ENHANCING ENGLISH READING COMPREHENSION THROUGH A TEXT STRUCTURE READING STRATEGY CALL PROGRAM

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การเสริมความเข้าใจในการอ่านภาษาอังกฤษด้วยโปรแกรมคอมพิวเตอร์ช่วยสอนกลวิธีการอ่านโครงสร้างของตัวบท

นายเด่นติศักดิ์ ดอกจันทร์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรดุษฎีบัณฑิต
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ENHANCING ENGLISH READING COMPREHENSION THROUGH A TEXT STRUCTURE READING STRATEGY CALL PROGRAM

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เด่นติศักดิ์ ดอกจันทร์ : การเสริมความเข้าใจในการอ่านภาษาอังกฤษด้วยโปรแกรมคอมพิวเตอร์ช่วยสอนกลวิธีการอ่านโครงสร้างของตัวบท (ENHANCING ENGLISH READING COMPREHENSION THROUGH A TEXT STRUCTURE READING STRAEGY CALL PROGRAM) อาจารย์ที่ปรึกษา : ผู้ช่วยศาสตราจารย์ดร. ปัณณธร แสงอรุณ, 274 หน้า

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อ (1) เปรียบเทียบคะแนนทดสอบความเข้าใจในการอ่านภาษาอังกฤษของนิสิตที่เรียนด้วยโปรแกรมคอมพิวเตอร์ช่วยสอนกลวิธีการอ่านโครงสร้างของตัวบท (ในที่นี้เรียกว่า TSRS) และของนิสิตที่ศึกษาตัวบทจากเว็บเพ็จของ Voice of America (VOA) Special English และ (2) ศึกษาความคิดเห็นของนิสิตที่มีต่อโปรแกรม TSRS และประโยชน์ของโปรแกรม กลุ่มตัวอย่างเป็นนิสิตมหาวิทยาลัยเกษตรศาสตร์ วิทยาเขตเฉลิมพระเกียรติ จังหวัดสกลนคร ที่มีความสามารถทางภาษาอังกฤษระดับปานกลางและอ่อน จำนวน 86 คน ซึ่งเรียนวิชาภาษาอังกฤษพื้นฐาน 3 ในภาคฤดูร้อน ปีการศึกษา 2552 โดยแบ่งเป็นกลุ่มทดลอง (42 คน) และกลุ่มควบคุม (44 คน) หลังจากทดสอบก่อนเรียนทั้งสองกลุ่มแล้ว กลุ่มทดลองเรียนด้วยโปรแกรม TSRS และกลุ่มควบคุมศึกษาตัวบทจาก VOA Special English จากนั้นนิสิตทั้งสองกลุ่มทำแบบทดสอบหลังเรียน

เครื่องมือในการทดลองได้แก่โปรแกรม TSRS ซึ่งเป็นโปรแกรมคอมพิวเตอร์ช่วยสอนผ่านเว็บ (ค่าประสิทธิภาพเท่ากับ 81.30/84.24 ซึ่งสูงกว่าเกณฑ์มาตรฐานที่ตั้งไว้ คือ 80/80) เครื่องมือในการเก็บรวบรวมข้อมูลประกอบด้วย แบบทดสอบก่อนเรียนและหลังเรียน แบบสอบถามความคิดเห็นเกี่ยวกับโปรแกรมและประโยชน์ของโปรแกรม TSRS และการสัมภาษณ์กึ่งโครงสร้าง วิเคราะห์ข้อมูลเชิงปริมาณด้วยการหาค่าเฉลี่ย ค่าเบี่ยงเบนมาตรฐาน และค่าร้อยละ ทดสอบความแตกต่างของค่าเฉลี่ยด้วย t-test และการวิเคราะห์ความแปรปรวนร่วม (ANCOVA) วิเคราะห์ข้อมูลเชิงคุณภาพด้วยการวิเคราะห์เนื้อหา

ผลการวิจัยพบว่า

1. นิสิตที่มีความสามารถทางภาษาอังกฤษระดับปานกลางที่เรียนด้วยโปรแกรมTSRS มีคะแนนทดสอบหลังเรียนไม่แตกต่างจากนิสิตที่มีความสามารถทางภาษาอังกฤษระดับปานกลาง ที่ไม่ได้เรียนด้วยโปรแกรม TSRS

2. นิสิตที่มีความสามารถทางภาษาอังกฤษระดับอ่อนที่เรียนด้วยโปรแกรม TSRS มีคะแนนทดสอบหลังเรียนสูงกว่านิสิตที่มีความสามารถทางภาษาอังกฤษระดับอ่อนที่ไม่ได้เรียน ด้วยโปรแกรม TSRS อย่างมีนัยสำคัญทางสถิติที่ระดับ.01

3. โดยภาพรวมแล้ว นิสิตที่เรียนด้วยโปรแกรม TSRS มีคะแนนทดสอบความเข้าใจในการอ่านภาษาอังกฤษหลังเรียน สูงกว่านิสิตที่ศึกษาตัวบทจาก VOA Special English อย่างมีนัยสำคัญทางสถิติที่ระดับ .01

4. นิสิตมีความคิดเห็นที่ดีมากต่อโปรแกรมและประโยชน์ของโปรแกรม TSRS ($\overline{X}$ = 3.86, S.D. = .64)

สาขาวิชาภาษาอังกฤษ ลายมือชื่อนักศึกษา_____

ปีการศึกษา 2553 ลายมือชื่ออาจารย์ที่ปรึกษา_____

DENTISAK DORKCHANDRA : ENHANCING ENGLISH READING COMPREHENSION THROUGH A TEXT STRUCTURE READING STRATEGY CALL PROGRAM, THESIS ADVISOR : ASST. PROF. PANNATHON SANGARUN, Ph.D, 274 PP.

CALL/TEXT STRUCTURE READING STRATEGY/ENGLISH READING COMPREHENSION

The purposes of this study were (1) to compare the reading comprehension test scores of the students who learned with the Text Structure Reading Strategy CALL program (herein called TSRS) and those who did not learn with the TSRS CALL program, but studied texts from the Voice of America (VOA) Special English Program web pages, and (2) to explore the students' opinions towards the TSRS CALL program and its usefulness. The participants consisted of 86 students with medium and low English proficiency who registered for Foundation English III during the summer semester of academic year 2009 at Kasetsart University Chalermphrakiat Sakon Nakhon Province Campus. The participants were divided into an experimental group (n = 42) and a control group (n = 44). The two groups took the pre-test, then the experimental group learned with TSRS CALL program, but the control group studied the texts from the VOA Special English. Then the two groups took the post-test.

The experiment tool was the TSRS CALL program, of which the efficiency was 81.30/84.24, which was higher than the 80/80 criterion. The data were collected using a pre-test and a post-test, a questionnaire towards the program and its usefulness, and a semi-structured interview. The data were analyzed quantitatively

and qualitatively. The statistical analysis of the quantitative data included arithmetic mean, standard deviation and percentage. The testing of the mean difference was conducted using t-test and ANCOVA. The qualitative data were analyzed using content analysis.

The results were as follows:

1. The students with medium English proficiency who learned with the TSRS CALL program did not have significantly higher post-test scores than the medium proficiency ones who did not learn with the program.

2. The students with low English proficiency who learned with the TSRS CALL program had significantly higher post-test scores ($p<.01$) than the low proficiency students who did not learn with the program.

3. Overall, the students who learned with the program had significantly higher post-test scores ($p<.01$) than the students who did not learn with the program.

4. The students who learned with the TSRS CALL program had very positive opinions towards the program and its usefulness ($\overline{X} = 3.86$, S.D. = .64).

School of English Student's Signature_____

Academic Year 2010 Advisor's Signature _____

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Dentisak Dorkchandra

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CHAPTER 1

INTRODUCTION

1.1 Statement of the Research Problems

Reading is one of the four necessary important language skills for those learning English as a second or foreign language (ESL/EFL), for academic success, and for professional development. Thai university EFL students need to read textbooks, articles, or magazines written in English to acquire knowledge and gather information for both their careers and their academic studies. The ability to comprehend expository texts which make up the bulk of their foreign language reading materials is, therefore, very important for all of them.

At higher education level, the poor English reading ability of Thai university EFL students is commonly recognized across the country. Thai educators investigated the reading ability of Thai EFL students and found that most Thai university EFL students especially those who are not English majors have low to medium English reading proficiency (Anusornorakarn, 2002; Chinwonno, 2001; Rattanawanitpun, 1999; Sucompa, 1998).

Several causes have been identified in regard to the Thai university EFL students' poor English reading problem. These include a lack of reading resources, a lack of strong reading culture, a lack of reading strategy knowledge, and teachers' use of unsuccessful teaching methods (Adunyarittigun, 1998, Srisa-ant, 1990; Sukamolson, 1992, 1993; Vanichakorn, 2003).

Though researchers commonly recognize that a lack of reading strategy knowledge accounts, to a large extent, for EFL students' poor reading ability, instruction to train the students to be aware of and effectively use reading strategies rarely happens during big English reading classes in most Thai universities. It seems that Thai teachers of English assume that their students know reading strategies and thus can use them to read English text effectively. Therefore, the teachers just assign the reading materials, have the students read, and then assess their reading comprehension performance. The poor teaching method like this can lead to students' failure in reading comprehension. As stated by Ekwall and Shanker (1988), more than 90 percent of learners' reading failures could or should be blamed on poor teaching. This is in line with the observational studies by Durkin (1978-1979) and Pressley and Wharton-McDonald (1997) which found that teachers regularly assigned reading tasks to their students and then tested their reading comprehension, but rarely taught the reading strategies needed by their students.

To address this problem, an effective reading strategy instruction must be urgently carried out to promote Thai university EFL students' reading ability. Research has shown that reading strategies can be effectively taught to EFL students to help them comprehend English expository texts (Dickson, Simmons and Kameenui, 1995; Leon and Carretero, 1995; Raphael and Kirshner, 1985; Troyer, 1994; Williams and Stafford, 2005).

1.2 Rationale of the Study

Researchers have extensively investigated what reading strategies EFL/ESL students employ in their reading (e.g. Chinwonno, 2001; Huang, Chern, and Lin,

2009; Lin and Chen, 2006) and to what extent those reading strategies affect EFL/ESL students' reading comprehension (e.g. Chiang, 2005; Nearly, 2003; Simpson and Nist, 2000; Steinagel, 2005; Wirottanan, 2002).

A number of reading strategies have proven to be effective in improving EFL readers' comprehension of expository texts (Burns, Roe and Ross, 1999; Carlo and Sylvester, 1996; Carrell, 1984a, 1984b; Connor, 1984; Dickson, Simmons and Kameenui, 1995; Leon and Carretero, 1995; Prapphal, 2003; Raphael and Kirshner, 1985; Raymond, 1993; Taylor and Beach, 1984; Troyer, 1994; Williams and Stafford, 2005). However, one most effective reading strategy widely supported by EFL and ESL reading researchers (Chamot, 2004, 2005; Carrier, 2003; National Reading Panel, 2000; Newman, 2007; O'Malley and Chamot, 1990; Oxford and Leaver, 1996; Pressley, 2000; Shen, 2003) is the text structure reading strategy. These researchers claim that EFL readers can be taught to use the text structure reading strategy to help improve their reading comprehension of expository texts. Moreover, to make the text structure reading strategy instruction effective, an explicit instruction should be used.

Recognizing the importance of teaching text structure reading strategy in promoting EFL students' reading comprehension of expository texts, and the positive effects of using Web-based CALL programs for teaching reading strategies, EFL/ESL researchers in the field of reading strategy instruction in recent years have started teaching the text structure reading strategy through Web-based CALL programs (e.g. Dreyer and Nel, 2003; Theodorou, 2006).

In this regard, various Web-based CALL programs have been developed for delivering reading strategy instruction and it was found that most programs were effective in teaching reading strategies (Cole, 2005; Johnson, 2005; Kang Mi-Lim,

2000; Lee, 2000; Lynch, Fawcett, and Nicolson, 2000; Singhal, 2001; Son, 2003). Also, Web-based CALL programs have been widely supported by research in L2 reading because they promote active learning and interactive instruction. With a Web-based CALL program, students are encouraged to study at their own learning pace (Klassen and Milton, 1999). Web-based CALL programs also support the acquisition of reading skills through various embedded tools. With these tools, they can check the results of the exercises after they are done. The programs move them gradually from easier to more difficult exercises according to their levels and abilities. When students fail to answer correctly during their activities, the program can provide drills or even explanations.

Moreover, it was found that students generally had positive opinions towards L2 reading strategy instruction via Web-based CALL programs. For example, Singhal (2001) developed a Web-based CALL program for teaching reading strategies including text structure strategy and tested it with 22 students with 12 different language backgrounds, and found that the students had an overall very positive opinions toward learning with the program. Al-Seghayer (2005) and Son (2003) also found that students had generally positive opinions towards Web-based CALL programs embedded with different modes such as sound and pictures that were designed to facilitate reading comprehension.

However, regarding the Web-based CALL programs developed for the purpose of teaching the text structure reading strategy to EFL students, very little research has been found. To the researcher's knowledge, no research has been done on the effects of a Web-based CALL program particularly developed to teach the text structure reading strategy to Thai university EFL students who are generally of

medium and low English proficiency. It is, therefore, evident that there is a persuasive and urgent need for a Web-based CALL program for teaching the text structure strategy that is specially designed for Thai university EFL students. Responding to this urgent need, this study was carried out on the following grounds:

Firstly, most previous research on text structure reading strategy instruction, as far as the literature review goes, was carried out focusing on ESL/EFL students using English as the main medium of instruction (e.g. Mcnamara 2004; Singhal, 2001; Theodorou, 2006). The quantitative and qualitative findings from these studies may not be generalized to cover the instruction of text structure reading strategy for the Thai university EFL students, hence being deemed inappropriate for the context of the Thai university EFL students who are mostly of medium and poor English proficiency backgrounds. The present study, on the other hand, was meant to investigate the effects of a Web-based CALL program that is tailor-made for Thai university EFL students with medium and poor English proficiency. In doing so, L1 (Thai) was used in combination with L2 (English) as the medium of instruction. The findings of the study would, therefore, be generalized across all Thai students with similar English proficiency levels.

Secondly, previous research investigating the effects of Web-based CALL programs on EFL students' reading comprehension of English expository texts did not provide sufficient qualitative findings relevant to the students' opinions toward learning with the programs, especially in terms of the application of the strategy knowledge and ways to developing the programs to suit non-all English using context. This study, instead, investigated the true aspects of a Web-based CALL program through mixed methods of data collection (a written questionnaire and an interview).

Results from the study would, therefore, add to more understanding and knowledge in the field.

Bearing some interesting contributions to the theoretical implications, the present study adopted sound principles of second language acquisition (SLA) theory and cognitive and constructivist approaches toward a Web-based CALL program for teaching text structure reading strategy, which required the participants to read and do expository text-related practice exercises. Findings in the present study regarding the applied SLA principles in terms of salient key linguistics, modifications of input, and error notice, could contribute to a much wider consideration and use of SLA principles for L2 reading strategy researchers who design a Web-based CALL program.

The present study also adopted cognitive and constructivist approaches to designing a Web-based CALL program that focuses on learners' attention, perception, enhanced memory, individual learning, discovery learning, knowledge construction, and authentic tasks as well as activities. Its findings in relation to these two learning theories could provide a framework for designing a Web-based CALL program for teaching text structure reading strategy. Therefore, they might encourage EFL reading teachers at university level to incorporate or even develop a CALL program, and also benefit those interested in improving their reading ability.

1.3 Research Questions

The following research questions were addressed in this study:

Research question 1: What are the effects of the TSRS CALL program on English reading comprehension of Thai university EFL students with medium and low English proficiency?

Research question 2: What are the students' opinions towards the TSRS CALL program and its usefulness?

1.4 Definitions of Terms

For the purpose of this study, the following terms are defined:

Expository text is the text which is written to present factual information or ideas. This type of text is referred to as content area text, which includes social studies, math, or science (Spafford, Pesce, and Grooser, 1998).

Text structure is "the way in which the ideas of a text are interrelated to convey a message to the reader" (Mayer and Rice, 1984, p. 319). In this study, text structure refers to the following organizations of ideas in expository text: sequence, compare/contrast, and cause/effect.

Text structure reading strategy is a reading strategy that involves readers' use of knowledge of expository text structures to help to comprehend English expository texts (adapted from Raymond, 1993, p.12).

Text Structure Reading Strategy (TSRS) CALL Program is a computer assisted language learning program developed by the researcher of the present study for teaching text structure reading strategy via the Internet, focusing on three expository text structures: sequence, compare/contrast, and cause/effect.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Instruction of text structure reading strategy delivered on the Web was the basic construct in this research which investigated the effects of a Web-based CALL program for teaching text structure reading strategy on Thai university EFL students' English reading comprehension, as well as the students' opinions towards the program and its usefulness. Accordingly, some related literature and research were reviewed to obtain sufficient background information for the study. The topics discussed in this chapter cover the following broad areas: reading models and reading strategy as well as reading strategy instruction; text structure and text structure strategy instruction; Web-based instruction and other relevant areas as well as research on CALL-based reading strategy instruction. The conclusions of the chapter are presented towards the end of the chapter.

2.2 Models of the Reading Process in L1 and L2

When it comes to the study of English language, reading has usually been at the center of debates among teachers and researchers. Therefore, an attempt will be made to define reading as a communicative process by following certain relevant descriptive frameworks in this area. There are three main "models" being proposed to explain the nature of foreign learning to read: (1) bottom-up processing model, which

is so called because it focuses on developing the basic skill of matching sounds with letters, syllables, and words written on a page; (2) top-down processing model, which focuses on the background knowledge that a reader uses to comprehend a text; and (3) the third model called "interactive" model which incorporates both top-down and bottom-up processing models and regards text processing as a non-linear, constantly developing phenomenon where both the former explanations constantly react and influence one another (Grabe and Stoller, 2002; Hood, Solomon, and Burns, 1996). Current reading research claims that L1 and L2 readers use a similar cognitive process when they read (Eskey, 2005; Grabe, 2004; Nunan, 1999; O'Donnell and Wood, 2004). Therefore, in this section, all the three reading models will be described

2.2.1 Bottom-up Reading Model

This reading model is developed by Gough (1972) who claims that reading is a process of decoding letter-by-letter. After readers begin to decode the letters of word level and syntactic features of text, they can build their textual meaning. They read texts by ways of focusing on linguistic forms at the level of word and sentence. As familiarities with the words increase, the readers will automatically recognize the words. This helps them to read fluently. On top of this, comprehension is produced when readers decode the letter, encode the sound and then construct the meaning from the text.

Though this model is convincing, researchers (Chen, 2002; Johnson, 2001) still do not vehemently support it, pointing out that the spelling-sound correspondence is complex and unpredictable. They argue that this process of reading causes slow and laborious reading because of short-term memory overload, and readers' easily forgetting what they have read at the end of the reading (Adams, 1990; Nunan, 1992,

1999; Nuttall, 1996;). According to Day and Bamford (1998), if a reader cannot keep a sentence long enough in the short-term memory, comprehension will be less satisfactory. Therefore, readers may remember only isolated facts but cannot integrate them into a cohesive understanding. Another limitation of this model is that the information contained at this level cannot interact with the higher level information (Rumelhart, 1977).

Though the bottom-up reading process has been criticized as having covered only unilateral aspects of the reading process, it still has a great deal of contribution to reading research (Adams, 1990; Alderson, 2000; Lipson and Cooper, 2002; National Reading Panel, 2000).

