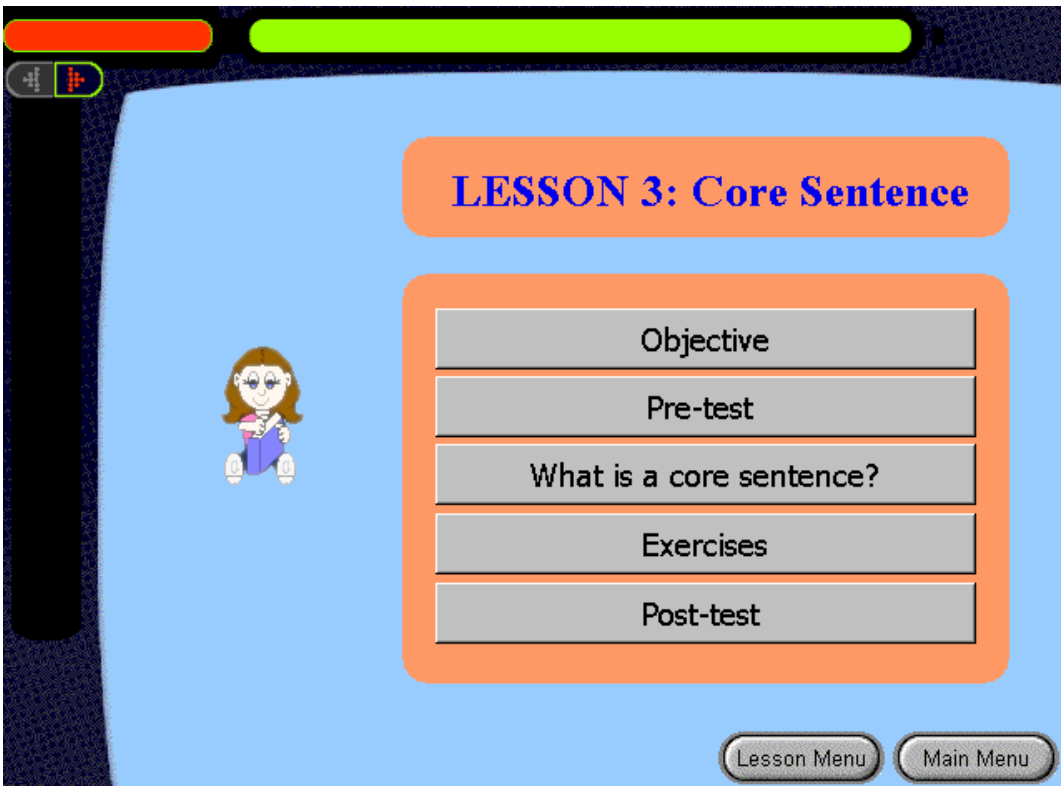

What is skimming?
Skimming refers to...
running one's eyes quickly over the test to get the gist or general understanding. (Grellet, 1981)
and...
Skimming gives readers the advantage of being able to predict the purpose of the passage, the main topic or message, and possible some of the developing or supporting ideas." (Brown, 1994)
Skim Menu
Lesson Menu
Main Menu

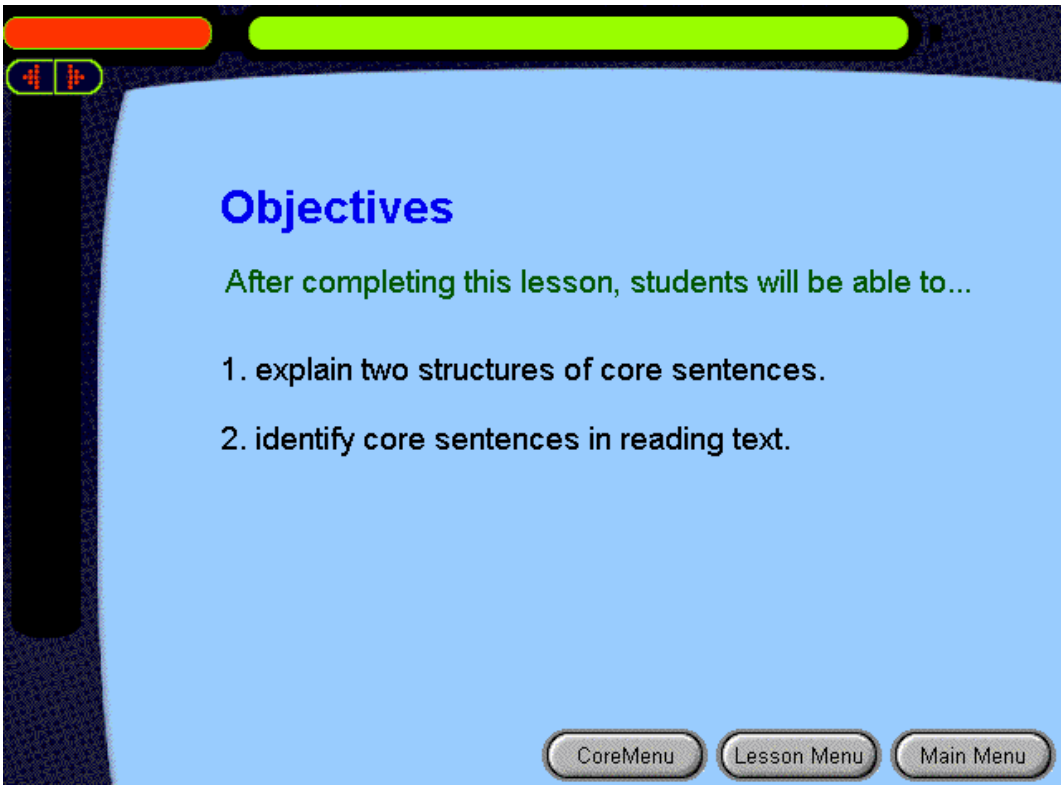

When do we use skimming?
Skimming is used to quickly identify the main ideas of a text. When you read the newspaper, you're probably not reading it word-by-word, instead you're skimming the text. Skimming is done at a speed three to four times faster than normal reading. People often skim when they have lots of material to read in a limited amount of time. Use skimming when you want to see if an article may be of interest in your research.
Skim Menu
Lesson Menu
Main Menu

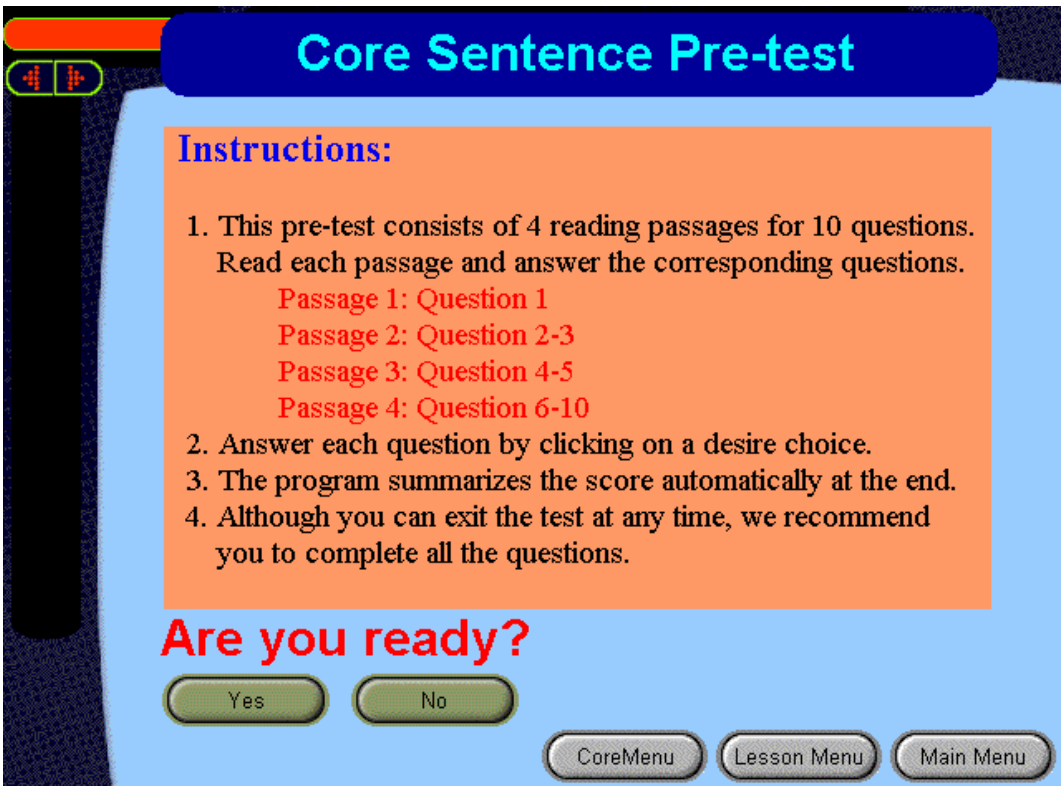

How do we skim?
Many strategies can be used when skimming as you move down the page of screen, such as ...
Reading the first and last paragraphs
Reading headings, summarizes and other organizers
Reading the title, subtitles, subheading, and illustrations
Reading the first sentence of each paragraph.
Finding dates, names, and places.
Review graphs, tables, and charts
Skim Menu
Lesson Menu
Main Menu

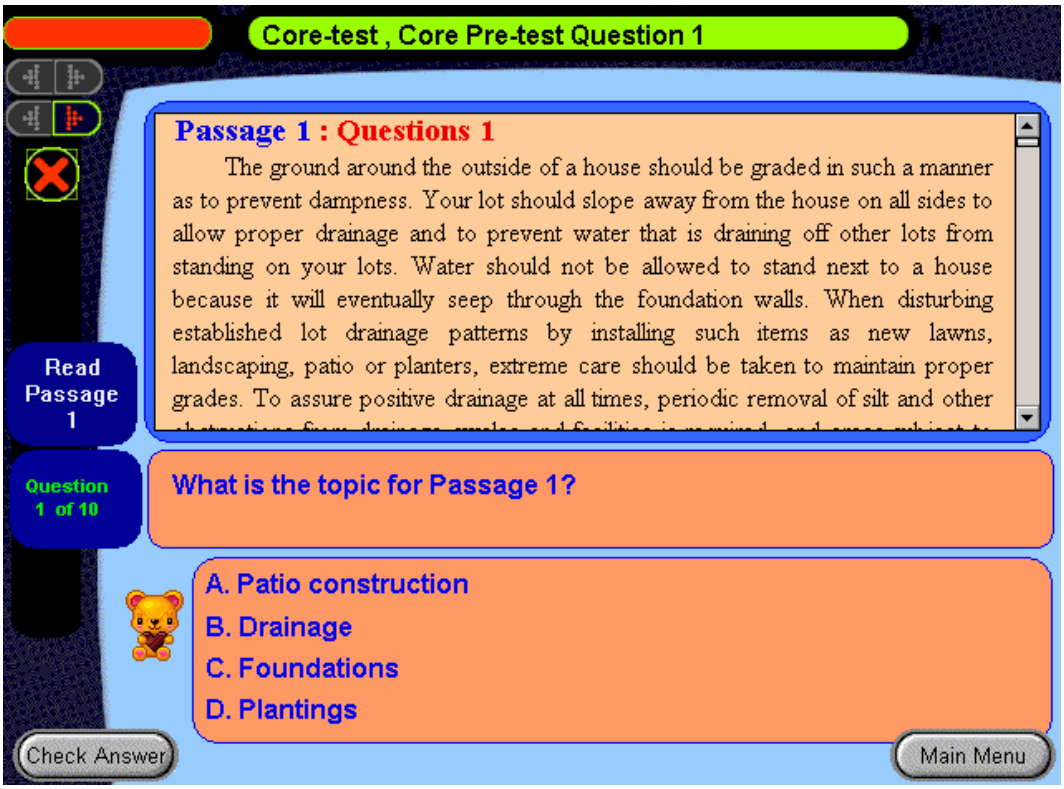

Skimming Exercises
Skim title
Skim author
Skim the first paragraph
Skim the first sentence
Skim the whole text
Skim Menu
Lesson Menu
Main Menu