Hsueh-chao and Nation (2000) investigated the effect of the density of unknown words on reading comprehension, using a narrative text and 66 English native speakers attending a pre-university English course in an English speaking country as participants. The findings were that about 98% coverage of vocabulary seemed to be necessary for learners to gain adequate comprehension. About the threshold issue, the results also suggest that comprehension would be difficult if the threshold level was below 80% vocabulary coverage. If the learner had high a level of vocabulary, he/she would not need to depend on background knowledge and reading skills. However, no skills or background knowledge could help if the learner's vocabulary coverage was below 80%. Their conclusion was that vocabulary knowledge was an important component in reading. The more unknown words there are, the less comprehension occurs. In addition, Hsueh-chao and Nation suggested that a broad knowledge of grammar, background knowledge and reading skills also had contribution to text comprehension.

The roles of the bottom-up skills or ability in vocabulary, grammar, background knowledge, and reading skills are also crucial in L2 reading comprehension (Haynes and Baker, 1993; Hunt and Beglar, 2005; Park, 2004). On the whole, L1 and L2 reading research showed that bottom-up reading processing is still vital for reading comprehension.

2.2.2 Top-down Reading Model

This model is contrasted with the bottom-up model, because it emphasizes "from brain to text" (Eskey, 2005, p. 564). According to this model, what readers bring to text is more important than what the text brings. The main characteristic of this model is that the reader relies more on existing knowledge and makes minimal use of written information (Hayes, 1991; Smith, 2004). Readers' predictions and background knowledge play a significant role in their reading (Chinwonno, 2001). In this process, readers read in a cyclical process, making guesses about the message of the text and checking the text for confirming or rejecting cues, based on personal schemata and contextual clues. While reading, they fit the text information into their existing knowledge structure (Carrell and Eisterhold, 1983).

The top-down reading model has a great deal of influence on both L1 and L2 teaching, especially in promoting readers' prediction, guessing from context, and getting the main idea.

2.2.3 Interactive Reading Model

However, some researchers suggested that during the reading process, comprehension is more complex than the two models would predict. They argued that comprehension is achieved through the interaction of both the bottom-up and top down processes. Therefore, a balanced view between language and reasoning process

has been advocated by most L2 reading researchers (Carrell, 1988, 1991; Eskey and Grabe, 1988; Eskey, 2005; Grabe, 2004; Sarcella and Oxford, 1992).

While reading, readers actively combine their bottom-up processes, for example, the ability to decode and recognize words and grammatical forms with their top-down processes, such as using background knowledge to predict and confirm meaning (Grabe, 2004) and, therefore, comprehension is the result of meaning construction, not just transmission of the graphic information to the reader's mind (Rumelhart, 2004).

The interactive reading model is seen as similar in both first language (L1) and second langue (L2) contexts. Readers interact with the text to create its meaning as their mental processes work together at different levels (Carrell, Devine and Eskey, 1988; Rumelhart, 1977).

The level of reader's comprehension of the text is determined by how well the reader variables (interest level in the text, reading purposes, knowledge of the topic, target language abilities, awareness of the reading process, and level of willingness to take risks) interact with the text variables (text type, text structure, and vocabulary) (Hosenfeld, 1979).

2.2.3.1 Schemata and Reading Comprehension

One important aspect of the interactive model theory emphasizes "schemata," the reader's pre-existing framework about the world and about the text to be read. A reader fits what is found in a passage into this framework. If new textual information does not fit into the reader's schemata, the reader misunderstands the new information, ignores it, or revises the schemata to match the facts within the passage.

Basically, there are two types of schemata: content and formal schemata. Content schemata are background knowledge about cultural orientation or content of a text. Although text processing requires several processing strategies, it is accepted that activation of content schemata in the domain of the text is crucial to comprehension (Weaver and Kintsch, 1996). Haberlandt (1988) posited that readers do not construct the meaning of a text in a vacuum. Rather, they do so based on a background of relevant facts and information presented in the text. The more readily the reader can associate text content with the appropriate knowledge sources, the faster the comprehension will be. This is possible when the text topic/content is familiar to the reader. Studies have shown that readers who are familiar with the text content, whether in their first or second language, comprehend and recall more than those who are not as familiar with the text topic/content (Alderson and Urquhart; 1988; Johnson, 1982; Zuck and Zuck, 1984).

Formal schema refers to background knowledge about organizational forms and rhetorical structures of various text types, including stories, newspaper articles, academic texts, study notes, brochures, etc. (Carrell and Eisterhold, 1983; Carrell, 1987; Aebersold and Field, 1997). Formal schemata define readers' expectations about how pieces of textual information will relate to each other and in what order details will appear (Carrell, 1987). For example, in a detective story, a reader could expect the following chain of events: A crime occurs, possible suspects are identified, evidence is uncovered, and the perpetrator is apprehended. Research in L1 and L2 reading indicates that readers who generally recognize and use formal schemata to aid their comprehension show higher reading ability when compared with those who do not (Meyer, 1975; Carrell, 1988, 1989). Also, readers who use text

structures generally provided text recalls whose structure resembles that of the studied text. Moreover, explicit instruction in recognizing and analyzing structures of texts can facilitate L2 readers' comprehension, as measured by quantity and quality of information recalled (Carrell, 1985; Raymond, 1993).

Modern schema theorists believe that schema consists of variables and slots. The meaning exists neither in oral nor in written language itself, but in the reader’s mind, depending on the activation of his or her brain schemata whose controlling structure or basic moving pattern is navigated through bottom-up data-driven-processing and top-down concept-driven-processing.

In terms of reading, the operations of bottom-up and top-down processing are simultaneous. Rumelhart (1977) believes that comprehension is the process of selecting the schema illustrating input information and variable constraints. Reading comprehension is first of all inputting some amount of information and then searching for the schemata illustrating the information. Comprehension is generated when such schemata are found or some schemata are specified or slots are filled. Just as various concepts operate at different levels, schemata in human’s mind also have different levels, and the comprehension process is bound to reflect the levels, that is, the input information has to be processed at different levels successively from lower level schema specification to higher level one.

Schemata are the bases of planning for retrieval. In reading comprehension, proper schemata need to be activated to search for information in memory and to rebuild representation of memory. The experiments by Anderson and Pearson (1984) have provided adequate proofs for the hypothesis of planning for retrieval. In their study, the subjects were divided into two groups: one group read the

story as robbers, and the other as house-purchasers, and was asked to recall the story. Afterwards, the subjects were required to change their roles. The results of the second recall have shown 10% more than the first recall, revealing that, with the change of the viewpoint, many details which were not recalled and not seen as important previously but now important have been recalled. Why the information not recalled previously was retrieved when the participants changed their role can be explained that the schema in accordance with the new viewpoint was activated and the information related to the new schema was searched in a 'top-down' way and retrieved.

Schema is usually linked to knowledge of topics, themes, and concepts (Pearson and Fielding, 1991). However, the research reviewed by Dickson, Simmons, and Kameenui (1995) supports the importance activating knowledge of the conventions of well-presented text and organizational patterns of text structures. Any instruction in physical text presentation or text structures can be viewed as building background knowledge that will later form the frame for helping students organize and integrate new knowledge

To apply the schema theory to the TSRS CALL program, the researcher of the present study had the students learn about the overall characteristics of expository text structures and other relevant issues from the outset. Lesson 1 in the program functioned as the initial stage of inculcating the text structure strategy knowledge, which paved the way for detailed knowledge and use of the text structure reading strategy in subsequent lessons. Practice exercises in lessons 2, 3, and 4, were the places where the students' schemata about the text structure reading strategy knowledge were actively activated.

2.3 Implications for Second Language Reading

2.3.1 General Implications

Grabe (1986), cited in Devine (1988), argues that successful second language reading depends on the reader possessing a critical mass of knowledge consisting of linguistic knowledge, formal and content schemata, and background knowledge assumptions. Background knowledge assumptions develop largely because of prior reading experience and allow the user to think creatively and discover new knowledge by making connections between different spheres of preexisting knowledge. As we saw earlier, Stanovich (1980) offered an interactive model of reading in which deficiencies in one processing stage could be compensated for by relying on other processing stages. On interactive reading models, Parry (1987), cited in Eskey and Grabe (1988: 225), writes:

From the above mentioned-review, it can be seen that different theories are looking at different aspects of reading, with some relevant points. There is no single model which can account for the complex range of behaviors which are observable in different contexts and the different sources of information on which readers rely for comprehending the writers' message. Different models contribute in a different way to our understanding of the reading process. Therefore, there is no one single prerequisite for reading comprehension which demands a number of determining factors - reader-based and text-based. The implications for helping EFL students to read should be that different components be taken into consideration, depending on contexts of learning, types of reading and the readers' background knowledge. It, therefore, calls for a model of reading which incorporates these different components of knowledge.

To draw upon each of the reading models and make best use of any of them in her study, Chun (2000) proposed a model of reading comprehension which incorporates four different components of knowledge involved in second language reading comprehension. These components and their relationships are shown in Figure 2.1.

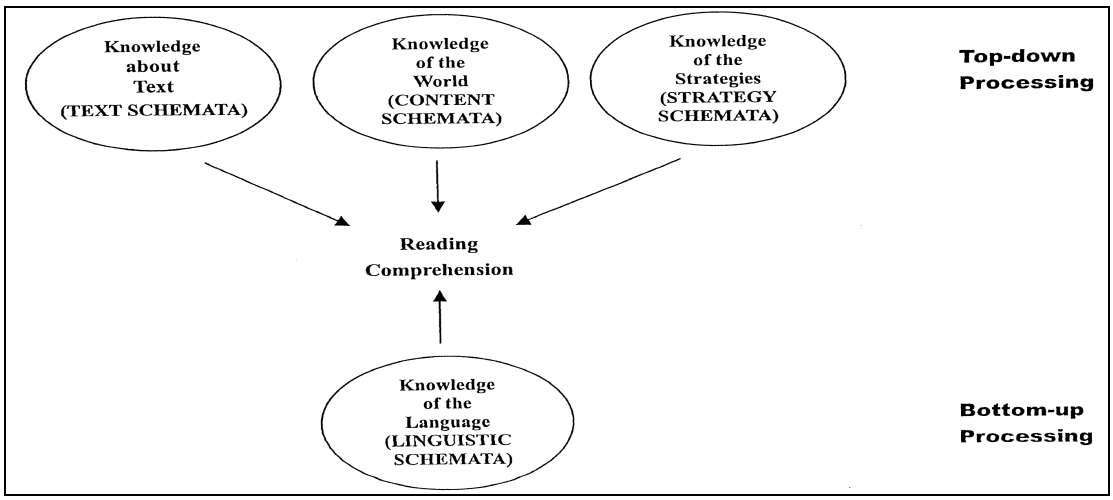


Figure 2.1 Model of Reading Comprehension (Chun, 2000)

Figure 2.1 attempts to describe the four components for comprehension of L2 text within the framework of an interactive reading model. The above model shows that in order for reading comprehension to occur in an L2 context, readers draw upon four sources of knowledge. First, linguistic schemata are comprised of knowledge of the language: the grammar and lexicon regarding sentences, and the various cohesive markers relevant to discourse. This type of knowledge leads to success in the bottom-up processing like word identification and finding out meaning relationships in sentences. Second, content schemata consist of knowledge of the world. Apart from general background knowledge, this schema also includes the knowledge relevant to

the content domain of the text. Third, text schemata, or formal schemata, consist of background knowledge of text structures. The fourth knowledge source is strategy schemata (Kirby, 1988) which consist of the generic knowledge of the routine monitoring and repair strategies. These four sources of knowledge make the bottom-up and top-down processing happen.

This study focuses on formal or text schemata, but also draws upon content schemata. The TSRS program in the present study was, therefore, designed based partly on the reading model proposed by Chun (2000) because it has the stronger potential for improving reading ability for Thai university EFL students. In this case, the formal schema is the knowledge of expository text structure built into the students' minds through explicit instruction and activated in their reading process. The students not only actively related the knowledge of expository text structures to the new information they received during their reading, but also modified the existing schemata to accommodate the new knowledge to occur through reading expository texts in all TSRS lessons and practice exercises.

Knowledge of the world was made materialized based on the contents of each text selected from the VOA Special English website which generally reports about what happens across the world. Those who, from time to time, follow news via television, radio or even the Internet are supposed to know at least something about the world's current affairs. This is to ensure that the students were equipped with this different knowledge first and then to identify ways to induce the use of the different knowledge when required. When doing the practice exercise in Lesson 4, on the text "How much water should people drink?", for example, knowledge of something about the amount of water people have been suggested to drink daily should occur in the

students' mind, and making use of this relevant world knowledge, they could at least better comprehend the text.

2.4 Reading Strategy Instruction as well as Explicit Instruction

It is well recognized that knowledge of expository text structure helps L1 and L2 students to comprehend expository texts. Research on reading strategies suggests that all text have structures above the level of the sentence and that knowledge of text structure helps the readers to comprehend text by allowing them to anticipate information and by helping them to infer information that may have been omitted by the author (Hoey, 2001; Kintsch and Van Dijk, 1978; Swales, 1990).

Research indicates that awareness of text structure facilitates comprehension of concepts or main ideas, not of facts (e.g., Gurney, Gersten, Dimino, and Carnine, 1990; Newby, Caldwell, and Recht, 1989; Pearson and Fielding, 1991). Specifically, awareness of text structure enables readers to identify, summarize, and recall main ideas and supporting information (Dickson, Simmons and Kameenui, 1995; Leon and Carretero, 1995; Mayer and Poon, 2001; Raphael and Kirshner, 1985; Raymond, 1993; Tirawanchai, 1996; Troyer, 1994;).

Research in reading strategy instruction has also shown that, to effectively teach the text structure reading strategy to poor or less able readers, explicit instruction is more effective than implicit instruction, in both L1 and L2 (Anderson, in press; Carrier, 2003; Chamot, 2004, 2005; Cohen, 1998, 2003; National Reading Panel, 2000; O'Malley and Chamot, 1990; Oxford and Leaver, 1996; Pearson and Dole, 1987; Pressley, 2000; Shen, 2003).

Explicit strategy instruction essentially involves the development of students' awareness of the strategies they use, teacher modeling of strategic thinking, student practice with new strategies, student self-evaluation of the strategies used, and practice in transferring strategies to new tasks. It aims to show students what proficient readers do when they read. According to Worthy and Broaddus (2002), explicit instruction is generally conducted in 4 steps: introduction, modeling, guided practice, and independent practice.

Introduction involves an explanation of the purposes and objectives of the strategy being taught so that the students are made to become aware of the strategy. The lessons show how it relates to broader objectives, that is, how it fits with the goal of improving reading comprehension. Regarding the text structure reading strategy, the introduction should deal with the 'what', 'why', 'when', and 'how' of the strategy. The students should be taught about what the text structure reading strategy is, why it is important, how and when it can be used. Graphic organizers may be used to help discuss the purposes and objectives of the strategy.

Graphic organizers are the devices that show the organization or structure of concepts and relationships between the concepts in a text. Graphic organizers help to reduce the cognitive demands on the readers. The readers do not have to process as much semantic information to understand the information. This is one of the reasons why graphic organizers are such powerful devices for students with moderate language reading ability. Ellis (2004) suggested three reasons for using graphic organizers in teaching text structures: (1) Students are much more likely to understand and remember the content subject they are reading (2) showing (as opposed to just telling) how the information is structured can be a powerful way to facilitate

understanding, and (3) students are more likely to become strategic readers. Using graphic organizers shows how text is constructed and enables readers to make order out of the text.

Modeling involves explaining the strategy and showing how it is used. The purpose of modeling is to make the students aware of how to use the strategy and how the strategy is applied to reading texts. In regards to modeling, research also suggests the sequence of text structure reading strategy instruction that proceeds from less to more difficult text structures. Among the expository text structures, the sequence structure is the easiest to learn. The description structure is more difficult than the sequence structure. The compare/contrast as well as cause/effect structures are moderately difficult. Of all, description is the most difficult structure (Englert and Thomas, 1987). When introducing a new expository text structure to students, a teacher should present texts that have a well-organized structure (i.e. the text that contains easily identifiable components of an expository text structure type such as signal words "first" or "finally" to signal the sequence structure) for initial instruction and practice, before having students apply their new knowledge to more complex text or to their textbooks (Kinder and Bursuck, 1991; Seidenberg, 1989). In addition, each text structure should be taught individually or broken into parts or steps, and taught part by part, as students need time to master one structure before learning another (Bursuck, 1991), and in doing so, several examples of how and when it should be used may be given.

In line with the modeling concept, the text structure reading strategy in the present study was taught based on three separate expository text structures. These are sequence, compare/contrast, and cause/effect. Within the modeling step, explanation

and examples regarding how and when the text structure reading strategy is used was also given at different levels, ranging from the sentence, paragraph, and finally whole-text or passage levels (See Chapter 4 for more details).

Guided practice is the step in which plenty of opportunities for the students to practice the strategy is provided. The students pay close attention to the practice so that they can get help if they get stuck during their practice, and correction can be provided if they start doing something wrong. Students are assisted in the use of the strategy by performing an activity while the teacher helps them do it in order to avoid mistakes. During this time, the teacher can clarify any ambiguous understanding of the skill or strategy being taught. Guided practice might take a long time, because students need to remain at this stage until they are successfully using the strategy.

In the present study, the students did the guided practice with a Web-based CALL program which provided example sentences, paragraphs, and passages containing each text structure type and generated feedback, which also served as a source of clarity of mistakes, in response to what they had performed. The programmed lessons helped to keep the students practicing the strategy use until they became independent and ready to proceed with subsequent independent practice.

Independent practice takes place when the students feel fairly confident that they have completely understood the strategy, they should be provided with practice on their own, perhaps as homework, and perhaps applying the strategy in another context, with another type of material. According to Bakken and Whedon (2002), independent practice is required until each type of text structure is mastered. When another structure type is introduced, instruction is given for differentiating among the structural types. This includes the identification of passages and strategy application.

In this stage, the students' progress can be formatively evaluated by being monitored frequently to ensure that they are successfully comprehending expository text.

Based on the above review, some implications can be drawn for the purpose of the present study and the steps of explicit instruction would be strictly followed in the design and construction of the TSRS program, as can be seen in section 4.4.1.2 in Chapter 4.

2.5 Reading Strategies of Learners with Different L2 Reading Proficiency Level

In relation to the use of reading strategy, studies (Block, 1986; Hosenfeld, 1977) have shown that there is indeed a relationship between reading proficiency and strategy use. Several studies (e.g. Chamot, 2001; Thomas, 1996) have also shown that successful or good readers use different strategies from unsuccessful or poor readers and that high proficiency readers used reading strategies more frequently than low proficiency ones. Other studies (Brown, Armbruster, and Baker, 1983; Garner, 1987) have shown that low proficiency readers use fewer strategies and use them less effectively in their reading comprehension, indicating that better readers are better strategy users as they know which strategies to use and how to use them (Anderson, 1991; Carrell, 1989). Overall, research suggests that good readers possess a number of flexible, adaptable strategies that they use before, during, and after reading to maximize their comprehension (Baker and Brown, 1984).

Reviewing the literature in L2 reading strategies, Aebersold and Field (1997), summarized 18 reading strategies that successful readers use while they are reading. However, of the 18 reading strategies, using text structures is the strategy most often

used by good L1 and L2 readers, but not by low L2 readers.

It is noticeable that using text structures, in fact, includes the use of knowledge of how text is organized in terms of the main ideas and relevant ideas in it. Knowing how to identify transitions, or signal words, is the most convenient stage of text structure reading strategy that can be readily taught to low proficient L2 readers. However, the literature does not suggest whether L2 readers with medium proficiency should be taught these strategies. It is understood that if low L2 readers should stand the chance to gain from learning this strategy, then medium L2 readers should also be given the same opportunity. The present study was, therefore, conducted in order to find empirical evidence that both medium and low L2 readers could be equivalently taught the text structure reading strategy.

2.6 Text Structure

Text structure is an area of great interest in learning and instruction. In this section, research on text structure and how it can facilitate understanding, learning, and remembering text information is reviewed.

According to Meyer (1975, 1979), authors organize ideas in text using specific structures and they influence learners' understanding and recall of text information. Meyer identified three levels of prose analysis. The microprososítional level is the way ideas are organized in sentences as well as the way sentences are organized in the text. The macropropositional level refers to the logical organization of the passage. The top-level structure is the overall structure of a passage. Ideas are organized in a hierarchical manner with the most important or main ideas located high in the structure, while less important ideas or details are located low in the structure. The

relationships among ideas in a passage determine the overall structure of the passage. Training learners to identify and use the overall structure of texts has increased the amount of information remembered (e.g. Meyer and Poon, 2001).

Meyer (1975, 1979) proposed that there are five common structures authors use to organize ideas in texts, including: problem/solution, cause/effect, comparison, description, and sequence.

Problem/solution involves a problem and a solution that responds to the problem or a question and its responsive answer. In this structure, the text provides a problem, or perhaps explains why it is a problem, and then offers possible solutions. Signal words frequently used are, for example, *problem is, dilemma is, if/then, because, so that, question/answer, and puzzle is solved.*

Cause/effect shows a causal relationship, involving a cause and an effect. This structure presents text ideas in a cause and result organization. It links events (effects) with their causes. Such text includes key words or phrases called ‘causal indicators’ to signal a cause-and-effect relationship structure. The supporting details give the causes of a main idea or the supporting details are the results produced by the main idea. Common signal words include *because, for, since, therefore, so, consequently, due to,* and *as a result.*

Comparison involves comparing two or more things/ideas and determining how they are similar and/or different. This structure organizes ideas in the text according to similarities and differences between two or more topics, including ideas, people, locations, or events, and groups them for comparison. The supporting details of two or more main ideas indicate how those concepts are similar or different. Signal words such as *like, as, still, although, yet, but, however,* and *on the other hand* are

frequently used in this structure.

Description provides characteristics or attributes about a specific topic. The author describes topics, persons, events or ideas by presenting specific details. This structure resembles an outline. Each section opens with its main idea, then elaborates on it, sometimes dividing the elaboration into subsections. Key words used to signal this structure are, for example, *for instance, in particular, in addition.*

Sequence is the order of occurrence for events or the order of steps to perform a task. The text presents information or events in terms of a time and order progression, such as the actions that led to an important historical event or the steps in a scientific process. This structure includes such signal words as *first, second, last, earlier, later, now, then, next, after, during,* and *finally*.

The researcher of the present study chose three expository text structures -- sequence, compare/contrast, and cause/effect – as the focus of training because the TSRS program was meant to teach text structure reading strategy ranging from easy to more difficult structures in the following order: sequence, compare/contrast, and cause/effect and because these three text structures are important and useful structures which are easier to identify and finally because there were time constraints in the process of designing and developing the instructional material .

2.7 Learner, Text, and Task Variables

Meyer and her colleagues (Meyer and Rice, 1984; Meyer et al., 1989) have identified learner, text, and task variables as three groups of factors influencing reading comprehension. Learner variables (e.g. background knowledge, learning strategies, individual differences in reading speed, attention when reading) and text

variables (e.g. signal words, text structure, font size, and color) are important in learning from text. A plethora of research studies has addressed issues related to learner and text variables and their importance in acquiring effective skills for reading comprehension (Britton, Glynn, Meyer, and Penland, 1982; Kardash and Noel, 2000; Sagerman and Mayer, 1987).

Task variables, such as the pace of presenting information or the way information is presented (e.g. printed materials, web-based materials, and time pressure) can also influence individuals' ability to learn and recall information from text. Meyer, Talbot, and Florencio (1998) found that when reading passages at a slower pace (90 words per minute) younger and older adults showed better recall of information than at a faster pace (130 words per minute). Meyer and Poon (1997) found that presenting information on computers enabled young individuals to learn more efficiently, while presenting older adults with information on computers impeded their performance. One possible reason for these results is that older individuals may have been less familiar with reading information from a computer monitor. Additionally, it is possible that text variables such as font size and type, or other factors such as monitor brightness, may have impeded older adults' performance.

The task variable of Web-based instruction in the text structure reading strategy and the learners' individual differences in reading proficiency levels were investigated in the present study. The role of Web-based instruction on the acquisition and use of reading comprehension strategies is a relatively new issue. The use of computers in teaching reading "is an important and essentially unexplored field" (National Reading Panel, 2000, p. 23). Recently in the current decade, research and

development has begun in the area of computerized reading instruction, but comparisons have not been made between medium readers and low readers who got such computerized instruction delivery of the same instruction, and medium and low readers who did not got the training through such an environment. Therefore, it was important to examine the effects of learning the three text structures – sequence, compare/contrast, and cause/effect – from Web-based materials as opposed to not learning them at all.

2.8 The Language of Strategy Instruction

Few researchers have addressed the issue of language of instruction in teaching learning strategies to second language learners (Chamot, 2004). In second and foreign language contexts, however, this is not the case. Low proficient L2 readers do not yet have the L2 proficiency to understand explanations in the target language. As a result, the language of strategy instruction is significant for the success of their strategy learning.

Little research supports teaching language learning strategies in only the native language or second language, but some supports are given to a combination of the two. In general, studies which have L2 learners with low L2 proficiency as their participants have reported using L1 to explain and discuss learning strategies whereas teachers with medium proficiency students have been more successful in teaching learning strategies in the second language.

A study in the United States on the literacy development in secondary Hispanic English language learners with limited educational background and native language literacy also used both L1 and L2 for some of the classrooms studied

(Chamot and Keatley, 2003). In the classrooms providing native language support in addition to ESL literacy instruction, teachers first taught and had students practice the learning strategies in their native language with Spanish reading and writing tasks, then had them use the same strategies in English for similar tasks during the English portion of the class. Teachers in classrooms in which all instruction was in English encountered difficulties in teaching learning strategies because of the low level of students' English proficiency. The students could not understand the strategies being taught. As a result, most teachers finding it difficult to teach the strategies in English abandoned the attempt to teach learning strategies.

Fung, Wilkinson, and Moore (2003) used a multiple-baseline research design across three schools to investigate the effectiveness of L1-assisted reciprocal teaching in improving limited-English-proficient 12 year-7 and year-8 (Grades 6 and 7) Taiwanese ESL students' comprehension of English expository text and to examine whether there were any qualitative differences between students' reading comprehension processes when reading text in their L1 and L2 prior to and after the intervention. The intervention comprised the alternate use of L1 (Mandarin) and L2 (English) reciprocal teaching procedures. Through 15–20 days of instruction, students learned how to foster and monitor their comprehension by using the cognitive and metacognitive strategies of questioning, summarizing, clarifying, and predicting. Students made gains on both researcher-developed and standardized tests of reading comprehension and showed evidence of qualitative changes in their comprehension processes when reading L1 and L2 texts.

The researcher pointed out that one possible explanation for the success of the study was that the intervention addressed the problems of linguistic burden that the

ESL students were able to capitalize on their first-language proficiency and literacy experiences as they learned the higher-level cognitive and metacognitive strategies. During the L2 reciprocal teaching, students already had a clear conceptual understanding about what strategy to use and how, when, where and why to use it as they were practicing the four strategies.

Based on these two studies, it is clear that the use of L1 is important for helping low proficient L2 readers learn reading strategies. However, relying too much on L1 has some disadvantages because the students will be taken away from the target language exposure if they are taught the language learning strategies solely in L1 (Chamot, Barnhardt, El-Dinary, and Robbins, 1999). Some researchers, therefore, recommend using L2 in teaching reading strategies, pointing out that it is possible to use L2 in strategy instruction with L2 students only if the strategies are taught in simple and easily understandable L2 (Harris and Grenfell, 1999).

To achieve this expectation, the students in the TSRS program had two language help options. These were Thai translation and an English-Thai dictionary. The Students could use the L1 help options depending on their preferences and proficiency level. Medium proficiency students, however, were expected to use the L1 help less often than the low proficiency ones. More details about the provision of L1-assisted language help options about the TSRS program are given in Chapter 4. The next discussion will now deal with the use of computers for instructional purposes.

2.9 Computer-Assisted Language Learning (CALL)

Levy (1997) defined CALL as "the search for and study of applications of the computer in language teaching and learning (.p.1)." Finding ways for the teaching and

learning of language is the main aim of CALL, which is specifically 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 including e-mail, chat, and websites for the purposes of language learning.

Computer technology has become a state-of-the art element in second and foreign language teaching and learning. Recent years have seen the emergence of computers as an instructional aid and an increasingly popular tool for acquiring knowledge. Researchers (Griffin, 1995; Hsu, 1997; Lave and Wenge, 1993) have claimed that computer-based instruction can provide learners with more authentic, situated learning tasks which help them actively engage in their learning processes. Moreover, computers can be used as an effective tool to scaffold learners in acquiring knowledge on a situated, domain-specific environment, and by de-contextualizing that information to form generic, flexible schemata that can be transferred to a variety of situations (Hsu, 1997).

CALL has indeed influenced education throughout the years. That is why CALL has developed from a traditionally self-contained, programmed type of application where learners were exposed to tutorials, drills, simulations, instructional games, tests, and controlled practices to a more human-to-human communication type of application where learners can potentially communicate with native speakers or any other. Language learners across the world on a one-to-one basis or many-to-many basis without restrictions of time or place have access to the Internet. By understanding the development of CALL, we can understand the innovative applications of CALL.

2.9.1 CALL Methodologies

Alessi and Trolip (2001) proposed that methodologies should be included in CALL: tutorials, drills and practice, educational games, simulations and hypermedia.

In tutorials, a computer program is designed to present new information or lessons for the students to learn or practice. The lesson activities are developed according to learning objectives. During training the students will interact with the computer program, get feedback from the program and redo the exercise as much as they need. The following four phases should be included in successful tutorials: (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; and (4) Learning is assessed.

In educational games, learners play games to practice language skills according to their own levels of competence and learning style. Some games manage to get progressively harder for the learners who do well and easier for those doing poorly.

Drills and practice are meant for training learners on a particular objective which they have 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 in drills and practice.

A simulation program provides an alternative to 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 for delivering data 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. It also improves on books and other media by providing better search and navigation abilities, as well as being user modifiable, easily updated and, most importantly, easy to duplicate and distribute. The structure of most hypermedia programs basically consists of many pages, each containing 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 is of different purposes and features. In the present study, tutorials, drills, and hypermedia were used in designing the Web-based CALL lessons.

2.10 Web-Based Instruction (WBI) and Its Features

Web-based instruction (WBI) is becoming a favorite instructional option in higher education. It is a hypermedia-based instructional program, utilizing the traits and resources of the World Wide Web to create a meaningful learning environment that supports and fosters learning (Khan, 1997).

WBI is differently defined by various authors depending on their contexts. According to Relan and Gillani (1997), web-based instruction (WBI) is “the instruction given through the web to a remote audience” (p. 41).

Khan (1997) defined WBI as “a hypermedia-based instruction program which utilizes the attributes and resources of the World Wide Web to create a meaningful learning environment where learning is fostered and supported” (p. 6).

Fuchs and Szabo (1997) defined Web-based instruction as “instruction delivered either whole or in part on the World Wide Web. Materials created for this mode of instruction take advantage of the hypertext capability of the Web and also communication features of the Internet” (p.1).

Clark (1996) defined WBI as “Individualized instruction delivered over public or private computer networks and displayed by a Web browser” (p. 2).

From the definitions quoted above, it can be concluded that the instruction delivered via the Web or on the Internet is Web-based instruction. However, Reeves (1997) argued that not all instructions that are delivered on the Web are Web-based instruction. What is important, however, is the design of teaching delivery. He suggested that instruction can be defined as a purposeful interaction to increase a learner's knowledge or skills in a specific, pre-determined fashion. In this context, simply publishing a World Wide Web page with links to other pages or other digital sources does not constitute instruction.

The increasing demands of our Information Age make it necessary to modify our existing methods of training and to adapt new, more appropriate methods. All students especially college students are increasingly required to acquire information presented on computers. Thus, it is essential to investigate how students learn such information and to what extent computer-based instruction is effective. Learning with computers allows students to: (a) work at their own pace, (b) review materials as often as desired, (c) access information and learn from home, (d) test their own performance, (e) correct their errors, and (f) work individually as well as in groups. There are two general advantages of web-based instruction in comparison to traditional learning: (a) Web-based materials allow learners to access to newest and

always updated information and (b) Web-based materials allow access to multiple users in different places at the same time and provide them with the opportunity to communicate with each other on-line. In the area of teaching reading comprehension strategies, for example, the use of web-based training materials may allow a great number of learners to access training materials without the need for the presence of an instructor.

However, working with computerized and Web-based materials is not without disadvantages. These include (a) learners may not be able to monitor their own learning and performance, (b) learners who work individually do not learn how to cooperate with a group, and (c) learners may not have the appropriate guidance to avoid misunderstandings or to improve their metacognitive awareness. Obviously, computers cannot be treated as panacea and need to be carefully implemented in the learning process in order to obtain optimal results.

The main features of Web-based instruction include interactivity, online searches, constant update of course contents, cooperative learning support, individual learning, and time independence. Interactivity means students, teachers, or experts communicating among one another, providing support, feedback, and guidance.

Online searches refer to students' finding online resources to support course content and resources. Constant update of course contents is fully supported by WBI system where course administrator can update the learning materials easily. Cooperative learning is in the form of online chat, forum and bulletin board. Individual learning is outstanding in WBI because a person can learn what s/he wants at his/her will, and at his/her own pace. Time independence means students' participating in this learning environment at their convenience.

Of all these features, the present study did not use the search feature since it was not relevant to the study focus. The fact that WBI provides high level of interaction and is a good source for motivating learning was a great potential for reading strategy instruction in the present study which used interactive facilities such as interactive exercise and feedback guidance provided in Moodle, a course management system.

Interactive exercises in Moodle are of various formats: multiple-choice, true/ false, matching, fill-in- the blanks, and essay type. Feedback guidance is the format that the researcher could use to determine the type of feedback to be given.

2.11 Research on Reading Strategy Instruction Using CALL Programs

A large number of research works have support the teaching of text structure reading strategy (e.g. Baker and Brown, 1984; Dole, Duffy, Roehler and Pearson, 1991). However, the research which investigates the effectiveness of a CALL program developed for reading strategy instruction is still limited. The following review, therefore, deals with the research conducted in the context of Web-based instruction of reading strategies.

Cole (2005) investigated the effectiveness of Comprehension Upgrade, a web-based intervention program, on the reading comprehension skills of elementary school children to examine their' reading comprehension performance before and after the 10-week intervention, which provided reading passages (both narrative and expository texts) for practice ranging from social studies to science. In the program, which was designed following the principles of self-paced learning, the students were taught

several reading strategies including K-W-L (know, want to learn, learn), QAR (Question Answer Relationships), Story Maps, and expository graphic organizers. The subjects, 40 students, 20 in the experimental group and 20 in the control group, were randomly selected by teachers to participate in the study. The subjects' reading ability ranged from proficient to below grade level with minimum fluency. They were pre-tested and then randomly assigned to either the Comprehension Upgrade intervention group or the control group. The control group played generic computer-based reading games activities with no instruction. The students were post-tested at the end of the 10-week session.

The results were that the students in Comprehension Upgrade group gained more reading comprehension scores than the control group, with significant difference in performance across all measures ($p<.01$). Students in the Comprehension Upgrade group were more motivated to attend and engaged in the activity. There were significant differences of the mean scores of subject area performance: graphic organizers and concept imagery; narrative/literature comprehension; and information/expository comprehension. The results indicated that the Comprehension Upgrade students made gains in reading comprehension and other related reading skills in ten weeks and got significantly higher scores than the control group who just played computer-based reading games. The findings supported previous research findings that web-based reading instruction was effective in building students' reading comprehension.

Meyer, Middlemiss, Theodorou, Brezinski, McDougall, and Bartlett (2002) investigated the effects of older adults providing Web-based tutoring on the text structure reading strategy to fifth-grade students. The program was designed and

developed based on the principle of self-paced learning and self-corrected errors learning. One third of the subjects in the study received Web-based tutoring on the text structure reading strategy from older adults. A second group of the subjects received the same Web-based training materials without tutoring. Finally, the third group did not receive training on the text structure reading strategy. Overall, the results indicated that the students receiving Web-based training on the text structure reading strategy with the help of tutors improved on the total number of ideas they remembered and recalled significantly more ideas than the students receiving no training of the strategy. However, there were no significant differences between participants receiving Web-based text structure reading strategy training with the help of tutors and those receiving Web-based text structure reading strategy training without the help of tutors on the total number of ideas remembered. Additionally, the trained participants remembered more important information as opposed to those who were untrained in the text structure reading strategy use. Finally, an important finding was that the students were more likely to transfer the strategy to reading materials of similar length and topics to those used in training (near transfer). On the other hand, they were less likely to transfer the text structure reading strategy to reading and recalling longer passages and to a writing task (far transfer). These findings are important in that they provide supporting evidence that Web-based training with a reading comprehension strategy can facilitate reading comprehension and recall of text information. However, to accurately determine the role and the effects of Web-based training with such strategies, it is necessary to compare the effects of Web-based training to traditional classroom training as well as to no training.

Son (2003) examined the effectiveness of three different reading text formats; namely, paper-based format (PF), computer based non-hypertext format (NHF), and computer-based hypertext format (HF) to find out the degree of usefulness of hyperlinks on the online lexical resources, which provide readers with optional assistance during independent reading, and to investigate the learner attitudes towards the effectiveness of incorporation of hyperlinks into reading materials. The study was conducted in a Korean course over four weeks, with the subjects being the students enrolled in a second year Korean course at an Australian university. CALL materials used in the study were specially developed by the researcher and they were used in the computer lab during the reading session only. During one reading session, all the participants did the reading of each format in that order. Data were collected through self-report questionnaires and a post-questionnaire. Based on the answers on the attitude questionnaire, the results showed that the participants had a preference for HF over NHF and that hypertext is likely to contribute to self-management of reading, enrich reading experiences and enhance reading strategies that learners use. Based on these results, it can be argued that online language materials with calculated use of multimedia stimulate interest in the lesson and instigate increased autonomy. However, what is a flaw in this study is the lack of using authentic reading materials. This study was at least different from the present study in one point; that is, the present study used authentic reading texts as its main practice texts.

Lee (2000) investigated the effects of student ability and group composition on achievement in reading, writing, and listening comprehension in computer-assisted foreign language learning with a Web-based instructional system in a cooperative learning environment. The researcher designed and developed the Web-based

instructional system for French language learning, and claimed that it was one of the first Web-based instructional systems for computer-assisted French language learning in Korea. Forty-four undergraduate students in a required one-semester foreign language course at a university in Korea participated in the study. The students were pre-tested to be identified as low-or-high ability groups, then stratified randomly assigned to heterogeneous and homogeneous ability groups. They then received an overview of the Web-based instructional system and instruction for cooperative work. They worked for 50 minutes each day, 2 days a week, for 15 weeks, totaling 30 instructional sessions for one semester, and were post-tested at the end of the semester. The results indicated that, on the whole, students' reading and writing ability significantly improved after the instruction. However, like other studies, this study identified the subjects as either high or low, but not medium. Therefore, the results might not be generalized to the EFL students with medium proficiency.