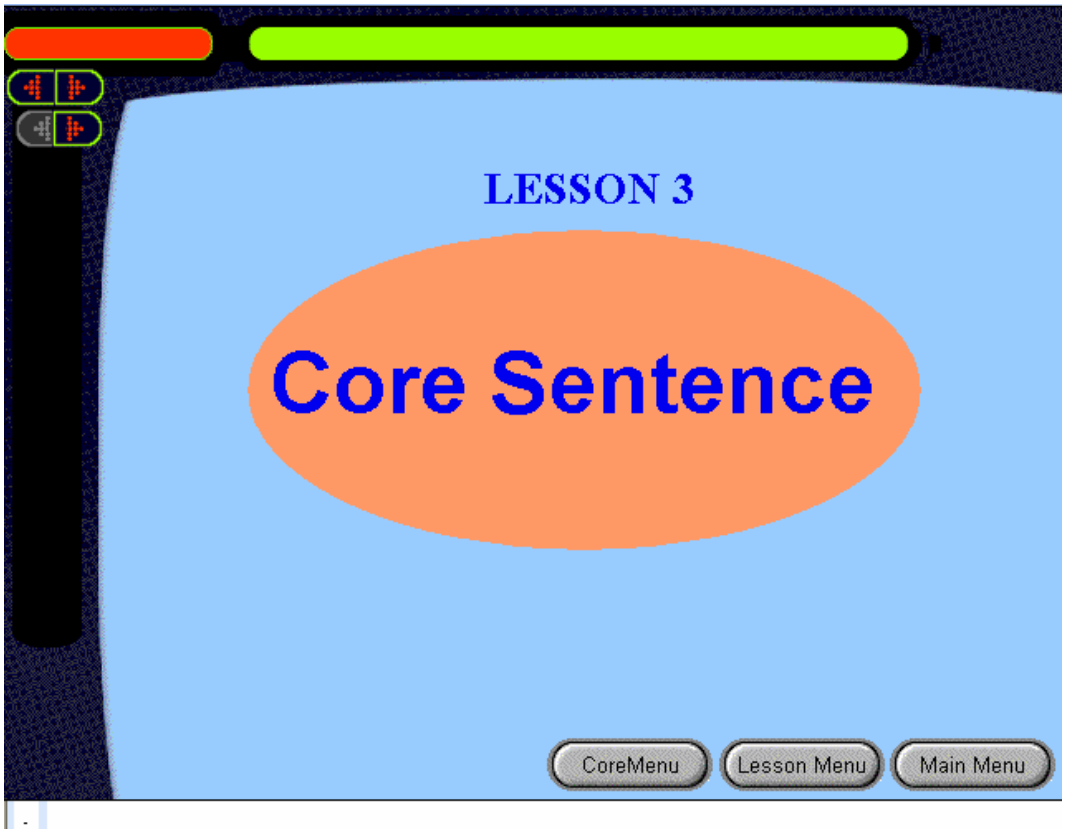

Skim Exercise Title , Skim Exercise Title Question
Question 1 of 1
Read the title of Passage 1 and answer the question.
Reading passage 1
Helping Others
by Mariko Asano
Introduction
Read the Title
Question 1 of 1
After reading the title of Passage 1, what do you think the story is about?
A. Doing business.
B. Doing volunteer work.
C. Planting trees.
Check Answer
Main Menu

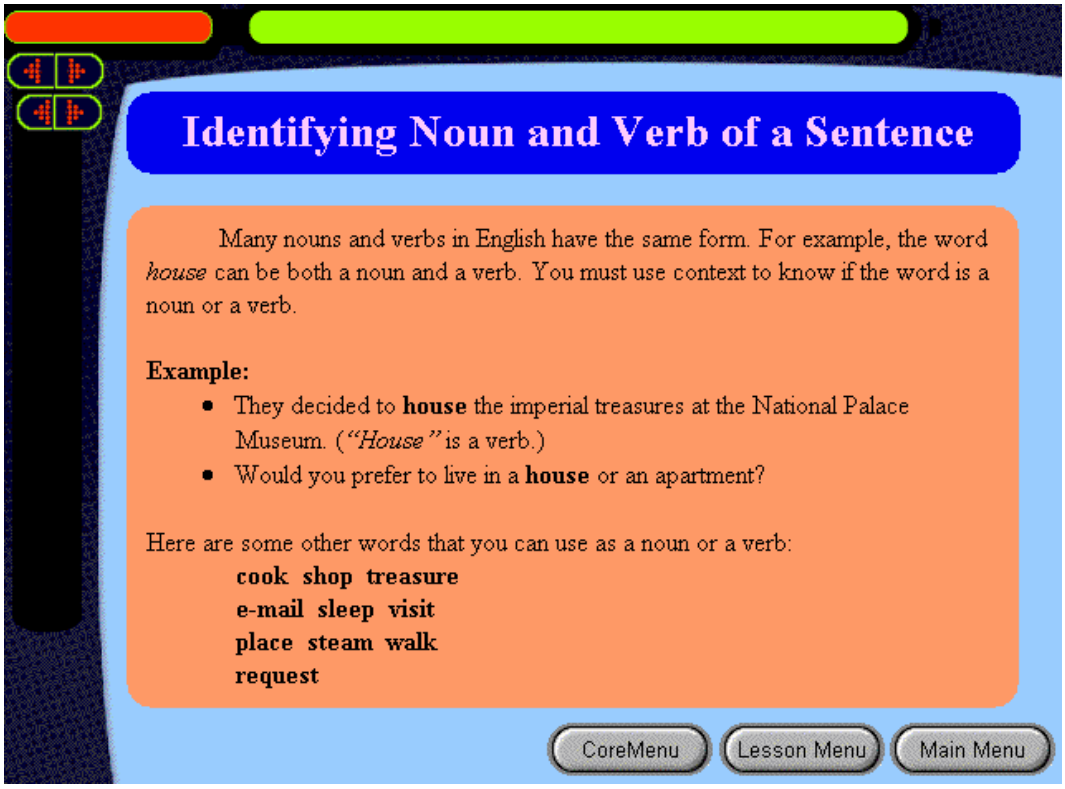

LESSON 3: Core Sentence
Objective
Pre-test
What is a core sentence?
Exercises
Post-test
Lesson Menu
Main Menu

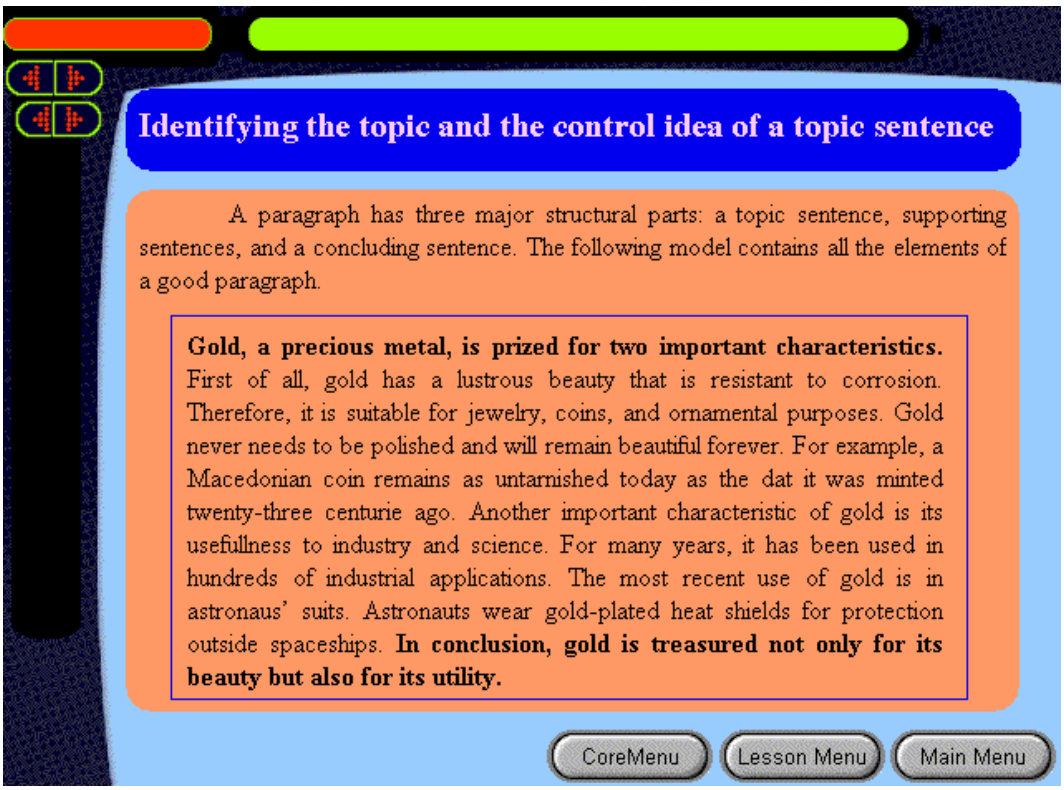

Objectives
After completing this lesson, students will be able to...
1. explain two structures of core sentences.
2. identify core sentences in reading text.
CoreMenu
Lesson Menu
Main Menu