Kang Mi-Lim (2000) examined the impact of a CALL program on Korean TAFE college students in an English as a Foreign Language (EFL) reading in terms of the students' perceptions of learning effectiveness, tutor, interest and difficulty. The researcher compared CALL and traditional reading activities for one semester period. Seventy-four first year English major students participated in the study and were divided evenly into 2 class groups, both being taught by the same teacher and covering the same topics in their weekly two-hour reading lesson. A written survey questionnaire was administered at the end of the semester. Group interviews supplemented the data obtained from the survey. The results were that students in CALL-based English reading class had positive attitudes towards the CALL-based class. Most students in the CALL class showed positive responses. They perceived

that their learning environment offered ample opportunities for collaboration and mutual support, as well as for exposure to, and interaction with, a variety of interesting, enjoyable and useful materials and tasks.

Though this study did not investigate the effects of a CALL program solely on reading ability of the students, rather it gave more weight to opinions towards application of WBI to language teaching. One implication from this research is that it supports the benefits of CALL-based reading instruction.

Lynch, Fawcett, and Nicolson (2000) investigated the effectiveness of a CALL program called RITA that assists, rather than replaces, the teacher in providing support tailored to each child's profile of reading attainments. Eight secondary school students who were initially identified as very seriously disadvantaged in terms of literacy skills took part in the study. The 10-week intervention period led to effective and cost-effective literacy gains. Significant overall improvements were made in the skills targeted, including reading standard scores, and reading speed, accuracy and comprehension. All students reacted positively to the RITA lessons, and most made good progress towards their individual education plans. The results showed that a CALL program that gives support for reading could be effective in helping the majority of students with reading failure.

Singhal (2001), using Web-based CALL lessons which were part of an English regular course, investigated (1) the relationship between reading comprehension and reading strategy use; (2) the readers' perception of their reading strategy use, prior to and after Web-based CALL strategy instruction; and (3) the effects of the CALL lessons on reading ESL learners' reading comprehension. Twenty-two ESL students from 12 different language backgrounds, who enrolled in

different language programs at the University of Arizona, participated in the study. During the study, the students were engaged in using reading strategy activities specially designed to enhance their comprehension of both academic and literary texts. The data from this study were collected using pre-test, post-test, reading strategy inventory, and an interview questionnaire.

The results showed that there was significant improvement in the students' reading comprehension and overall reading proficiency of both academic and literary texts as a result of the web-based CALL reading strategy instruction program. The findings from this research strongly support text structure reading strategy instruction through the Web in that using text structure is a task-specific reading strategy, a strategy that can be used to help improve ESL students' reading comprehension.

O' Reilly, Sinclair and McNamara (2004) studied the impact of an automated reading strategy training program called "Interactive Strategy Trainer for Active Reading and Thinking (iSTART)" for improving middle-school students' reading comprehension of a science text. The program, designed on the basis of a reading strategy intervention called SERT (Self-explanation Reading Training) which coaches students in five reading strategies: comprehension monitoring, paraphrasing, making bridging inferences, predictions, and elaborations, contains both vicarious and interactive modules that provide adaptive feedback on the quality of students' self-explanations. The program uses pedagogical agents to teach students in the use of self-explanation and other active reading strategies to explain text meaning while reading. Thirty-eight students from an east coast middle school were assessed in terms of their prior knowledge, reading ability, and reading strategy knowledge. Half of the students were provided with iSTART training. Comprehension was assessed with

text-based and bridging-inference questions. The results indicated that students with less prior knowledge about reading strategies performed significantly better on text-based questions if they received iSTART training. Conversely for high-strategy knowledge students, iSTART improved comprehension over control students for bridging–inference questions. The results support the benefits of user-adaptive intelligent tutoring systems.

Johnson (2005) used interactive Web-based tools called 3D-Readers to teach two metacognitive reading strategies to twenty middle school poor comprehenders. The tools taught two reading strategies: verb strategy by means of question generation; and visual strategy by means of a model creating. The training texts were science-oriented which merged the narrative and expository genres. The two main experimental questions were: (1) Were there any greater comprehension gains for the experiment texts after reading experimental texts with embedded verbal (generate questions) and visual (create a model) strategies as compared to control texts? (2) Did the embedded strategies affect elective rereading of the texts? Results showed that comprehension, as assessed with constructed answers, was significantly higher in the experimental condition, thus demonstrating the efficacy of training verbal and visual strategies in a Web-based environment. In addition, the students elected to reread more often in the experimental condition (as assessed with number of clicks to “Scroll Back” through the text), thus demonstrating the efficacy of the Web-based reading strategy instruction program on text reprocessing. Interestingly, the poorer comprehenders altered their rereading behavior the most.

Theodorou (2006) examined the effects of two methods for training college students in a reading strategy: Web-based and traditional/classroom training.

Participants were randomly assigned to three conditions. Participants in the first condition received traditional/classroom training on the problem/solution structure while reading and recalling information. Participants in the second condition received the Web-based training on the same expository text structure. Participants in the third condition did not receive text structure strategy training. Then, all participants read and recalled two passages which incorporated two tasks: near and far transfer. Participants trained to use the problem/solution structure were expected to outperform those who were not trained on the near and far transfer tasks. Participants in the web-based condition were expected to have significantly better use of the text structure reading strategy, total recall, and recall of main ideas than the participants in the traditional/classroom training condition on the far transfer passage but not in the near transfer passage, to perform better on the training exercises and to have more positive attitudes toward the training than the participants in the traditional/classroom training condition. The results showed that the participants who taught to use the problem/solution structure performed significantly better on the use of the text structure strategy; that the participants in the web-based training condition did not perform better on the dependent measures on the far transfer but not on the near transfer passage; that the participants in the web-based training condition did not outperform those in the traditional/classroom condition on the training exercises; and that the participants in the web-based condition had more positive attitudes towards the Web-based training program.

Web-based CALL was also used to teach a self-monitoring strategy for developing English reading comprehension.

Chang (2007) explored the effects of a self-monitoring strategy on students' academic performance and motivational beliefs in web-based instruction for students with both higher and lower levels of English proficiency. A web-based interactive instructional program focusing on English reading was developed. The interaction between the use of a self-monitoring strategy and the level of learners' English proficiency was also examined. A total of 99 college students who were enrolled in classes for Freshmen English participated in this study. The experimental group was led to a Web page with self-monitoring form for recording study time and environment, learning process, predicting test scores, and self-evaluation while the control group was not. It was found that (1) the self-monitoring strategy had a significant main effect on students' academic performance and their motivational beliefs; students who applied the self-monitoring strategy outperformed students who did not apply the self-monitoring strategy on both academic performance and motivational beliefs regardless of their English proficiency level; and (2) the influence of self-monitoring was greater on the lower English level students than on the higher English level students. The positive findings suggest that encouraging students to develop self-monitoring could help increase the success of online learning.

Tanyeli (2009) investigated if second year law students at a university in North Cyprus performed better reading comprehension when the reading instruction is assisted by the web. The participants, evaluated for their reading comprehension before and after the experiment, were divided into an experimental group, practicing reading skills activities on the Web, and a control group, practicing the same activities using the traditional methods guided by the teacher in class. Online activities provided to the students in the experimental group included such features as chatting,

searching, and online dictionary. The researcher interviewed some selected students about their attitudes towards using Web-based and paper-based reading activities. The results showed that the Web-assisted English reading skills instruction was more effective and successful than the traditional one.

The above-reviews show that a Web-based CALL program is effective in either promoting learning motivation or reading strategy use of L2 learners across all proficiency levels.

The next section describes theoretical foundations of a web-based CALL program.

2.12 Theoretical Foundations of a Web-Based CALL Program

Pressley and McCormick (1995) argued that computer software should be carefully designed to promote good learning; such good learning is the interaction among strategic and non-strategic knowledge, metacognition, and motivation that occur in a normally functioning brain. In designing computer-training materials, one should carefully consider learner, task and instructional variables. In terms of the learners, computer-training materials should first draw learners' attention to the specific content and provide appropriate feedback. Additionally, computerized training materials should aim at increasing the meaningful processing of information taught. The aim of computer software should be to provide learners with not only both strategic and non-strategic knowledge, but also the awareness of when and how to use what they are taught by enabling them to actively build on their existing knowledge bases. Moreover, computerized training programs should be motivating and carefully designed to draw learners' awareness to the important information in the materials.

A Web-based program can function as a dynamic tool to scaffold learners through the process of creating flexible knowledge representations or schemata that can transfer to a variety of situations.

How well a strategy is learned and executed by the learners depends on a number of conditions (Pressley and McCormick, 1995). The first condition is that learners have had strategies stored their in long-term memory. Secondly, learners need to know when and how to apply the strategy (conditional knowledge). Thirdly, learners should use appropriate declarative knowledge along with the strategy. Finally, learners must have sufficient working memory to activate the strategy.

In addition to all the above-mentioned conditions, learners need to be motivated to use the strategy in a new problem or learning situation. If learners think that the strategy will not help them or they simply do not find a new learning situation interesting, they are not likely to use what they already know to complete a task. If learners expect that they will fail in a task, they will be less likely to attempt to use a strategy they had been taught. If, on the other hand, learners expect that they will succeed in a task, they will be more likely to attempt to use their existing knowledge to help them solve the task. Thus, presenting materials in a way that attracts the learners or makes them believe that they can do well on the tasks at hand is extremely important. Even though computerized training materials should be interesting, it is not necessary to present them in a game form. Research has shown that students taught with game-like programs did not perform better than those who were taught with drill-and-practice programs (Lepper and Malone, 1987; Rieber, 1991).

When designing computerized training materials, instructional variables are extremely important and should be carefully considered. Since learners have different

characteristics, such as short-term and long-term memory, prior knowledge, metacognition, and motivation, using a single instructional approach would not satisfy the diverse needs of all learners. Therefore, a wide spectrum of instructional approaches should be implemented in computer-assisted training materials to accommodate as many learners as possible. For example, a computerized-training program might involve direct explanation. Thus, the program could explain or model a strategy and then learners practice what they were taught. However, since learners might find it difficult to learn something new for the first time, a different instructional approach such as guided participation, with the program providing step-by-step directions as to how to accomplish a task, can be implemented. This might not help all the learners accomplish a task. Thus, the computerized-training program might also implement scaffolding (providing those students who have difficulty with subtle hints by suggesting strategies and directing learners' attention to important aspects of the task).

Feedback is also extremely important in learning. If learners are provided with feedback regarding their task performance, learning is more rapid than if they are not given feedback (Peat, Franklin and Lewis, 2001). Within the area of feedback, there have been various definitions and terms used depending on the field of study. According to Schachter (1991), feedback terms are of three categories: negative feedback, negative evidence, and corrective feedback. Negative feedback tends to be used within the domain of psychology or concept learning negative data or negative evidence within the field of linguistics or language acquisition, and corrective feedback is a term used in the pedagogical field of second language teaching and learning. Lyster and Ranta (1997) also note that corrective feedback is a term used by

second language teachers, whereas focus on form is used within classroom SLA research.

Clariana (2000), who has published extensively on the topics of computer-mediated feedback, provides a brief summary of the types of feedback vastly investigated in CALL: Knowledge of response (KR) that states "right" or "wrong" or otherwise tells learners whether their response is correct or incorrect; Knowledge of correct response (KCR) that states or indicates the correct response; and Elaborative feedback that includes several more complex forms of feedback that explains, directs, or monitors (Smith, 1988).

Elaborative feedback includes the forms listed as follows (Smith, 1988, p.1):

> (1) Explanatory feedback provides additional explanations, such as why a learner's error response is incorrect or perhaps why a correct response is correct and various types of additional remedial screens that may amount to new instruction (Merrill, 1985, 1987; Spock, 1987).

(2) Directive feedback may provide prompts, hints, or cues to assist the learner in determining the correct response (Nielson, 1990). Answer until correct is a common form of elaborative feedback where the learner is directed to respond until correct.

(3) Monitoring feedback, also referred to as advisement, lets the learner know how they are doing overall.

On the whole, feedback improves the effectiveness of instruction. Feedback provides information on what has been learned and what remains to be learned. It stimulates learners to reflect on their responses. Immediate feedback gives learners the opportunity to directly see the effects of their actions (Marshall, 1999). If

feedback informs the learner of the correctness of the solution as well as explanations about the learner's answer, it will be more effective and will help the learner construct a more adequate understanding of what was taught (Pressley and McCormick, 1995). Feedback is an aspect of computer-supported learning that may help learners become metacognitively aware, thus facilitating knowledge transfer (Hogle, 1996; Marshall, 1999).

In the present study, all the three types of feedback were applied to both the lesson and practice exercises. See Chapter 4 for more illustrated details.

2.13 Self-Paced Learning

Self-paced learning is important in Web-based instruction. Learners who set their own pace while learning are more likely to actively learn the material and to create knowledge that is flexible and thus particularly transferable across a variety of tasks (Greenfield, Brannon, and Lohr, 1996; Taylor, Lintern, Hulin, Talleur, Emanuel, and Philips, 1999; Yamamoto and Miya, 1999). Self-paced learning may thus increase learners' interest in a learning task. As a result, learners will be more engaged in their task.

According to Aimeur and Frasson (1996), learners who can control their learning pace tended to acquire knowledge as a result of interaction between the learner, teaching material, and the instructional program. The fact that many previous intelligent tutoring systems and Web-based CALL programs had not yielded the expected results and had not resulted in significantly improved learning by the learners is because they did not cater to learners' learning pace. That is, the program was in control of the learning rather than the learner himself/herself. Aimeur and

Frasson hypothesized that learners tend to be more engaged in cognitive tasks when they are in control of their own learning. To test this hypothesis, they created an intelligent tutoring program based on the theory of learning by disturbing; that is, providing an intelligent tutor that acts as a troublemaker, giving both right and wrong suggestions to the learner. The program would allow the learners to decide by themselves regarding the correctness of the tutor's suggestions and what they needed to do to accomplish their task at hand. The results indicated that self-paced learning does enable learners to decide on their own as to their next steps in completing a task.

2.14 Instructional System Design

Instructional system design (ISD) is a process for developing instruction. There are several models existing in the range from simple to complex ones, all providing step-by-step guidance for instructional development. ISD acknowledges a relationship among three components: learners, instructors, and materials. Usually, instructional system model designers develop teaching materials using an iterative process to relate the three components as much as they can.

Developers of Instructional system design models know how learners, instructors, and materials are related and inter-dependent. Changes to any of the three components affect the entire instructional system and the subsequent outcome. The ISD model to be reviewed in this section with regards to designing and developing the TSRS CALL program in the present study is the one by Dick and Carey (1996), as presented in Figure 2.2.

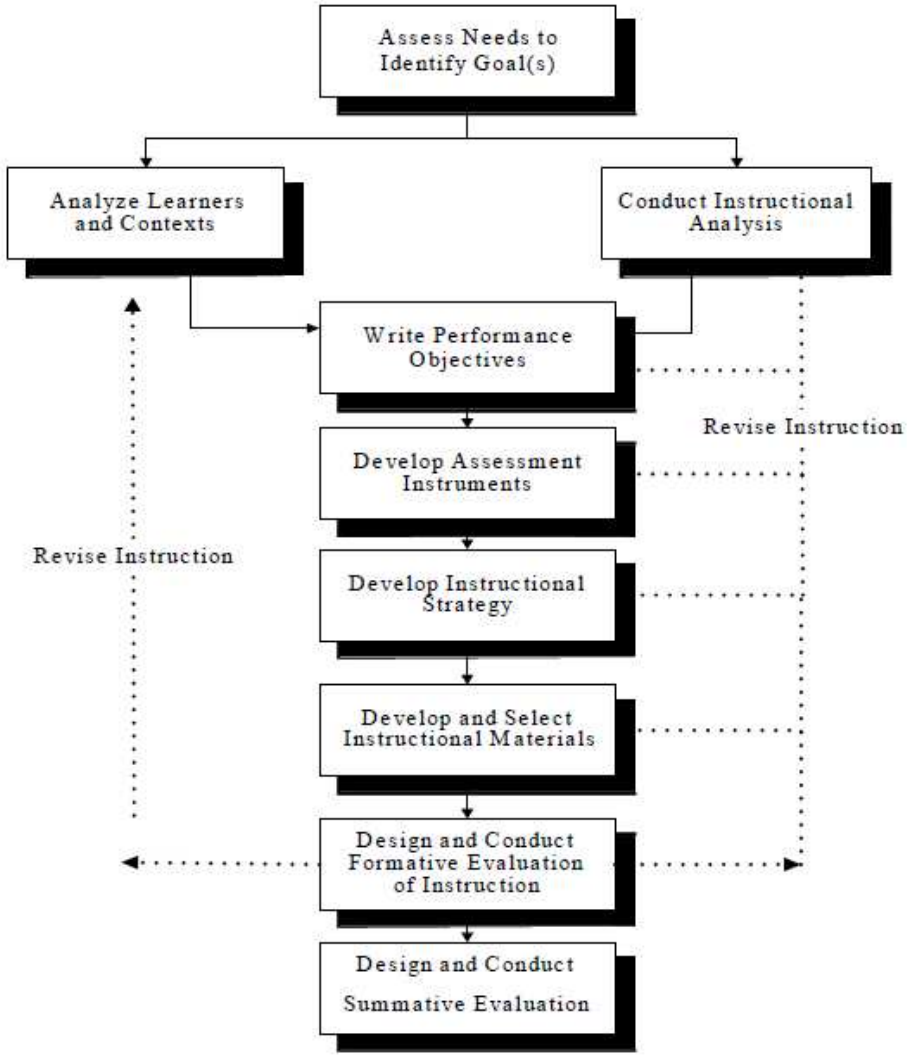


Figure 2.2 Instructional Design Model (Dick and Carey, 1996)

The stages in the model can be explained as follows:

(1) Assess needs to identify goal(s)

The first step in the model is to identify the learners' learning goal they must be able to do when they have completed the instruction. The goal of the instruction can be derived from a goal list, from a needs assessment, practical experience with learning difficulties of learners, the analysis of students doing a task, or from new instructional requirements.

Regarding the TSRS CALL program, a needs assessment is a process by which data are collected to establish if the web-based instruction is required. 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. To achieve this, the researcher asked questions to discover if poor reading performance was caused by a gap in skills or knowledge. 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.

(2) Conduct instructional analysis

In this step, the developer determines the steps that students do to achieve that goal. After that, the developer determines what skills, knowledge, and attitudes, learners need before the beginning of the instruction. In this step, the developer may write a diagram that depicts the relationships among all of the skills that have been identified.

(3) Identify entry behaviors

Besides analyzing instructional goal, there is a parallel analysis of the learners in terms of their learning skills and the learning context in which they will use those skills. Entry behaviors included learners' current skills, preferences, and attitudes are determined based on the characteristics of the instructional setting and the context in which the skills will eventually be used. The information gained from

identifying entry behaviors is crucial for shaping a number of the succeeding steps in the model, especially the instructional strategy.

(4) Write performance objectives

In this step, the designer writes specific statements regarding what the learners will be able to do towards the completion of instruction. These statements, which are derived from the skills identified in the instructional analysis, will identify the learning objectives, the conditions under which the skills must be performed, and the criteria for successful performance. In the TSRS CALL program, this step appeared at the outset of each lesson. The students were informed of the lesson objectives at the moment they accessed the first page of each lesson.

(5) Develop criterion-reference tests

In this step, the designer develops assessments that are parallel to and measure the learners' ability to perform what is described in the objectives. Major emphasis is placed on relating the kind of behavior described in the objectives to what the assessment requires. In the TSRS CALL program, the researcher put the criterion-reference tests in the self-test section within each lesson. The students were tested if they, for example, could identify the structure of an expository text being presented.