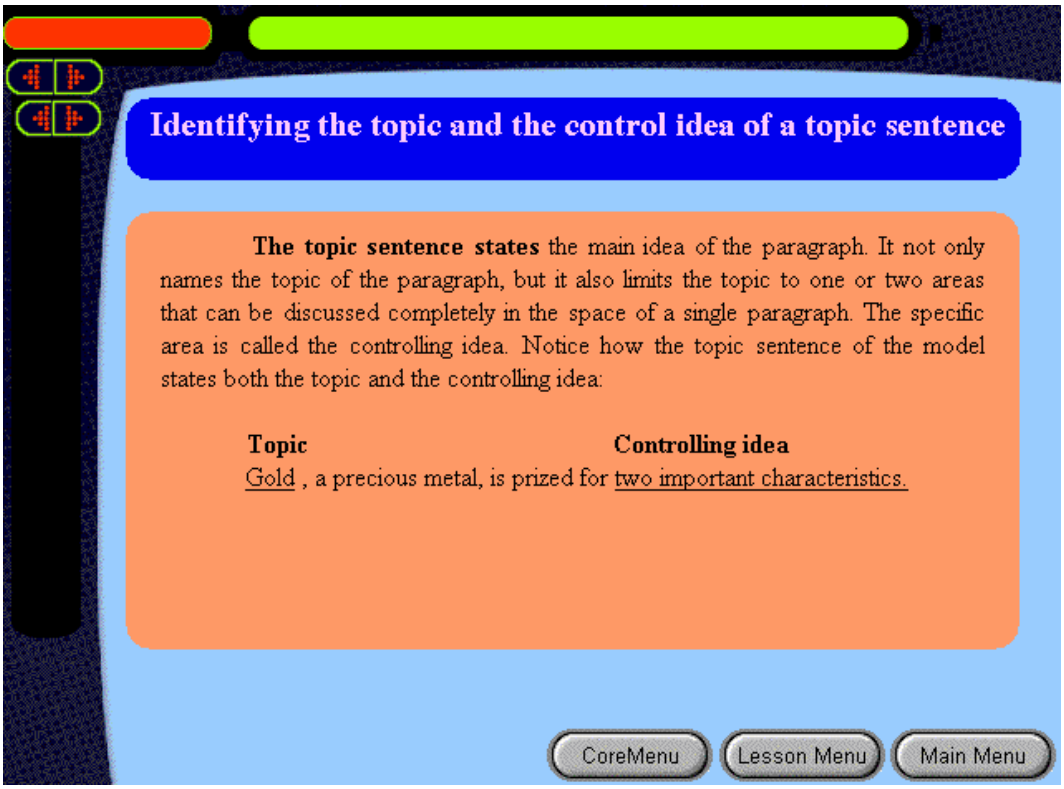

Core Sentence Pre-test
Instructions:
1. This pre-test consists of 4 reading passages for 10 questions. Read each passage and answer the corresponding questions.
Passage 1: Question 1
Passage 2: Question 2-3
Passage 3: Question 4-5
Passage 4: Question 6-10
2. Answer each question by clicking on a desire choice.
3. The program summarizes the score automatically at the end.
4. Although you can exit the test at any time, we recommend you to complete all the questions.
Are you ready?
Yes
No
CoreMenu
Lesson Menu
Main Menu

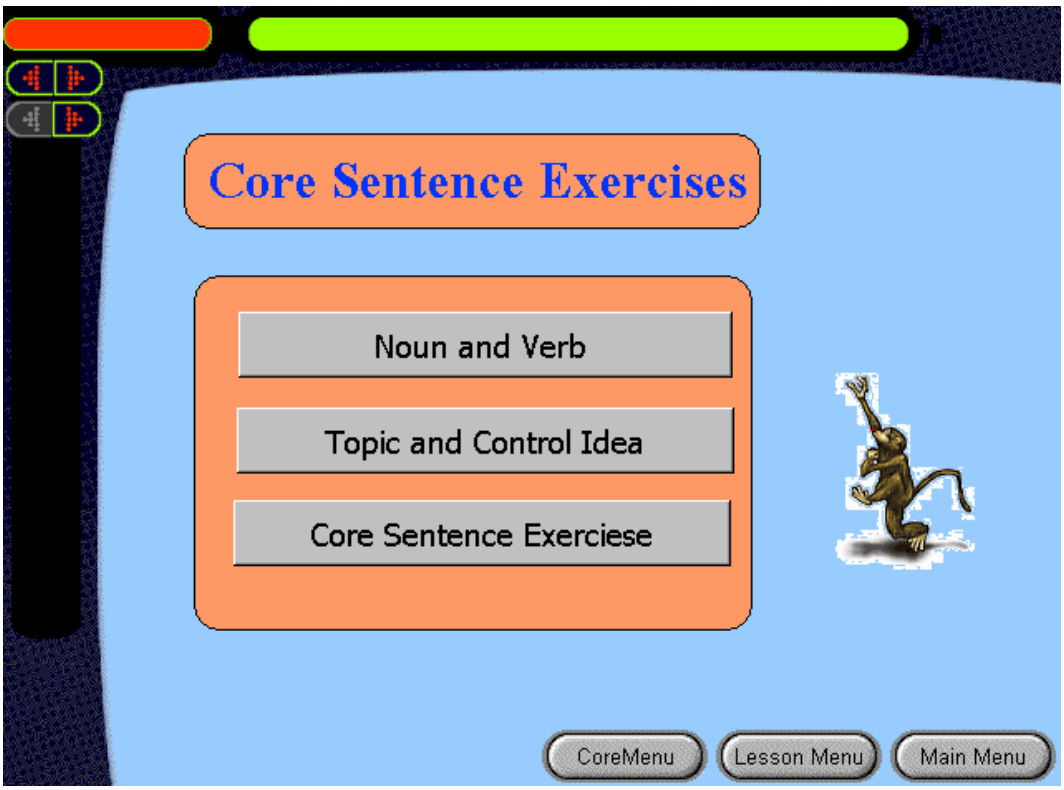

Core-test , Core Pre-test Question 1
Passage 1 : Questions 1
The ground around the outside of a house should be graded in such a manner as to prevent dampness. Your lot should slope away from the house on all sides to allow proper drainage and to prevent water that is draining off other lots from standing on your lots. Water should not be allowed to stand next to a house because it will eventually seep through the foundation walls. When disturbing established lot drainage patterns by installing such items as new lawns, landscaping, patio or planters, extreme care should be taken to maintain proper grades. To assure positive drainage at all times, periodic removal of silt and other
Read Passage 1
Question 1 of 10
What is the topic for Passage 1?
A. Patio construction
B. Drainage
C. Foundations
D. Plantings
Check Answer
Main Menu

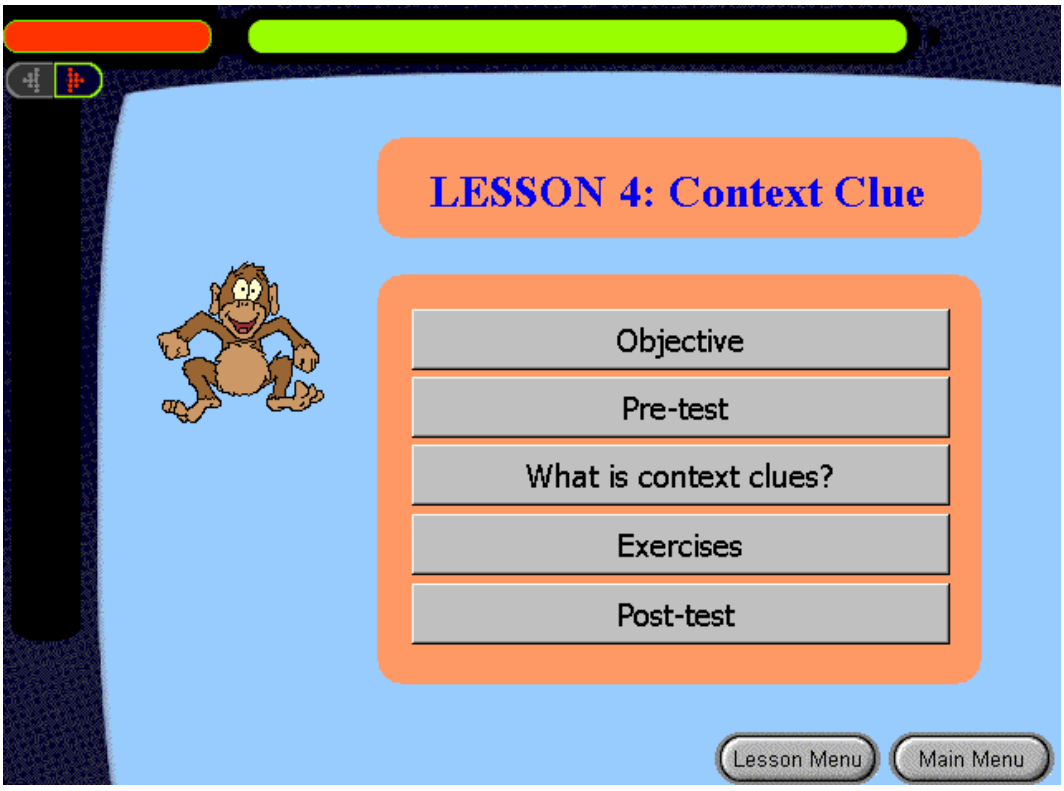

LESSON 3
Core Sentence
CoreMenu
Lesson Menu
Main Menu

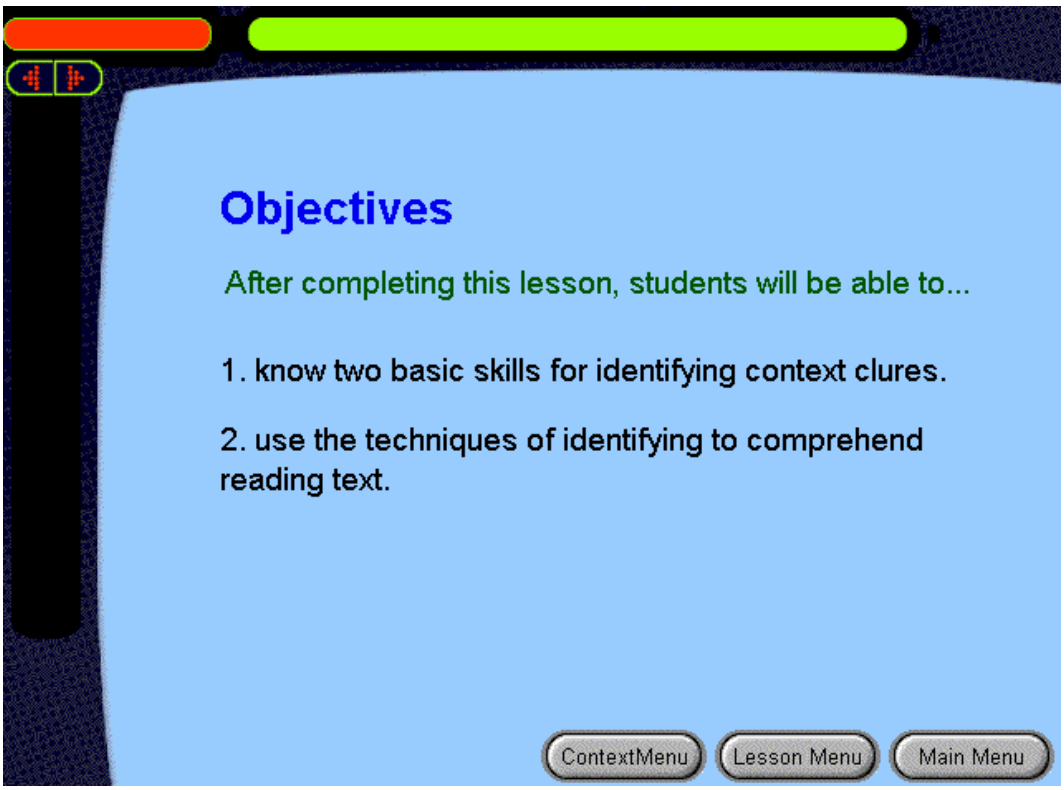

Identifying Noun and Verb of a Sentence
Many nouns and verbs in English have the same form. For example, the word house can be both a noun and a verb. You must use context to know if the word is a noun or a verb.
Example:
They decided to house the imperial treasures at the National Palace Museum. ("House" is a verb.)
Would you prefer to live in a house or an apartment?
Here are some other words that you can use as a noun or a verb:
cook shop treasure
e-mail sleep visit
place steam walk
request
CoreMenu
Lesson Menu
Main Menu