(6) Develop instructional strategy

In this step, the designer identifies the instructional strategy to be used in the instruction to achieve the final objective. The strategy will include sections on pre-instructional activities, presentation of the information, practice and feedback, testing, and follow-through activities. The strategy will be based on current theories of learning (e.g. cognitive and constructivist learning theories) and results of learning research (e.g. in L1 and L2 reading), the characteristics of the medium that will be used to deliver the

instruction (e.g. whether only L1 or L2, or a combination of the two, will be used), content to be taught, and the characteristics of the learners who will receive the instruction. These features are used to either develop or select materials, or even to develop a strategy for interactive instruction.

Regarding this step, the researcher of the present study used programmed lessons and interactive drills which are the embedded features in Moodle. Programmed lessons and interactive drills are effective in delivering any instructional materials because they generate feedback to the learners' responses, and thus promoted successful learning.

(7) Develop and select instructional materials

In this step, the instruction is produced based on the instructional strategy in step 6. This includes an introduction on how to use the program, instructional materials, and tests. In the TSRS CALL program, instructional materials appeared within the 'Study' section in each lesson. The decision to develop original materials depended on the type of learning to be taught, the availability of existing relevant materials, and availability of developmental resources. The selection of learning materials was determined based on the students' English proficiency level, interest, and text readability.

(8) Develop and conduct formative evaluation

Based on the instruction draft, a series of evaluations is conducted to collect the data that will be used to identify how to improve the instruction. The three types of formative evaluation are referred to as one-to-one tryout, small-group tryout, and field tryout. Each step of tryout provides the designer with a different type of information that can be used to improve the instructional materials. The TSRS materials in the present study were tried out through the 3 phases, and in each phase,

the 80/80 standard based on the E1/E2 formula was used to determine the efficiency of the material. See section 4.9.2 in Chapter 4 for more details.

(9) Revise instruction

This is a final step where the data from the formative evaluation are summarized and interpreted to identify difficulties experienced by learners in achieving the objectives and to relate these difficulties to specific deficiencies in the instruction. 'Revise instruction' indicates that the data from the formative evaluation are not only used to revise the instruction per se, but are used to re-examine the validity of the instructional analysis and the assumptions about the entry behaviors and characteristics of learners. It is necessary to re-examine the statements of performance objectives and test items in line with the collected data. The instructional strategy is reviewed and finally all this is incorporated into revisions of the instruction to make it a more effective instructional tool. For TSRS CALL program, all the data derived from the initial three tryouts were analyzed, interpreted and incorporated to make it more suitable to the target learners. Also in this step, the researcher used the data from the ten-point scale evaluation form of the experts' opinions (see Appendix 10). The data were calculated for the arithmetic means. The criteria of means, 1.80, were used for each interval and interpretation. See Section 3.8.1.2, in Chapter 3 for more details.

(10) Develop and conduct summative evaluation

Summative evaluation is exactly not a part of the instructional design process. It is an evaluation of the absolute and/or relative value or worth of the instruction and occurs only after the instruction has been formatively evaluated and sufficiently revised to meet the standards of the designer.

2.15 Guidelines for Developing a Web-Based CALL Program

Although several guidelines have been proposed for the design of a good Web-based instruction, the guideline proposed by Simmons (2004) were reviewed and summarized to present in this section. Simmons suggests that a good Web-based CALL program should have the following characteristics:

(1) Stating clear objectives and prerequisites in learner terms

A CALL lesson should state clearly about the lesson objectives which is one of nine essential events of instruction (Gagne, 1981), and its prerequisites for each segment of the training. To make the objectives clear, Dewald (1999) suggests that they should be displayed in the form of an outline of what one will learn, with directional signs for navigating one's way through the lessons.

(2) Having consistent layout and well-planned navigation

To make this stage even more obvious, Moallem (2001) suggests that to have consistent layout, a designer should do as follows:

- Plan for consistency in layout and presentation.
- Plan for consistency in font type and size and in the use of underlining, bold letters, and italics.
- Limit the number of variations and use them only for pre-determined reason.
- Remain consistent in the use of technical language - don't use several synonyms.

Navigation is a tremendous issue in the success of WBI. The site's navigation pattern should be obvious, redundant and consistently presented. That means the navigation is clearly understood and its components are easily spotted on

the screen. Menus, icons and buttons can all be used as navigational components. Navigational redundancy can be achieved by providing multiple navigational methods, including a graphic menu at the top or side of the screen along with a duplicate but text-based menu at the bottom of each screen. This might also mean a combination of a menu along with buttons labeled "Next", "Back", or "Home". Consistency also covers the use of fonts, and color.

(3) Being learner-directed and employing non-linear approach

A CALL program should have hyperlinks to allow learners to move through the lesson(s) in a self-directed way. This will satisfy adult learners who prefer to be self-directed (Knowles, 1980).

(4) Being interactive

According to Hall (1997), interactivity is what distinguishes an information source from a learning experience. Interactivity in a CALL program can be employed in many ways, for example, by using quizzes, exercises, and feedback forms. Interactivity engages the learner with the material in order to practice skills. Active learning engages students in the learning process to create their own understanding of the subject matter (Dewald, 1999). A CALL program should be interactive because interactivity makes the difference between a program that simply presents information, and one that actually trains the user.

(5) Having a source of motivation for learners

Motivation is important for a CALL program design because learners are most ready to learn when they have a real-life need to know something. To meet this expectation, a good CALL program should provide a source of motivation such as a Web-based assignment, animations, graphics and pictures, as well as online forum.

When students have an assignment to do and must use the Web-based training module to fulfill that assignment, the training offered has a greater chance of gaining their attention and being absorbed.

(6) Providing frequent practice and immediate feedback

Learners need to test new knowledge and practice new skills in order to assimilate the new knowledge and skill. A CALL program should provide practice to the learners with sufficient practices. A CALL program should also provide feedback on the success or failure of the learners' efforts, and ideally, should provide new opportunities for practice and exploration as needed.

(7) Being concise and presenting information in small chunks

A well-designed CALL program should use the fewest words as many as possible to teach each instructional objective. Short sentences, plenty of white space on the screen, and the use of charts or diagrams which can be effective tools for reducing the number of words needed to explain a concept, are also ideal for a CALL program (Moallem, 2001). In addition, in order to have concise page formats, web pages in a CALL program should be concise and not read like a book, have large pages broken into discreet segments, and that the training itself should address a specific and fairly narrow topic.

On the same issue, Dewald (1999) recommended creating modules that provide information in small blocks, breaking it up into parts and sub-parts with summaries and reviews. This helps learners absorb material gradually, organize the material in their own minds, and allows for frequent practice questions and feedback.

(8) Using a variety of styles to engage different learning styles

In this regard, a good CALL program must capture and hold learners'

attention in order to be effective. A variety of media styles including text, graphics, video, and audio, and presentation techniques helps maintain students' interest and engagement. Another benefit is that varied presentation techniques not only add to more interesting presentation, but also appeal to a variety of learning.

All the above-mentioned 8 characteristics were applied in the design and development of the TSRS CALL program in the present study. These are especially in line with the two leading learning theories – cognitive and constructivist- that also served as the guidelines for the design and development of the TSRS CALL program (See sections 4.3.1.3 and 4.3.1.4 in Chapter 4.)

2.16 Conclusions

The literature review reveals the following gaps in recent research:

Firstly, little has been done to investigate the effects of Web-based CALL programs on reading comprehension of English expository text of EFL students with medium and low English proficiency. Besides, most of these studies did not investigate the students' opinions towards the role and the effects of Web-based CALL programs.

Secondly, most empirical studies concerning Web-based CALL programs on instruction of expository text structures have been done outside of the Thai university EFL students' context. The quantitative and qualitative findings from these studies may not be generalized to cover the instruction of text structure reading strategy for the Thai university EFL students.

Thirdly, most previous research on the effects of Web-based CALL programs delivered the instruction of text structure reading strategy in a combination rather than

an individual strategy format. Most previous research taught several expository text structures at the same time. Not single expository text structure was selected and taught at a gradual step-by-step manner.

Lastly, most previous Web-based CALL research investigated the effects the text structure reading strategy taught using L2 as the language of instruction. Little research on using L1 or a combination of L1 and L2 as the language of instruction has been carried out.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter discusses the methodology adopted in the present study. It then describes the research method, research design, participants, research tools, research procedures, and finally data analysis.

3.2 Research Method

The present study relies on a method triangulation which means combining research methods to give a range of perspectives. It is often beneficial when designing an evaluation to incorporate aspects of both qualitative and quantitative research designs. According to Cresswell (2002), the purpose of a triangulation method is "to simultaneously collect both quantitative and qualitative data, merge the data, and use the results to understand a research problem" (p. 51). The underlying logic of using a method triangulation is that neither quantitative nor qualitative methods are sufficient in themselves to capture the trends and details of the situation. When used in combination, both quantitative and qualitative data yield a more complete analysis, and they complement each other.

In the present study, both quantitative and qualitative methods were used to investigate the effects of the TSRS CALL program on the participants' reading comprehension, and to explore their opinions towards the program and its usefulness.

The tools for collecting quantitative data used in this study included pre-and post-reading comprehension tests and a survey questionnaire. A semi-structured interview was used to collect the qualitative data.

3.3 Research Design

A quasi-experimental pre-test and post-test with control group design (Marion, 2004, see figure 3.1) was used in this study.

Group	Pre-test	Treatment	Post-test
Experiment	O^1	x	O^2
Control	O^1	-	O^2

Note: O^1 = Pre-test
O^2 = Post-test
x = Treatment
- = No treatment

Figure 3.1 Research Design

This design was used because the participants were intact classes. The independent variable was the text structure reading strategy (TSRS) CALL program. The dependent variables were the participants' reading comprehension scores from their post-reading comprehension test, and the opinions of the experimental participants towards the program and its usefulness. All the participants were randomly assigned to an experimental group and a control group via a ballot drawing method. The experimental group studied with the TSRS CALL program individually in a computer room at a university in the Northeast of Thailand. The control group studied a set of the Voice of America (VOA) texts printed from the VOA Special English website in a classroom taught by the researcher. A paper-based pre-test was

administered to the two groups before the treatment. The purpose of the pre-test was to identify the participants' English proficiency levels, and the scores from the pre-test were used for comparing with the scores from their post-test. One day after the 6-week treatment, the participants in the two groups took a post-test. The experimental group took the online version post-test, while the control group took the paper-based version. These two post-test versions, which lasted 1 hour, were of exactly the same question and answer format. Immediately after the post-test, an online questionnaire was administered to the participants in the experimental group who spent approximately 20 minutes to complete it. One day after the post-test, all the participants in the experimental group were interviewed for their opinions towards the TSRS CALL program and its usefulness.

3.4 Participants

The participants in this study were 86 students (see Table 3.1) purposively selected from the EFL students from the three faculties: (a) Liberal Arts and Management Science; (b) Natural Resources and Agricultural Industry; and (c) Science and Engineering, of a university in the Northeast of Thailand. They were enrolled in the Foundation English III course during the summer semester of the 2009 academic year. They were identified as medium and low EFL readers according to their pre-test scores (see table 3.3 for the criteria for classifying the participants into three different proficiency levels). They had either little or no knowledge of English expository text structures as indicated by their answers to the text structure knowledge interview the researcher had conducted with them prior to the starting of the sample selection process.

Table 3.1 Number of Participants in the Experiment and Control Groups

Proficiency	Experiment	Control	Total	Percentage
Medium	18	19	37	43
Low	24	25	49	57
Total	42	44	86	100

All the participants had more than 3 years of experience in the use of computer and Internet. Most of them used the Internet for studying and entertainment purposes. Out of the 86 participants, 37 participants (43%) were identified as medium proficiency participants (MPPs), while 49 participants (57%) as low proficiency participants (LPPs). Forty two participants (18 medium and 24 low) were randomly assigned to the experimental group. The control group consisted of 44 participants (19 medium, and 25 low). Table 3.1 above summarizes the number of the participants in the experiment and the control group according to their proficiency levels.

In selecting the participants for the present study, the researcher followed the following steps:

1. He approached all one hundred and eighteen students in two Foundation English III classes and asked whether they would be willing to participate in the study by giving out a consent form for each of them to fill out.

2. The students who consented to participate in the study filled out consent form. The researcher then asked each consented student about the knowledge of expository text structure. It appeared that most of them either did not know or knew very little about the expository text structures, hence being counted as possessing no knowledge of text structures strategy. Also, the researcher asked them about Internet

use, and experiences in the First Certificate in English (FCE) test.

3. They then took a pre- reading comprehension test (paper-based) which consisted of 30 multiple-choice items and lasted 1 hour.

4. The thirty-two students (with at least B grades in their previous English exam) who gained higher than 20 out of the total 30 scores were excluded from the study because they were regarded as high proficiency readers, who were not the target group of this study.

5. Finally, 86 students, 24 male (27.9%) and 62 female (72.1%), were selected for the present study.

The participants were selected for this study based on the following reasons: First, they were doing Foundation English III Course at the time of the experiment. Secondly, they had limited or no knowledge about expository text structures, as determined by the information derived from interview with them. Thirdly, they had medium and low English proficiency as determined by previous grades and their reading comprehension test scores. Lastly, they consented to participate in the study.

3.5 Research Tools

3.5.1 Invitation Letter

The researcher developed an invitation letter with an attachment of a consent form. This letter (See Appendix A) informed the students about the study, and invited them to participate in it.

3.5.2 Pre-test and Post-Test

The pre-test and post-test used in this study were adopted from Paper 1, test 1

and test 3, in the Reading Comprehension Section, of the First Certificate in English (FCE) Test (Cambridge University Press, 2008). The tests were used in 2007 and delivered to public in 2008. The two tests were the official examination papers from University of Cambridge ESOL examinations.

In the FCE test, there are 5 sections: Section 1: Reading, Section 2: Writing, Section 3: Use of English, Section 4: Listening, and Section 5: Speaking. Section 1 of the test consists of 3 parts whose contents consist of 2 long and 2 or more short texts with 30 reading comprehension questions. The questions in the test paper are meant to test candidates' understanding of the general idea, the main points, specific details, the structure of the text and specific information.

Adopted for the present study, Section 1, Part 1, 2, and 3 of Test 1 (30 items), was used as the pre-reading comprehension test. Section 1, Part 1, 2, and 3 of Test 3 (30 items), was used as the post-test. The pre-test (Cronbach's alpha coefficient =.751) and the post-test (Cronbach alpha coefficient = .736) were piloted with 50 students with different English proficiency levels who were similar to the target participants in order to check for the reliability before they were really used in the experiment. The scores from the pre-test were used to identify the participants' proficiency levels (See Table 3.3). The participants' English proficiency was classified into three levels: high, medium, and low. For the purpose of this study, the following criteria were used in classifying the participants' English proficiency into three different levels:

The students who managed to gain 21- 30 out of the total 30 scores were classified as high proficiency ones. The students who managed to gain between 11-20 scores were classified as medium proficiency ones. The students who gained between 0-10 were classified as low proficiency students.

Table 3.2 Participants' English Proficiency Levels

Proficiency levels	Pre-test scores (Total 30)
High	21-30
Medium	11-20
Low	0-10

3.5.3 TSRS Questionnaire

A questionnaire consisting of 14 close-ended items and 1 open-ended item was developed to investigate the participants' opinions towards the TSRS CALL program and its usefulness. The participants answered the Thai version of the questionnaire which was administered online (see Appendix B). The close-ended items contained statements which were accompanied with a five-point, Likert-type rating scale, ranging from 'strongly agree' to 'strongly disagree'. The values set for interpreting the rating scales for both positive and negative statements were as follows:

5 means 'strongly agree'

4 means 'agree'

3 means 'uncertain'

2 means 'disagree'

1 means 'strongly disagree'.

The questionnaire was developed according to the following steps:

1. Analyze all the variables relating to the TSRS CALL program, which included interface design, color scheme and font appropriateness, interactive features, lessons and practice exercises.

2. Write statements relating to each variable.

3. Have all the statements checked for their content validity by experts in the field of EFL/ESL teaching and educational technology.

4. Pilot the statements with 30 students for item analysis.

5. Calculate the item discrimination using t-test. The items which had the discrimination index of more than 1.75 were chosen.

6. Fourteen items were chosen and tried out gain for their reliability, using Cronbach's Alpha Coefficient method. The reliability coefficient value of the questionnaire was .83.

3.5.4 A Semi-Structured Interview

A semi-structured interview in Thai was conducted to collect the data on the participants' opinions towards the TSRS program and its usefulness (see Appendix C). All the participants in the experimental group were interviewed on a group basis, 4-5 participants at a time. The interviews were audio-recorded.

3.5.5 Text Structure Reading Strategy (TSRS) CALL Program

The TSRS CALL program (See Appendix K for some example pages) was developed by the researcher according to the following steps:

1. Review related literature on text structure strategy, text structure strategy instruction, and English expository text structures.

2. Write storyboards containing the selected three expository structures to be taught. At this step, the researcher decided to present the instruction in 4 lessons, and decided on the contents to be provided in each lesson.

3. Design web pages for text structure reading strategy instruction. The Hotpotatoes and Dream Weaver programs were used in writing up presentation and

exercise pages for each lesson. The written html files were to be uploaded on a university main server.

4. Install the Moodle program Version 9.0 on the sever of Kasetsart University Chalermphrakiat Sakon Nakhon Province Campus, and then upload the developed lessons and exercises to the TSRS website.

5. Invite ten experts in the field of EFL/ESL teaching and educational technology to examine the TSRS CALL program material and design, using an evaluation form (See Appendix I).

6. Revise the TSRS CALL program according to the experts' evaluation results and comments.

7. Run the three tryouts (Individual, small-group, and field tryouts) in order to evaluate and improve the efficiency of the TSRS CALL program. In each tryout, students with different English proficiency levels, high, medium, and low, were invited to participate. The students studied the lessons, did the exercises, and took the tests. The participants' scores from both exercises and tests were calculated for the efficiency. The standard criterion for the efficiency of the TSRS CALL program was 80/80 (Brahmawong, 1978). The E1/E2 formula (see Figure 3.2) was used to determine the efficiency:

E_1	=	$\frac{\bar{x}}{A} x100$
E_1	=	Efficiency of the process
$\bar{x}$	=	Average score all students obtain from the exercises
A	=	Total score of the exercises in the lessons
E_2	=	$\frac{\bar{x}}{B} x100$
E_2	=	Efficiency of the product
$\bar{x}$	=	Average score all students obtain from the test
B	=	Total score of the test in the lessons

Figure 3.2 E_1/E_2 formula (Brahmawong, 1978)

For more details about the construction and evaluation of the program as well as the results of the evaluation of each tryout, please see Chapter 4.

3.6 Data Collection

The data collection was conducted for 8 days in 6 weeks during April and May, 2009 in the computer laboratory of the university.

3.7 Procedures

3.7.1 The Experimental Group

The participants in the experimental group studied the TSRS CALL program for 2 hours a day, two days a week. The experiment went on for six non-consecutive weeks. On the first day, they studied the orientation of the TSRS CALL program for 30 minutes and spent 2 hours studying Lesson 1 (See Table 3.4). In lesson 1, they

studied the introduction which briefed them on the overview of the lesson in terms of its objectives and scopes. Then, they started the main study section delineating knowledge topics and explanations relating to the text structure reading strategy. The main study section was time-controlled, with only 2 hours being allowed for the study. The lesson was similar to the other three lessons in terms of the lesson format. The participants then took the self-test for testing their understanding of the contents learnt from the main study section, and finally did the practice exercises.