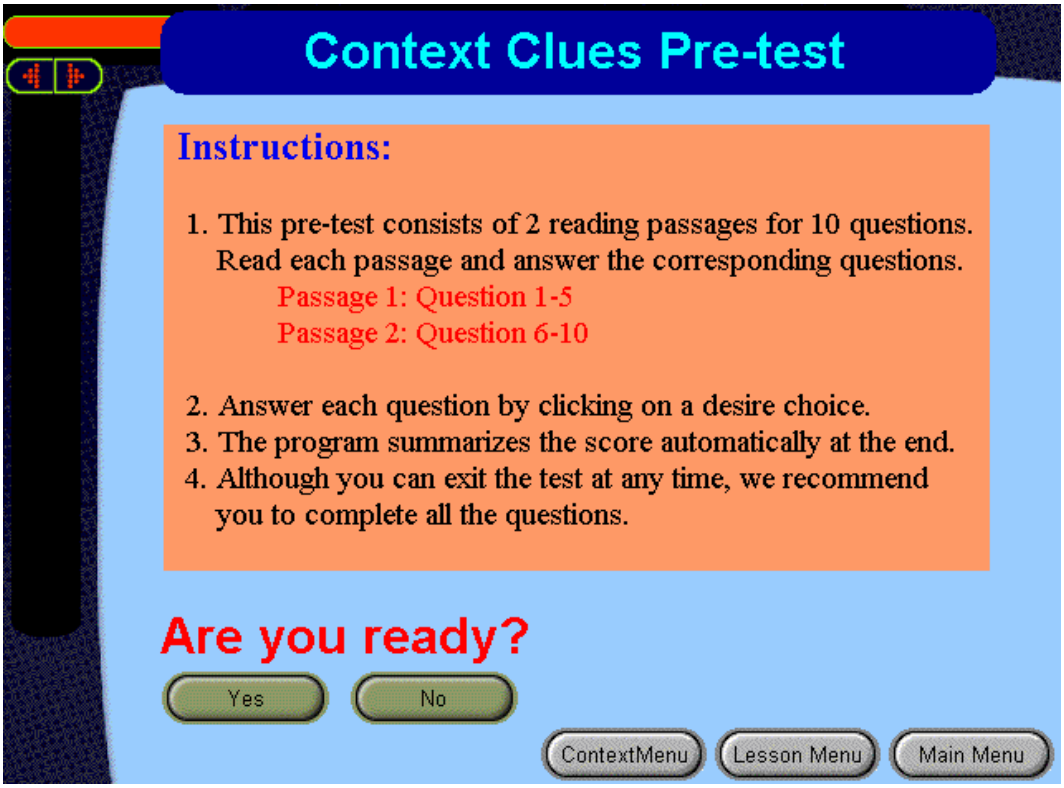

Identifying the topic and the control idea of a topic sentence
A paragraph has three major structural parts: a topic sentence, supporting sentences, and a concluding sentence. The following model contains all the elements of a good paragraph.
Gold, a precious metal, is prized for two important characteristics. First of all, gold has a lustrous beauty that is resistant to corrosion. Therefore, it is suitable for jewelry, coins, and ornamental purposes. Gold never needs to be polished and will remain beautiful forever. For example, a Macedonian coin remains as untarnished today as the dat it was minted twenty-three centurie ago. Another important characteristic of gold is its usefullness to industry and science. For many years, it has been used in hundreds of industrial applications. The most recent use of gold is in astronaus' suits. Astronauts wear gold-plated heat shields for protection outside spaceships. In conclusion, gold is treasured not only for its beauty but also for its utility.
CoreMenu
Lesson Menu
Main Menu

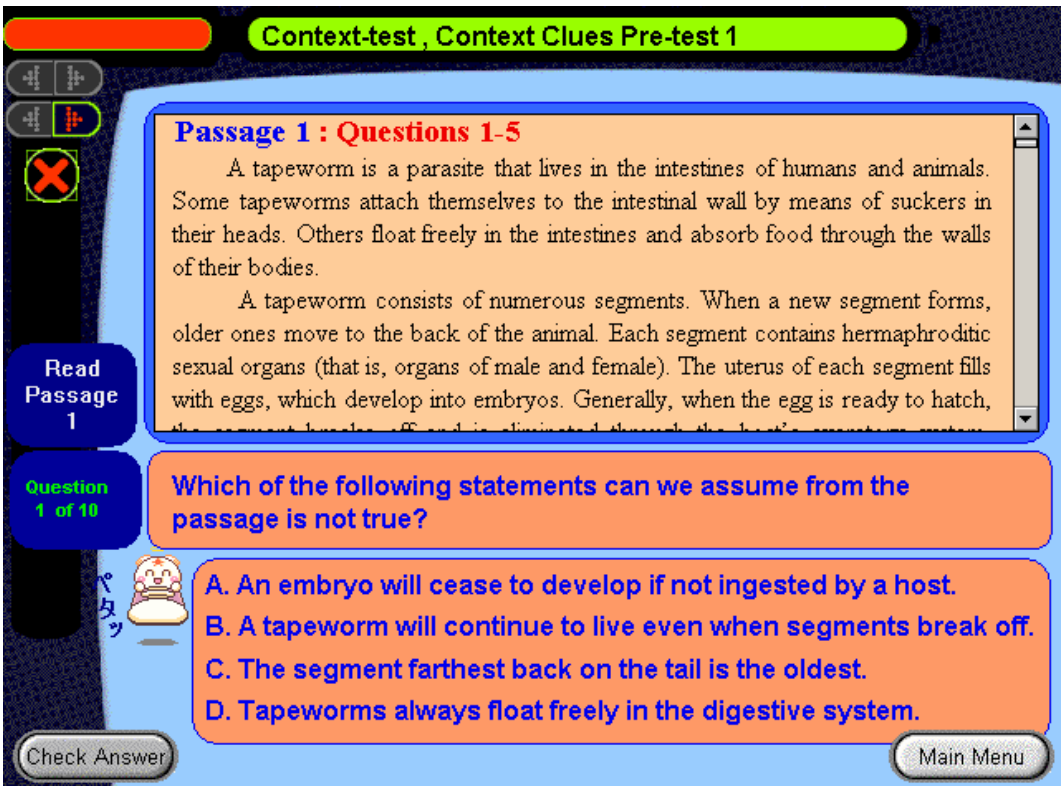

Identifying the topic and the control idea of a topic sentence
The topic sentence states the main idea of the paragraph. It not only names the topic of the paragraph, but it also limits the topic to one or two areas that can be discussed completely in the space of a single paragraph. The specific area is called the controlling idea. Notice how the topic sentence of the model states both the topic and the controlling idea:
Topic
Controlling idea
Gold , a precious metal, is prized for two important characteristics.
CoreMenu
Lesson Menu
Main Menu