On the second day, they studied the first three sections of lesson 2 (introduction, main study, and self-test) for 2 hours. The focus of lesson 2 was on the sequence structure of expository text. On the third day, they still continued studying lesson 2 for 2 hours, focusing on two practice exercises. Each text in the exercises, in sequence structure, provided the practice on locating the main ideas and comprehension check.

On the fourth day, they studied the first 3 sections of lesson 3 (introduction, main study, and self-test) for 2 hours. Lesson 3 focused on the compare/contrast structure of expository text.

On the fifth day, they continued studying lesson 3 for 2 more hours, focusing on 2 practice texts. Locating the main idea and checking comprehension of the texts were the main skills to practice, as in the previous lesson.

On the sixth day, they started to study the first 3 sections of Lesson 4 which focused on the cause/effect structure of expository text. They studied the introduction, main study, and the self-test sections respectively.

On the seventh day, they spent two more hours studying the remaining 2 sections of Lesson 4; that is the 2 practice texts, which, likewise, focused on training

two skills – locating the main idea and checking comprehension of the texts.

On the eighth day, after completing studying all the lessons in the TSRS CALL program, the participants took the post-test. Then, they spent about 20 minutes completing the online questionnaire asking about their opinions towards the TSRS CALL program and its usefulness.

On the ninth day, the researcher conducted a semi-structured interview with them. The interview lasted about 3 hours.

Table 3.3 Summary of the Procedures for the Experimental Group

Day	Time	Activities	Total
1	1 hour	▪ Receive their usernames and passwords, then log in to learn the overall process of TSRS and its relevant tasks (in Thai)	3 hours
	2 hours	▪ **Lesson 1** • Introduction • Lesson 1 study • Lesson 1 self-test • Lesson 1 practice exercises	
2	2 hours	▪ **Lesson 2** • Introduction • Lesson 2 study • Lesson 2 self-test	4 hours
3	2 hours	▪ Lesson 2 practice exercise 1 -Locating the main idea -Comprehension check ▪ Lesson 2 practice exercise 2 -Locating the main idea -Comprehension check	

Table 3.3 (continued)

Day	Time	Activities	Total
4	2 hours	▪ **Lesson 3:** • Introduction • Lesson 3 study • Lesson 3 self-test	4 hours
5	2 hours	▪ **Lesson 3 practice exercise 1** -Locating the main idea -Comprehension check ▪ **Lesson 3 practice exercise 2** -Locating the main idea -Comprehension check	
6	2 hours	▪ **Lesson 4** • Introduction • Lesson 4 study • Lesson 4 self-test	4 hours
7	2 hours	▪ **Lesson 4 practice exercise 1** -Locating the main idea -Comprehension check ▪ **Lesson 4 practice exercise 2** -Locating the main idea -Comprehension check	
8	1 hour	**Post-test**	1 hour and 20 minutes
	20 minutes	Filling out the TSRS questionnaire	
9	3 hours	Participate in an interview	3 hours

3.7.2 The Control Group

The participants in the control group studied 6 texts printed from the VOA Special English website. Each text was accompanied by two sets of reading comprehension questions. One set was comprised of 5-7 short-answer questions

which required them to provide the answers in their own words. Another set of questions was comprised of 10 four-multiple-choice questions in which only A, B, C, or D, had to be chosen as the best choice. They studied the 6 texts for 6 days (see Table 3.5). Then they took the post-test. In order to ensure that they spent equal amount of time studying the texts, the researcher set up a special class with them which lasted 6 days, starting from 5 p.m.-7 p.m. on the same days as the experimental groups. For each session, the researcher gave them a new text to read. This was to ensure that they did not read the texts in advance, or spent more time than being allowed. During the reading in class, the participants could use dictionaries, asked each other, asked the teacher (researcher) about the texts they were reading. The study time for the control group is presented in Table 3.5.

Table 3.4 Time Frame for the Control Group

Day	Time	Activities
1	1 hour	Pre-test
2	2 hours	Reading practice: Text 1
3	2 hours	Reading practice: Text 2
4	2 hours	Reading practice: Text 3
5	2 hours	Reading practice: Text 4
6	2 hours	Reading practice: Text 5
7	2 hours	Reading practice: Text 6
8	1 hour	Post-test

3.8 Data Analysis

The data were analyzed and interpreted quantitatively and qualitatively.

3.8.1 Quantitative Data Analysis

The data from the pre-and post-reading comprehension tests and the TSRS questionnaire were analyzed quantitatively.

3.8.1.1 The Data from the Pre- and Post-Reading Comprehension Tests

The reading comprehension test scores of the experimental and control groups were analyzed using the independent-samples t-test. After that, the analysis of covariance (ANCOVA) was used to analyze the pre-and post- test scores to confirm the effects of the TSRS CALL program.

In this study, the dependent variable was the post-test scores, the independent variables were the two learning methods (learning with the TSRS CALL program, and learning from the VOA texts), and the covariate was the pre-test scores. Before employing ANCOVA, a test of the homogeneity of regression was performed.

3.8.1.2 The Data from the TSRS Questionnaire

The scores from the five-point rating scale of the questionnaire were calculated for their arithmetic means. The following criteria of means 1.33 were used for each interval in the questionnaire and for interpretation (See Table 3.6).

Table 3.5 Criteria for Interpreting Each Statement in the TSRS Questionnaire

Means	Interpretation
1.00-2.33	The students' opinions towards TSRS CALL program are negative.
2.34-3.67	The students' opinions towards TSRS CALL program are positive.
3.68-5.00	The students' opinions towards TSRS CALL program are very positive.

Table 3.6 Criteria for Interpreting the Arithmetic Means of Experts' Evaluation Form

Means	Interpretation
1.00-2.80	The quality of TSRS CALL program is very poor.
2.81- 4.61	The quality of TSRS CALL program is poor.
4.62 – 6.42	The quality of TSRS CALL program is moderate.
6.43 – 8.23	The quality of TSRS CALL program is good.
8.24 – 10.00	The quality of TSRS CALL program is very good.

3.8.2 Qualitative Data Analysis

3.8.2.1 Interview Data Analysis

The interview data were transcribed and consequently analyzed using two types of coding: (a) open coding, and (b) axial coding (Strauss and Corbin, 1990). Open coding is the identification of themes that emerge from the data. During open coding the researcher read and reread the entire interview transcripts to identify and tentatively name the salient themes which were then labeled or coded. These themes served as the framework for analysis. Words or phrases that appeared to be similar

were grouped into the same theme. These themes were gradually modified or replaced during the subsequent stages of analysis that followed.

The next stage was 'axial coding' or re-examination of the themes that had been identified in order to determine whether they were linked. The purpose of axial coding was not only to describe, but to acquire new understanding of the information of interest. The themes identified in open coding were compared and combined as the researcher began to assemble the 'big picture. The researcher built a conceptual model and determined whether sufficient data existed to support that interpretation. Original quotes from students were used as evidence to support these themes. The data analysis from the semi-structured interview was finally presented.

CHAPTER 4

THE TSRS CALL PROGRAM

4.1 Introduction

This chapter delineates the Text Structure Reading Strategy (TSRS) CALL program used as the main experimental tool in the present study. First, the program objectives are presented, followed by the principles relevant to the design and construction of the program. Then, the program components are presented followed by the evaluation and its results based on the three tryouts.

4.2 Objectives of the TSRS CALL Program

The TSRS CALL program was designed and developed with the following objective: To promote the participants' ability to use the text structure reading strategy, focusing on three expository text structures: sequence, compare/contrast, and cause/effect.

4.3 Program Design

In order for the TSRS CALL program to be effective, it needs to have the following characteristics: be theoretically sound, be able to achieve its intended objective, be administratively feasible, and be motivating to learners. In designing and developing the TSRS CALL program, the researcher of the present study took into consideration the following areas as delineated next.

4.3.1 Theoretical Framework for the TSRS CALL Program

A clear theoretical framework is important for high quality research. The theoretical framework gives conceptual guidance to researchers so that they can set up clear relationships among variables. Alderson (2000) pointed out that researchers who want to do research on reading must first of all try to understand the construct of reading, the concept of understanding the meaning of reading. In the context of Web-based instruction, the development of effective Web-based learning materials should be based on proven and sound learning theories because what matters is not technology per se. Rather, it is the design of the course or instruction that determines effectiveness of learning. According to Ally (2004), learning strategies should be selected to "motivate learners, facilitate deep processing, build the whole person, cater for individual differences, promote meaningful learning, encourage interaction, provide feedback, facilitate contextual learning, and provide support during the learning process" (p. 6).

The principles that served as a guideline for the design of the TSRS CALL program were: second language acquisition (SLA) theory, instructional approach, and cognitive as well as constructivist learning theories.

4.3.1.1 Second Language Acquisition (SLA) Theory

Although there are several SLA principles proposed as guidelines for the design of an effective CALL program, the following SLA principles proposed by Chappelle (1998) are best-suited in the present study. These principles include: Making key linguistics salient, offering modifications of linguistic input, and providing opportunities for learners to notice their errors.

Research has shown that highlighting input in materials can prompt learners to notice particular syntactic forms and thus positively influences their acquisition (Doughty, 1991). As a result, signal words were commonly used as key linguistic features that needed to be made salient in each expository text structure in the TSRS CALL program. The signal words were made salient by bolding and highlighting (see e.g. Figure 4.1), so that the students could easily notice and identify them.

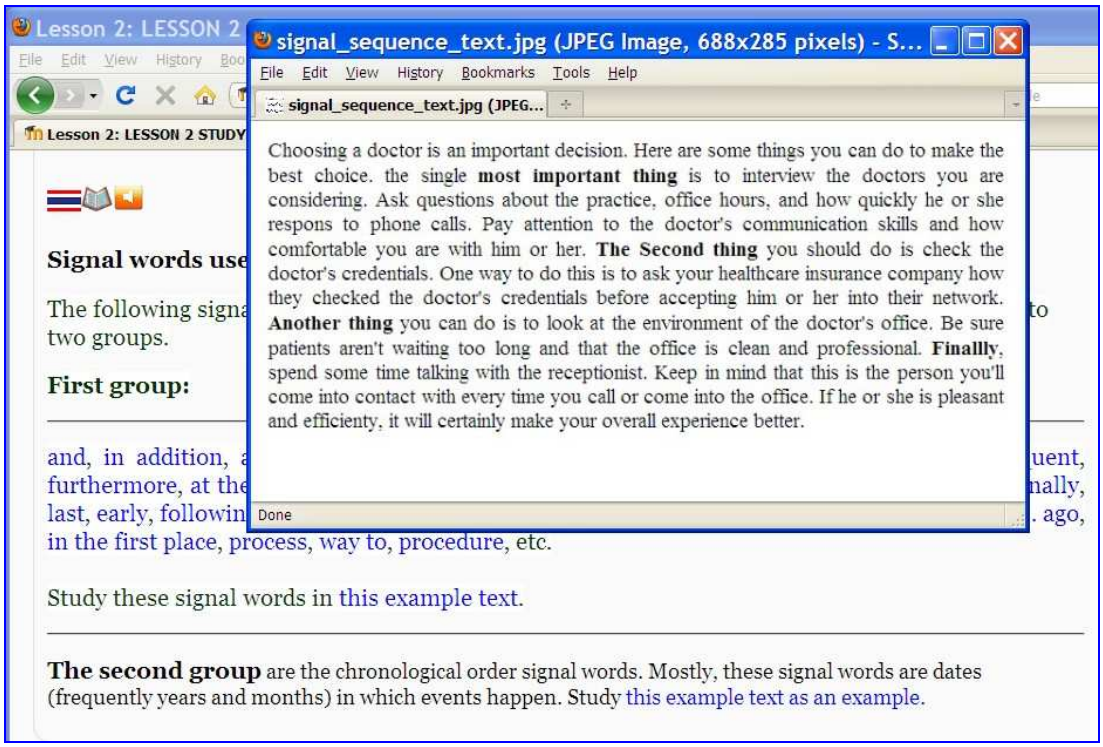


Figure 4.1 A screenshot of Signal Words as Used in TSRS Lesson 2

Modifications of input can come in the form of repetition, simplification through restatements, non-verbal cues, decreased speed, reference materials, and change of input mode. Not all of these modifications, but only some of them, were used in the TSRS CALL program. These included non-verbal cues and simplification through reference materials, and repetition.

Non-verbal cues used in the TSRS CALL program were graphic organizers (see e.g. Figure 4.2) which were used for explaining the relationship of ideas in each sample text with different structures at paragraph and passage levels. They were used both in the study section and in the practice exercise section.

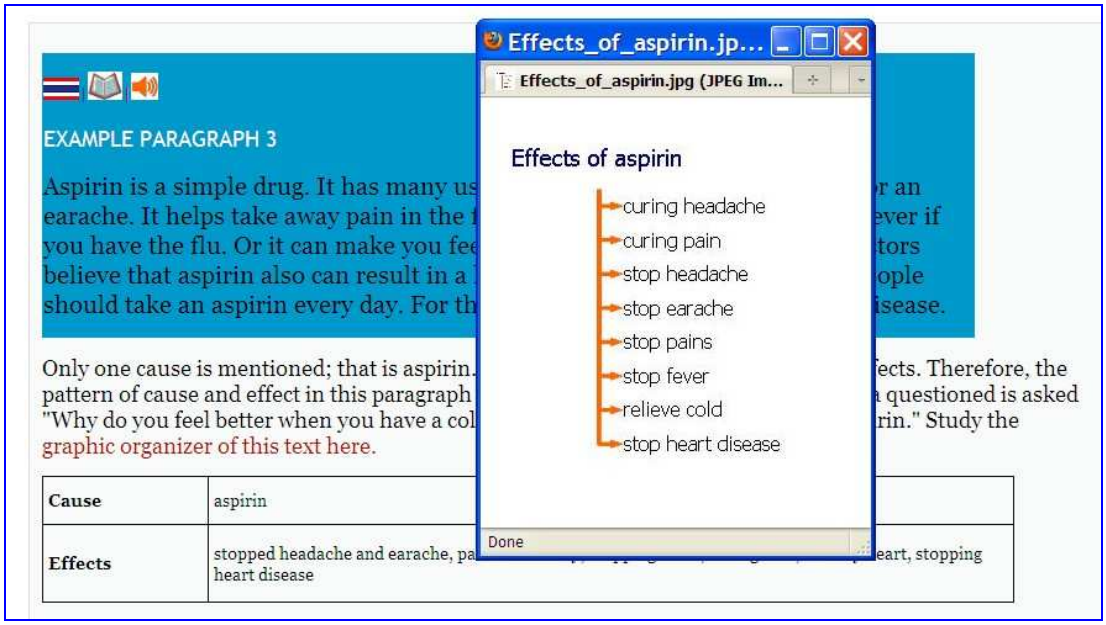


Figure 4.2 A Screenshot of a Non-Verbal Cue Used at a Paragraph Level

Repetition was provided in two forms: going back to the previous page, and choosing a new alternative. The participants were reminded of the wrong answer and brought back to the previous page when they failed to answer the question in the main study section (See Figure 4.3). They were required to re-study the same page until they understood and provided the correct answer in the next attempt.

Choosing a new alternative was provided in the practice exercise section in which the participants had to select the correct choice for each question or statement. They were allowed to select another choice if the one they had selected was wrong. However, they did not gain a score for the item they had attempted more

than once (See Figure 4.4).

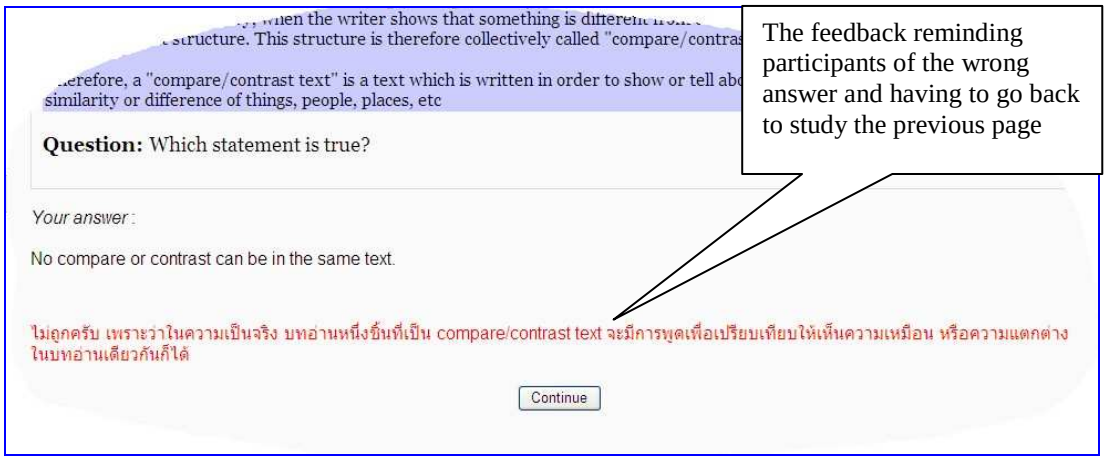


Figure 4.3 A Screenshot Showing Repetition Provided through Reminding Feedback

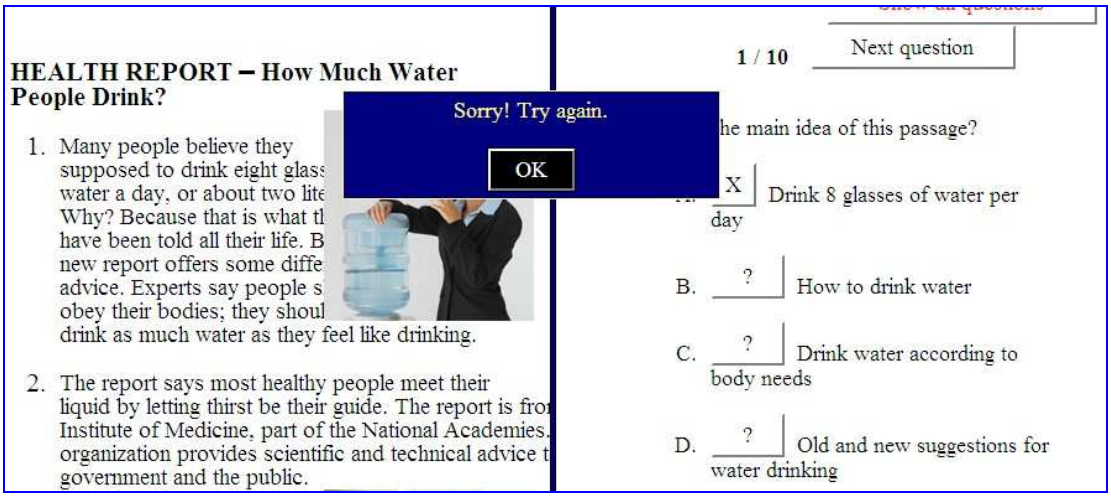


Figure 4.4 A Screenshot Showing Repetition Provided through Choosing a New Alternative

Reference materials were provided in the forms of an online dictionary (English-Thai) and a Thai translation text link. This modification was beneficial for the low proficiency participants who, without this type of help, might lose the chance of understanding the lessons. Translation was given in the tutorials in all the 4 lessons. The participants who found the lesson materials too difficult could rely on the Thai

translation. Those who were comfortable reading in all English were not supposed to use this option. They could use the online dictionary to help with unknown words. Moreover, support was also given in an audio format (a speaker icon) which the participants could use for more explanation in Thai. However, the explanation given in the audio format was not a word-by-word or sentence-by-sentence translation. Rather, it was an overall explanation of each topic being studied.