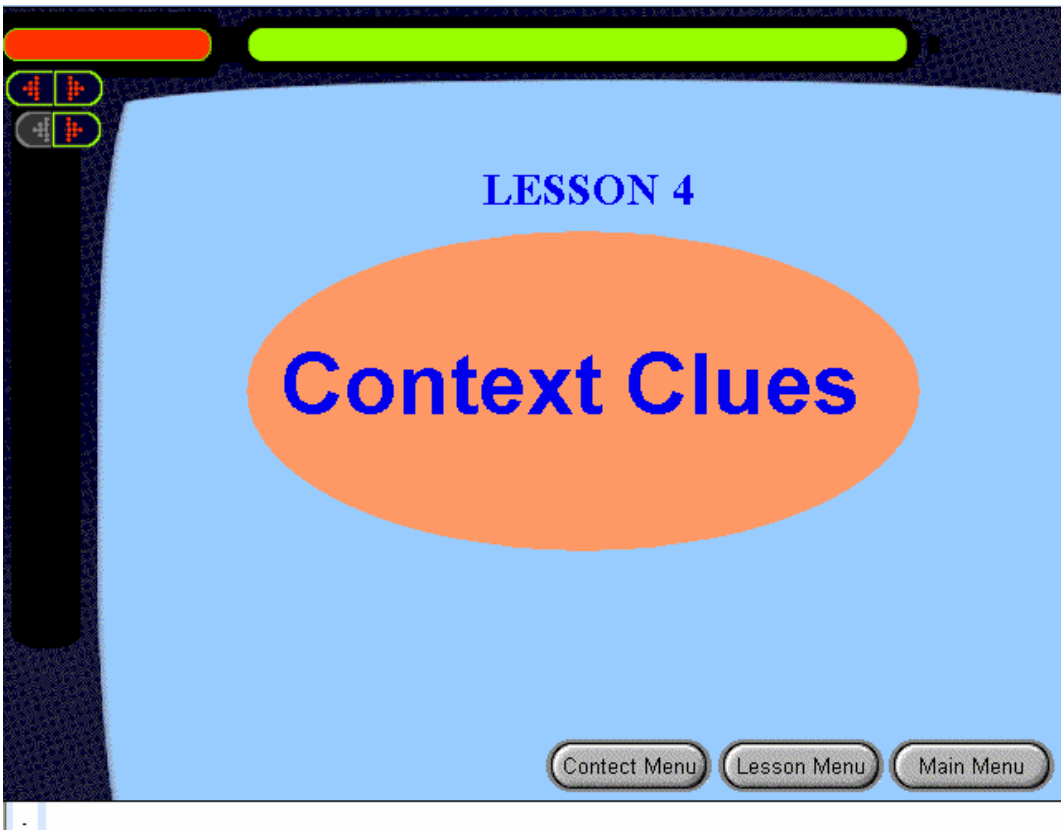

Core Sentence Exercises
Noun and Verb
Topic and Control Idea
Core Sentence Exerciese
CoreMenu
Lesson Menu
Main Menu


LESSON 4: Context Clue
Objective
Pre-test
What is context clues?
Exercises
Post-test
Lesson Menu
Main Menu


Objectives
After completing this lesson, students will be able to...
1. know two basic skills for identifying context clures.
2. use the techniques of identifying to comprehend reading text.
ContextMenu
Lesson Menu
Main Menu


Context Clues Pre-test
Instructions:
1. This pre-test consists of 2 reading passages for 10 questions. Read each passage and answer the corresponding questions.
Passage 1: Question 1-5
Passage 2: Question 6-10
2. Answer each question by clicking on a desire choice.
3. The program summarizes the score automatically at the end.
4. Although you can exit the test at any time, we recommend you to complete all the questions.
Are you ready?
Yes
No
ContextMenu
Lesson Menu
Main Menu


Context-test , Context Clues Pre-test 1
Passage 1 : Questions 1-5
A tapeworm is a parasite that lives in the intestines of humans and animals. Some tapeworms attach themselves to the intestinal wall by means of suckers in their heads. Others float freely in the intestines and absorb food through the walls of their bodies.
A tapeworm consists of numerous segments. When a new segment forms, older ones move to the back of the animal. Each segment contains hermaphroditic sexual organs (that is, organs of male and female). The uterus of each segment fills with eggs, which develop into embryos. Generally, when the egg is ready to hatch,
Read Passage 1
Question 1 of 10
Which of the following statements can we assume from the passage is not true?
A. An embryo will cease to develop if not ingested by a host.
B. A tapeworm will continue to live even when segments break off.
C. The segment farthest back on the tail is the oldest.
D. Tapeworms always float freely in the digestive system.
Check Answer
Main Menu


LESSON 4
Context Clues
Contect Menu
Lesson Menu
Main Menu

Using Context Clues

You don't need to understand the exact meaning of every new word. Instead, you can guess the general meaning of new words by looking at the context- the words before and after the new words, and in the sentences before and after the new word.

Example:

- Gardner **stayed awake** for 264 hours. That's eleven days and nights **without sleep.**

If you don't know the words "stayed awake," you can guess the meaning from the context clue "without sleep".

Contect Menu | Lesson Menu | Main Menu

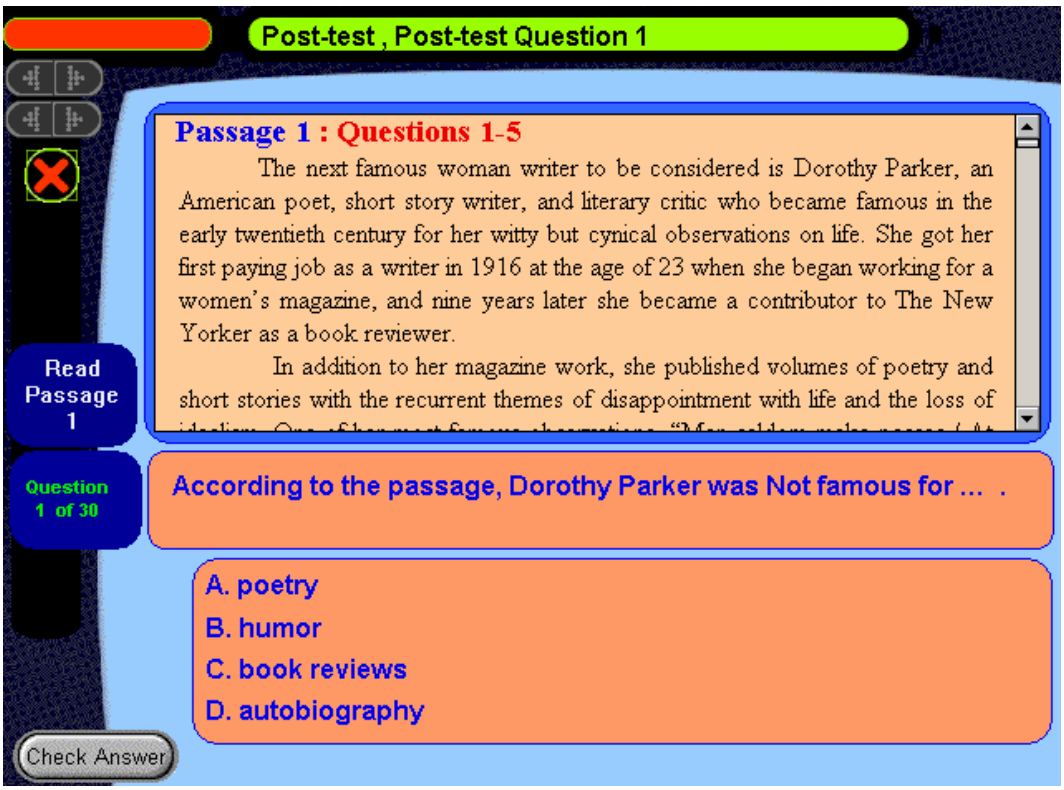
PROGRAM POST-TEST

Instructions:

1. This post-test consists of 6 reading passages for 30 questions. Read each passage and answer corresponding questions as follows:
   - Passage 1 : Questions 1-5
   - Passage 2 : Questions 6-10
   - Passage 2 : Questions 11-14
   - Passage 2 : Questions 15-19
   - Passage 2 : Questions 20-24
   - Passage 2 : Questions 25-30

2. Answer each question by clicking on a desire choice.
3. The program summarizes the score automatically at the end.
4. Although you can exit the test at any time, we recommend you to complete all the questions.

Are you ready? Yes | No


Post-test , Post-test Question 1
Passage 1 : Questions 1-5
The next famous woman writer to be considered is Dorothy Parker, an American poet, short story writer, and literary critic who became famous in the early twentieth century for her witty but cynical observations on life. She got her first paying job as a writer in 1916 at the age of 23 when she began working for a women's magazine, and nine years later she became a contributor to The New Yorker as a book reviewer.
In addition to her magazine work, she published volumes of poetry and short stories with the recurrent themes of disappointment with life and the loss of
Read Passage 1
Question 1 of 30
According to the passage, Dorothy Parker was Not famous for ... .
A. poetry
B. humor
C. book reviews
D. autobiography
Check Answer

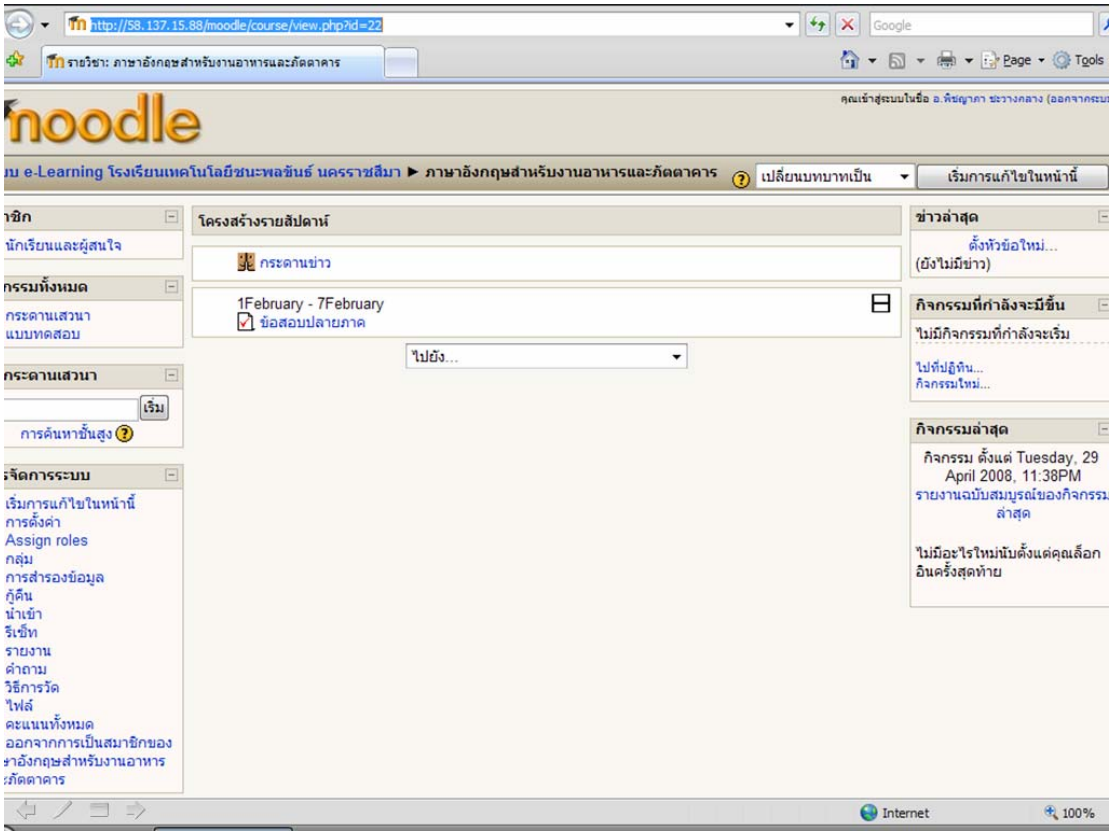
Appendix J

Information about Moodle program

Moodle is a course management system (CMS). Sometimes Moodle is known as Learning Management Systems (LMS) or Virtual Learning Environments (VLE). The word Moodle is the acronym for Modular Objected Oriented Dynamic Learning Environment. This software is used to produce internet based courses and web sites. This is a free; Open Source software package designed using social constructivist pedagogical principle. Constructivist has the point of view that people are actively construct new knowledge as they interact with their environment. Moodle program helps educators create effective online communities. The program allows a single – teacher site to a University with 200,000 students. Moodle has a large and diverse user community with over 330,000 registered users on this site. There are 196 countries using the program with over 70 languages. The following are some general features of Moodle:

- Moodle promotes a social construction pedagogy (which includes collaboration, activity-based learning, critical reflection, etc)
- Moodle is suitable for 100% online classes as well as supplementing face-to-face learning
- Moodle has a simple, lightweight, efficient, compatible, low-tech browser interface
- Course listings show descriptions for every course on the server, including accessibility to guests.
- Courses can be categorized and searched - one Moodle site can support thousands of courses
- Most text entry areas (resources, forum postings, journal entries etc) can be edited using a capable, embedded WYSIWYG HTML editor

Example page of Moodle program



CURRICULUM VITAE

Mrs. Pitchayapa Chavangklang was born on August 30, 1974. She graduated in 1999 from Charles Sturt University, Australia, majored in Business Management. Since she graduated, she has been working as a teacher mostly teaching English at vocational schools. Currently, she is working as head of foreign language department and an English language teacher at Chanapollakan Institute of technology, Nakhorn ratchasima.