The last SLA principle considered in designing and developing the TSRS CALL program is providing opportunities for learners to notice their errors. In every lesson, the main study section, including subsequent 2 practice texts with interactive exercises on locating main idea and checking comprehension, all provided opportunities for the participants to notice and correct their errors with immediate feedback (See Figure 4.5). This was the strength of the TSRS CALL program because it not only helped the participants notice their errors, but also offered explanations of the correct answers.

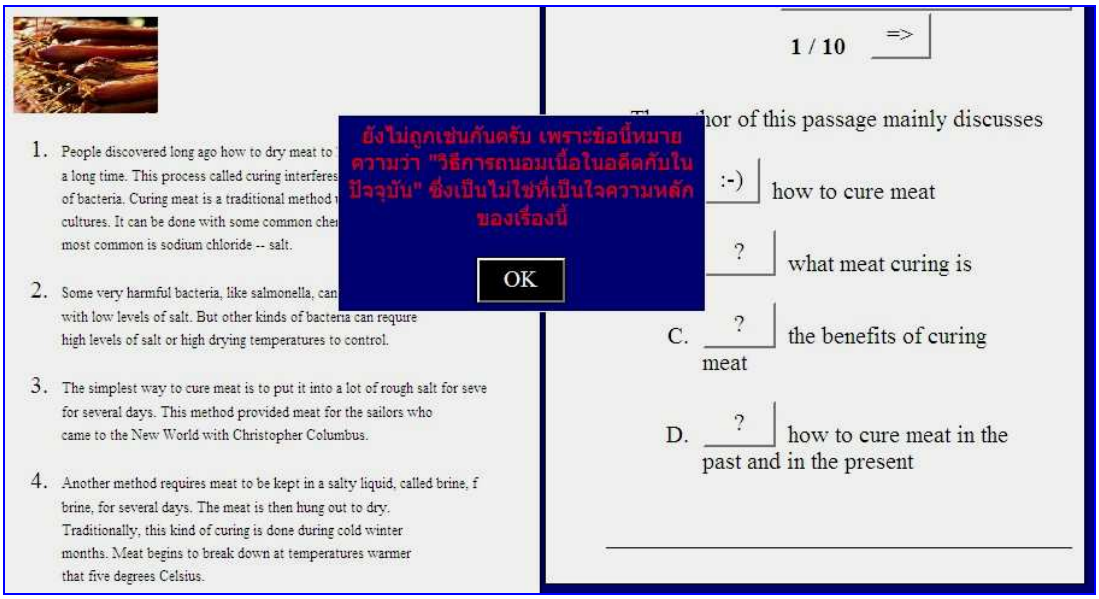


Figure 4.5 A Screenshot Showing Informative Feedback in a Practice Exercise

Providing such explanatory feedback benefited the participants in being able to notice their errors because they were playing an active role in the foreign language learning process and learning first-hand how the language works (Conrad, 2001). Positive and informative feedback is more fruitful in developing future performance of L2 learners.

4.3.1.2 Instructional Approach

The TSRS CALL program aims to teach text structure reading strategy for the three basic structures of expository text: sequence, compare/contrast, and cause/effect. The instructional approach adopted in the present study was the explicit instruction (See details as delineated in Section 2.4, Chapter Two) because it was in line with the objective of the program. To achieve the objective, in every lesson, an introduction regarding what to be learned and the purposes of learning were given in the initial stage, followed by the modeling of the strategy use, how, and when to use it. Explanations of the strategy being taught were provided using the participants' first language in order to make the modeling clearer and more comprehensible. Guided practice was provided in an interactive drill format in which immediate and informative feedback was given. Independent practice was provided in the practice exercise section where 6 texts from the VOA Special English were presented (See also Figure 4.5 above, since it is a guided practice). The participants practiced identifying expository text structures by locating the main idea of each text, and checking their comprehension.

4.3.1.3 Cognitive Learning Theory

One principle of cognitive learning theory is that unobservable constructs such as perception, attention, memory, motivation and thinking affect the process of knowing (cognition) and learning. Information should be presented in such an easy way that learners will pay attention to it, perceive it, understand it, and, as a result, learn it. Once the learners attend to and perceive information (stimuli), it is encoded. Cognitive psychologists (Fleming and Levie, 1978) propose that the information-processing approach explains how we retain or forget knowledge depending on its importance and usefulness. After information is encoded, the learner is expected to memorize and retrieve it whenever it is required. Memory is enhanced through information that is provided in an organized and repetitive way.

Cognitive learning theory emphasizes active learning because it assumes that learners learn not only by observing, but also by being actively involved in the process of learning which is enhanced by motivation (Malone and Lepper (1987). In this regard, challenge, curiosity, control, fantasy as well as attention, relevance, confidence and satisfaction are all elements that should be taken into consideration when designing learning materials. Moreover, cognitive learning theory emphasizes individual differences in learning.

In the context of reading comprehension, cognitive learning theory posits that reading comprehension requires active and complex cognitive processes that interact simultaneously to help readers construct the meaning from text. That means readers need to have enough linguistic knowledge, background knowledge, text structure knowledge, and reading strategy knowledge. The readers who are aware of the reading strategies being used for comprehending the text are exactly using

cognitive reading strategies.

The principles of cognitive learning applied in a CALL program to facilitate information processing, transferring information to long-term memory, active learning, as well as motivation promotion as suggested by Alley (2004) were applied in the present study as follows:

1) Promote learners' easy processing of information by designing a screen interface with important information placed in the center for easy reading in a left-to-right reading format.

2) Focus learners' attention by

a. Highlighting the critical information for learning such as heading texts and title texts.

b. Using different font color schemes for heading texts and body texts.

c. Using different font sizes for heading texts and body texts. For example, in TSRS lessons, the 18-point font size was used for the heading texts and the 14-point size for the body texts. However, due to the advances in the current browser software, users can easily adjust the font sizes on the monitor screen to their needs only by using a particular user control option, such as a Ctrl + mouse scrolling.

d. Using easy-to read fonts. The Georgia font was used for the English texts and the Cordia New and PSL Thaiantique fonts for Thai texts.

3) Promote learners' motivation by

a. Providing tutorials and drills that were set to have the learners compete against oneself and time (Alessi and Trollip, 2001). All the lessons in the TSRS program were designed to motivate the participants to compete against

themselves by showing the on-going scores and progress bar. Competition against time was in the form of a time-controlled lessons and practice exercises.

4) Improve learners' memory by

a. Matching the participants' cognitive level with appropriate reading texts, so that they could both attend to and relate to the material. For example, there is a provision of Thai and English texts to accommodate the participants at different proficiency levels (see Figure 4.1 for an example).

b. Chunking information (i.e. reading texts in the lessons and practice exercises) into short several pieces to prevent cognitive overload during processing in working memory (Miller, 1956). Cognitive overload refers to too much information being presented to short-term memory. With overloaded information, processing of information may fail, resulting in no learning. Cognitive overload is a serious problem that affects students learning in Web-based and hypermedia learning systems. Reading texts in the TSRS CALL program were thus mainly presented in a paging format, rather than a scrolling format (for an example, see Figure 4.6) to avoid cognitive overload. Research has shown that paging format is more conducive to learning than a scrolling format (Piolat, Roussey, and Thunin, 1997). A well-designed computer text requires less working memory in which the text is presented (Dee-Lucas and Larkin, 1995).

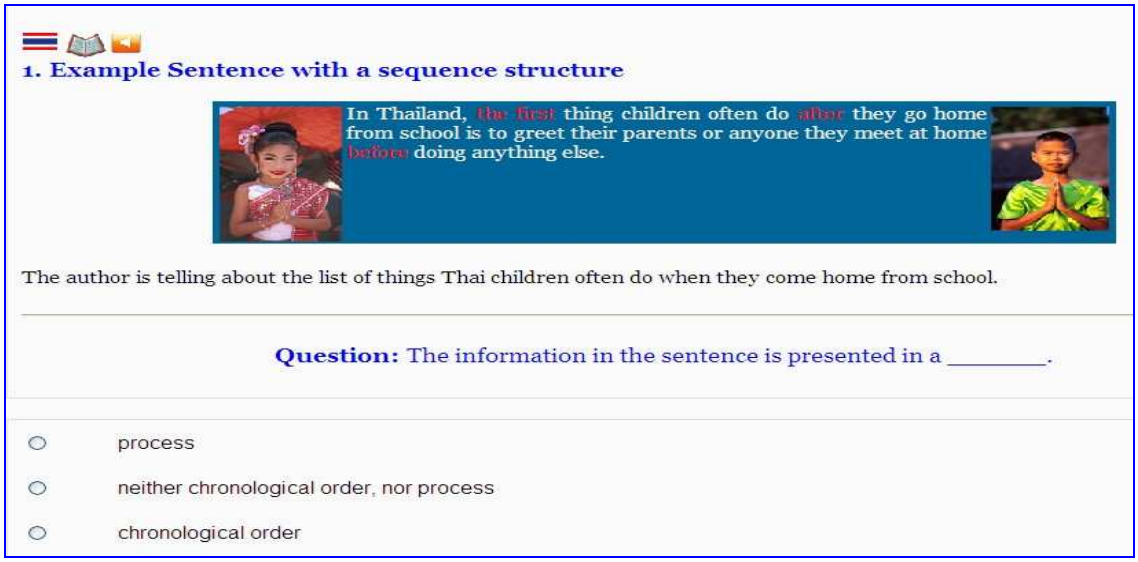


Figure 4.6 A Screenshot Showing a Small Chunk of Information in a TSRS Lesson

c. Proving repetitive practice. In order to help the participants store the knowledge of text structure reading strategy in their long-term memory, six texts were provided for practice. The principle of repetition claims that the more information is practiced, the better and longer it is remembered, and the repetition can be applied in such activities as recitation and quizzes (Alessi and Trollip, 2001). In the TSRS, quiz was used as the main activity.

5) Promote active learning by

a. Providing multiple modes of user controls. In the TSRS program, the participants could control the lessons by using the menu bars embedded in the program and also the navigational buttons of the web browser.

b. Providing interactive tutorials and drills. Questions in the tutorials and drills in the TSRS program serve several purposes. They keep the participants attentive to the lessons, provide practice, encourage deeper processing, and assess how well the participants understand and remember what they have learned

(Alessi and Trollip, 2001). Two basic types of questions were used: alternate-response and constructed-response questions. Alternate-response questions included true-false (yes-no), matching, multiple-choice, and marking questions. Multiple choice questions were the most frequently used ones. In each multiple-choice question, there were four choices, one being the correct answer and the other three being distracters. Constructed-response questions included completion, short-answer, and essay questions. Both completion and short-answer questions were used in tutorials. The reason for using many types of questions were that with alternate-response questions, the participants were less likely to make errors unrelated to the instructed content, such as spelling errors; while constructed-response questions were easier to write and reduce guessing. In alternate-response questions, the participants used the mouse to select the answers. The questions were of a single selection format in which only one correct answer the participants had to select. In constructed-response questions, answers were entered by using the keyboard, or for some questions, the participants may use the copy and paste options. Figure 4.7 shows an example of a constructed-response question (short-answer format).

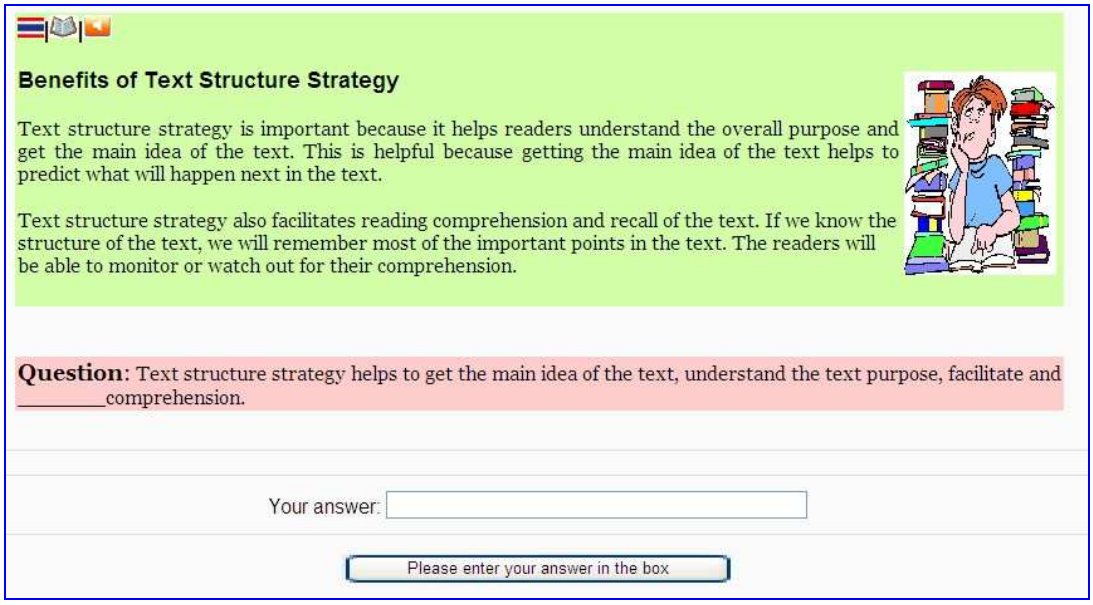


Figure 4.7 A constructed-Response Question in a Short-Answer Format

6) Support individual differences and learning styles by

a. Presenting information in different modes in order to accommodate individual differences in processing and to facilitate transfer to long-term memory (Ally, 2004). According to dual-coding theory (Paivio, 1986), information received in different modes (e.g. textual and visual) will be better processed than the one presented in a single mode (e.g. textual only). Dual-coded information is processed in different parts of the brain, resulting in more encoding. Generally speaking, visuals are more likely to be processed in both verbal and visual systems, and hence the probability that they are retained in working memory and retrieved later from long-term memory is higher than when the presentation contains written information alone. The learning materials in the TSRS lessons were provided with photos, graphic organizers etc.

b. Motivating the learners during learning based on the ARCS model (attention, relevance, confidence, and satisfaction) proposed by Keller (1983). Learners' attention were captured and maintained through interactive activities such

as quizzes and self-tests as well as graphics, pictures and animations to accompany reading texts. These techniques are intrinsic motivation (Lepper, Keavney, and Drake, 1996). The study materials presented in the 4 lessons and 6 practice texts were all included with pictures, graphics and animations.

Relevance was presented by informing the participants of the importance of text structure reading strategy and how it could benefit them. This included describing how the participants would benefit from practicing the strategy, and how they could use it in real-life situations. This method helped to contextualize the learning and make it more meaningful, thereby maintaining interest throughout the learning session.

Confidence was created by using strategies such as designing for success (i.e. presenting the learning materials from simple to complex structures, and from short to longer texts) and informing the participants of the expectations from the text structure strategy practices. Also, design for success was in the order of difficulties of text structure: sequence, compare/contrast, and cause/effect. Satisfaction was in the form of providing feedback (as mentioned earlier) on their performance, and allowing them to apply what they had learned in real-life situations.

c. Encouraging learners to use their metacognitive skills in the learning process (Meyer, 1998). Metacognition is a learner's ability to be aware of his or her cognitive capabilities and use these capabilities to learn. Self-test and practice exercises were provided so that the participants could check how well they were doing in each lesson, and to adjust their learning approach.

d. Extending the studying time. After piloting, the studying time for the TSRS CALL program was extended from 3 to 4 hours. This catered to the

learning ability of the low proficiency participants and also the medium ones. Prolonging the studying time for one more hour was suitable for the learning style of the low proficiency participants.

4.3.1.4 Constructivist Learning Theory

Constructivism is very important in a web-based instruction. Constructivism focuses on the notion that learners are active rather then passive receivers. Regarding reading, readers are seen as actively constructing meaning out of the text being read. The interpretation and processing of information in the text is received through the senses that create knowledge (Ally, 2002).

Some principles of constructivist learning theory are overlapping with those of cognitive learning theory, including active learning, learner control, and interaction (e.g. learner-text interaction). However, the following distinguished principles of constructivist learning theory that are different from cognitive theory were applied in this study: discovery learning, knowledge construction, and authentic tasks and activities.

Discovery learning focuses on learners' exploring, experimenting, asking questions, and seeking answers. This feature can be integrated in a Web-based learning environment through methodologies such as hypermedia and hypertext which allow the learners to explore information freely. In the TSRS program, hypermedia and hypertext were used in the inclusion of L1 translation, online dictionary as well as html links. Some questions could be answered only when the participants clicked on a link that shows another html page. See figure 4.7 as an example of hypertext used in a TSRS lesson.

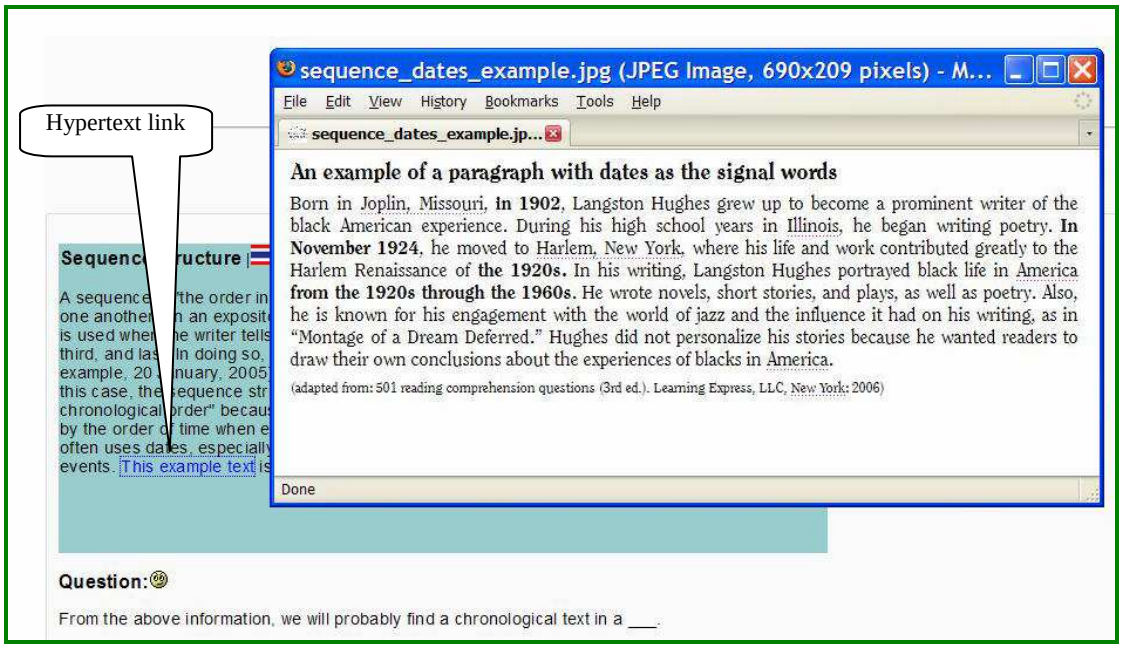


Figure 4.8 A Screenshot Showing an Example of a Hypertext in a TSRS Lesson

Knowledge construction is facilitated by good interactive online instruction (Ally, 2002). Since online learning is knowledge construction in itself, what was applied in the TSRS was just adding more of interaction between the learners and the computer program. This was enhanced by, for example, providing good forms of questions, both alternate-response and constructed-response questions.

Authenticity makes the learners feel that they are not learning from specially constructed materials, but from the real ones. Authentic text also supplies the essential input needed to increase learners' awareness of language usage in written media as inadequate since they are simplifications of language usage. Likewise, authentic text provides an alternative to outdated textbooks, which may not meet the needs of learners, and provide learners with the various genuine texts they need to aid and improve reading comprehension (Murdoch, 1999). The practice texts in the TSRS exercises were authentic because they were used in real-life situations.

4.4 Components of the TSRS CALL Program

There were 4 lessons on the TSRS CALL program website. In each lesson, there were 3 sections: Main study, self-test, and practice exercises (See e.g. Figure 4.9). The main study section contained frames of text presentation accompanied by interactive questions at the bottom. In each frame, three language help options were provided. These included a Thai translation link (Thai flag icon), an online dictionary (open book icon), and an audio link to the Thai explanation (speaker icon). Pictures, animations, and graphics were added to each frame in order to make it more interesting and enjoyable. The main study section was time-controlled which was indicated by digital clock display at the top right corner of the screen.

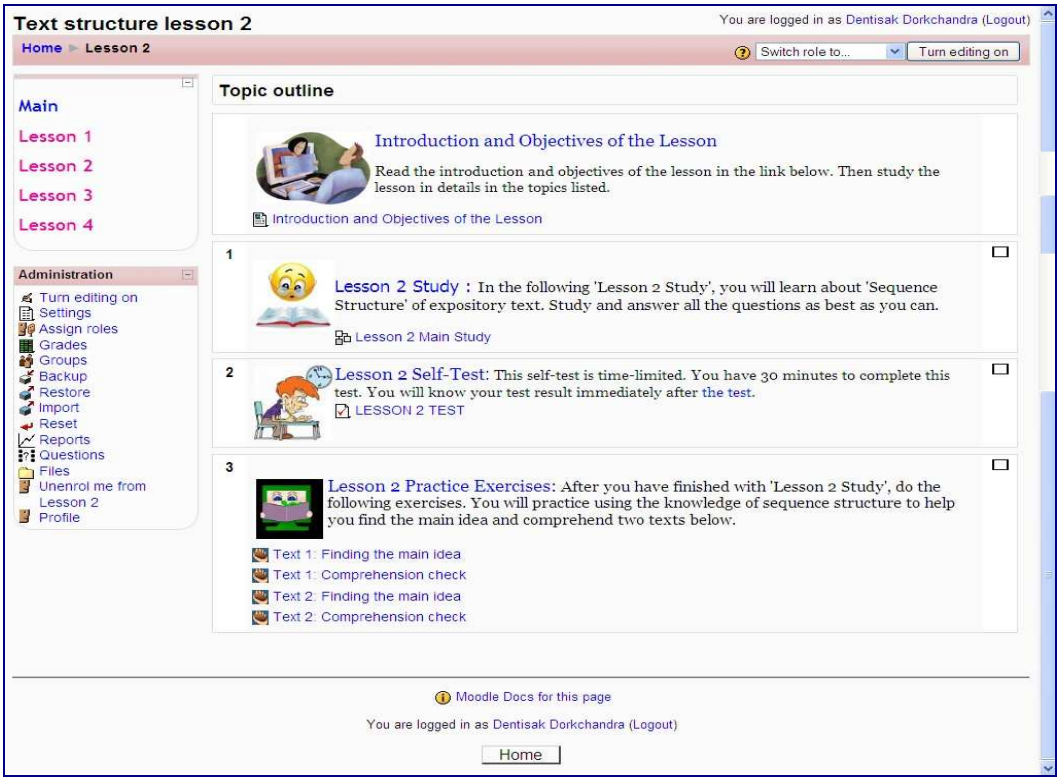


Figure 4.9 A Screenshot of the Main Components in a TSRS Lesson

The participants studied each frame and then answered questions. When they answered each question correctly or incorrectly, they got feedback. In case they

answered the question incorrectly, they were brought back to the same frame for re-studying. They were allowed to study the next frame only after they answered the question correctly. The practice exercise section contained interactive question-answer exercises focusing on using the knowledge they had learned in the main study section. The self-test section contained 10 multiple-choice questions. Some questions were based on a short text, some others were not. The test was meant to check how well the participants understood what had studied in the study section.

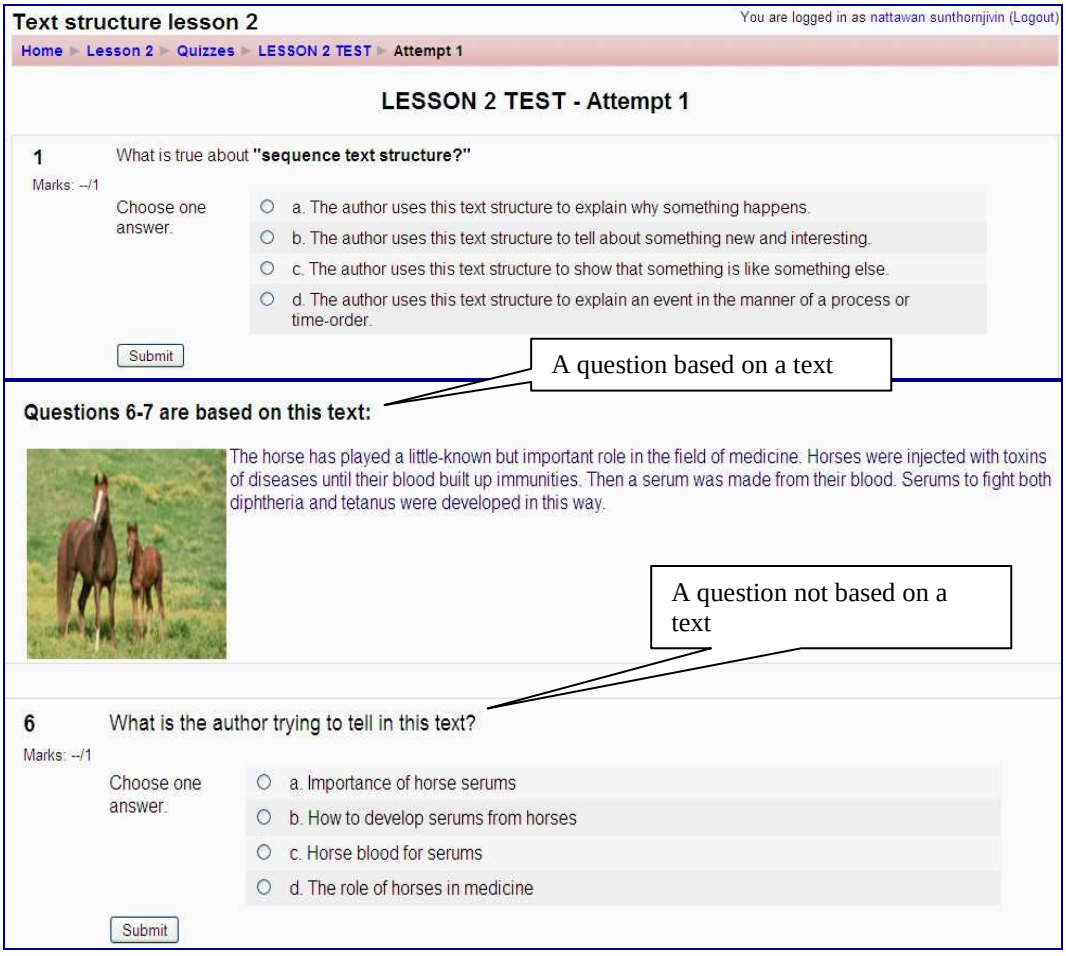


Figure 4.10 A Screenshot of a Self-Test in TSRS Lesson 2

Of the 4 lessons, lesson 1 served as a general introduction to the text structure reading strategy. In this lesson, the participants did not study any single structure of expository text in details. What was presented included the following topics: text and

its meaning, text types, text structure, text structure strategy, benefits of text structure strategy knowledge, how to use text structure strategy, expository text and its definition, structures of expository text, signal words and their functions, main ideas and how to find them. The practice exercise section in lesson 1 contained 1 exercise (a multiple-choice question format), and the test section contained 1 test (a multiple-choice format).

Lesson 2, 3, and 4 also consisted of 3 main sections – main study, self-test and practice exercises. The practice exercise section in these 3 lessons was based on 2 different texts from the VOA Special English (2 texts for each). After completing the main study section, the participants did the practice exercises based on each text, which was accompanied by a set of 10 multiple-choice questions, testing them on how to locate the main idea and supporting details, and another set of 10 multiple-choice questions which tested their comprehension. In all, lesson 2, 3, and 4 contained 6 practice texts and 12 exercises.

4.5 Instructional Strategies Used in TSRS Lessons

The main instructional strategy used in TSRS lessons was a tutorial because it was good for presenting information and for guiding practice (Alessi and Trollip, 2001). Through interactive tutorials, the TSRS lessons were delivered based on the 4 main steps of the explicit instruction (see Table 4.1): introduction, modeling, guided practice, and independent practice.

Table 4.1 Steps of Explicit Instruction and Instructional Strategies Used in TSRS Lessons

Steps of Explicit Instruction	Instructional Strategies	TSRS Components
Introduction	Interactive tutorials	Lessons 1, Main study
Modeling and Guided practice	Interactive tutorials	Main study in Lessons 2, 3, and 4
Independent practice	Interactive drills	Six practice texts in Lessons 2, 3, and 4

The first step of explicit instruction, introduction, was made available in Lesson 1, which was the main introduction lesson where all the information and explanations about text structure reading strategy and relevant knowledge were presented. The information was presented using a page-by-page interactive tutorial where the participants learned and tested themselves in a gradual step.

The other three steps: modeling, guided practice, and independent practice, were integrated in lessons 2, 3, and 4, and were developed based on the general structure and sequence of a tutorial program proposed by Alessi and Trollip (2001) as shown in Figure 4.11.

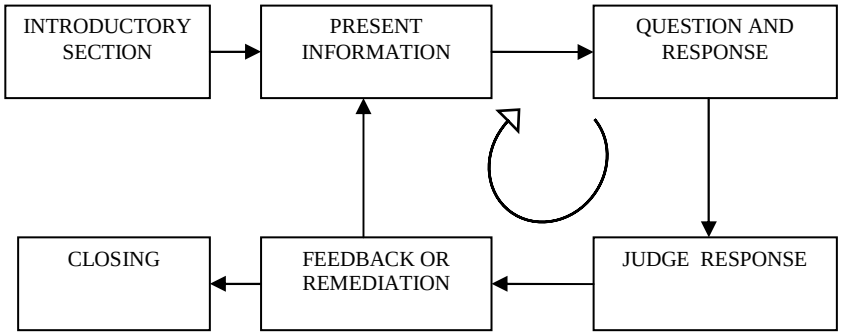


Figure 4.11 The General Structure and Sequence of a Tutorial Program (Alessi and Trollip, 2001, p. 90)

First, the participants studied the introductory section (Introduction) provided at the beginning of the lesson (see Figure 4.12).

Figure 4.12 A Screenshot Showing the Introduction to the TSRS Program

The introduction within each lesson briefs the participants on the overview of the lesson regarding its objectives, how to study, time of study, and the topics to study. Then, they studied the information in the introduction and subsequently the main study in lesson 1 which was followed by a question (see Figure 4.13). The system judged whether their answer was correct or incorrect (judge response)

The application of modeling and guided practice (showing how the text structure reading strategy was used) was made possible when the participants learned about each expository text structure presented at a sentence, a paragraph, and a whole-passage level in the main study section. Interactive tutorials where questions were posed based on the previously-learned text structure and the participants had to answer by identifying the text structure, signal words, main ideas, and supporting details at sentence, paragraph, and passage levels. Immediate informative feedback was provided for each response in comprehensible and sufficient details. Independent practice was embedded in the practice exercise section in each lesson.

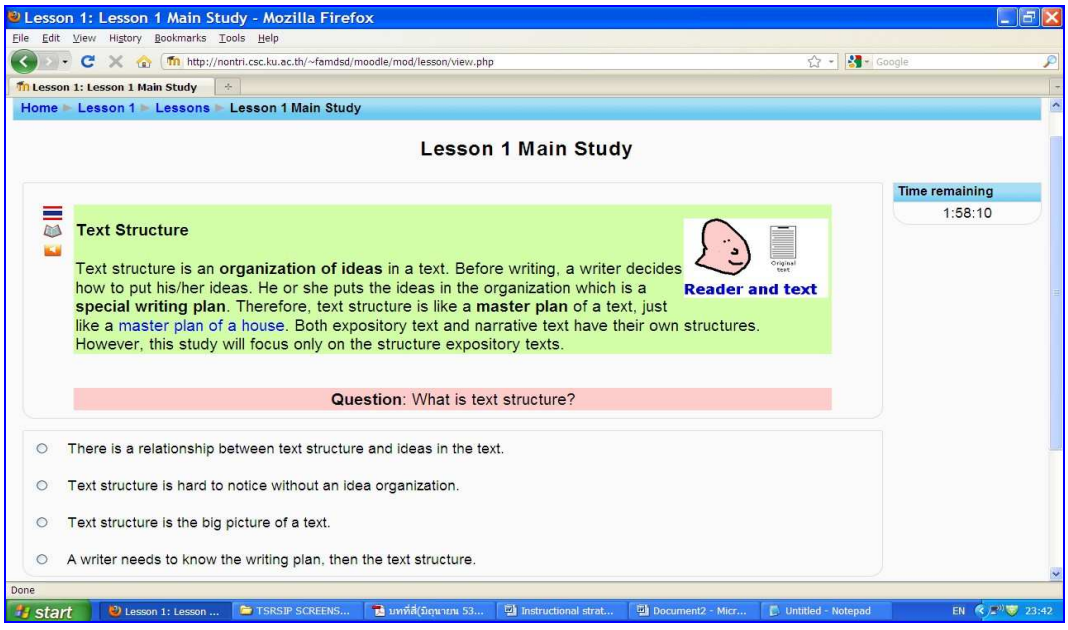


Figure 4.13 A Screenshot Showing Information Followed by a Question

4.6 Instructional Strategies Used in TSRS Practice Exercises

The practice exercises were in a drill format, following the 6 steps (see Figure 4.14) as proposed by Alessi and Trollip (2001).

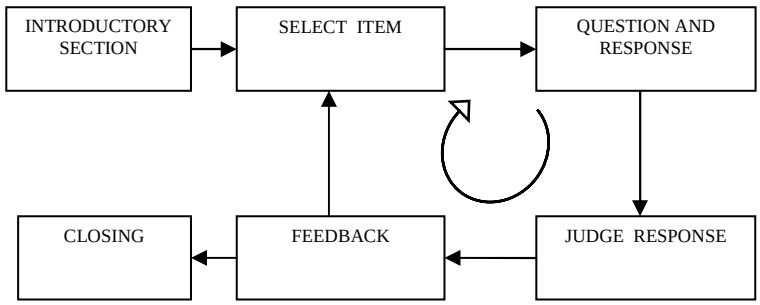


Figure 4.14 The General structure and Sequence of a Drill (Alessi and Trollip, 2001, p. 182)

Drills in the TSRS CALL program were in a multiple-choice, true/false, and matching format. In each practice exercise, the participants were informed of available activities and how to do them, (Introductory section). They started by selecting the questions (select item) based on the presented text. Their answers to each question were automatically judged by the program (judge response), which in consequence, produced feedback. The cycle of item selection, question/response, judgment, and feedback kept going on until they correctly produced the answer. Closing would occur upon the completion or giving up of the exercise.

As can be seen in Table 4.2, the 6 texts used in the practice exercise section were taken from the VOA Special English website. In each text, the participants did the following activities: (1) Identifying main idea and supporting details; and (2) Checking comprehension. The researcher wanted to provide enough texts in order for the strategy instruction to have its desired effects, therefore; these 6 texts were

provided. Moreover, the importance of practice entails not only the central role of the practice phase of the instruction but also the necessary recycling of material.

Items or questions used in these drills were multiple-choice, gap-fill, and short answer questions. Different question formats were used for the purpose of keeping the participants active and motivated according the cognitive learning principle.

Two hours were fixed as the time limit for practicing each text. The participants were allowed to do each practice exercise just once. After completing, they were not allowed to redo the practice on that text again.

4.7 Texts Used in the TSRS Practice Exercises

Texts from the VOA Special English website were selected for use in TSRS practice exercises because they met the following criteria: readability, interest, and clear text structure.

Readability refers to the structural and lexical difficulty level of reading passages (Nuttall, 1996). The difficulty level of texts is important in reading comprehension. If the text is too difficult or too easy, the readers will have no chance of employing the target strategies (Fielding and Pearson, 1994). In the former case, the readers will not be able to comprehend the text no matter how hard they try. In the latter case, readers can understand without any difficulty. Therefore, there is no need for them to use the target strategies at all. The Flesch-Kincaid Readability formula (Flesch, 1948) was used for testing the VOA texts used in TSRS practice exercises (see Table 4.3).

Table 4.2 Flesch-Kincaid Readability Index (Flesch, 1948)

Score	Difficulty
90-100	Very easy
80-90	Easy
70-80	Fairly easy
60-70	Normal
50-60	Fairly difficult
30-50	Difficult
0-30	Very difficult

Texts with a score of 90–100 are considered to be easily understandable for an average 5th - 7th grader. The 8th and 9th grade students could easily understand passages with a score of 60–70, and passages with the scores ranging from 0–30 are best understood by college students. However, when it comes to the Thai university EFL students, especially those who have medium and low English reading proficiency, the text easily read by native college students will be too difficult for them. The participants in this study could read passages with a score between 50-70. This interpretation derived from the fact that the researcher had previously students in his normal class read the texts from VOA and test their reading ability). The VOA texts selected for TSRS practice exercises were tested for readability using an online readability test available at http://www.cs.utexas.edu/users/s2s/latest/readability1 /src/index.cgi?lang=nglish&content=readability.

Readers' interest is also viewed as one of the most important factors in selecting texts (Nuttall, 1982; Scarcella and Oxford, 1992). Readers' interest in texts

will promote their learning motivation. Texts from the VOA Special English were chosen for TSRS practice exercises because they are usually about current affairs in the fields of science, agriculture, technology, culture, and medicine. These fields are directly relevant to the students' daily lives and their study, and they have pictures to help get the message across. In addition, the VOA texts have interesting topics that are familiar to the participants. In fact, texts on science topics may be difficulty to arts students and vice versa. Since the participants taking part in the study have either science or arts background, texts on science, arts and general topics were therefore used (see Table 4.3).

In terms of the clarity of text structure, the same argument may hold. A text with a clear text structure is easier to comprehend than the one with an implicit text structure. A text with an explicit text structure is a text in which the writer signals clearly its text structure. An implicit text structure does not contain such obvious signal words. Texts from the VOA special English websites are usually written in clear separate sections which, in each section, contain clear text structures, hence being selected for the TSRS practice exercises.

Table 4.3 Texts and Types of Text Structures in the Practice Exercises

Text structure	Practice Texts	
Sequence	1	Canning food
	2	Curing meat
Cause/effect	1	Effects of global warming
	2	Moderate alcohol use may help mental ability
Compare/contrast	1	How much water should people drink?
	2	Aspirin Found to Help Men and Women Differently

4.8 Construction and Evaluation of the TSRS CALL Program

The TSRS CALL program was constructed using the software programs: Dreamweaver 8.0, and Hotpotatoes 6. The Dreamweaver program was used mainly for writing HTML pages of the Thai version of the lessons' study materials. The Hotpotatoes program was used for constructing interactive tests and exercises. Moodle (version 9.1), a freeware online course management system, was used as the main course management system.

With Moodle, the TSRS CALL program website was created. Graphics, sound, animation, text, and other rich media learning solutions were also integrated using the Moodle CMS software. The website can be accessed at (http://www4.csc.ku.ac.th/~famdsd/moodle)

After the construction, the program was evaluated by experts using an experts' evaluation form (see Appendix 9). The evaluation form contained 30 close-ended statements with 5 categories of rating scales ranging from "very good", "good", "fair", "needing work", and "inappropriate". The statements investigated the experts' opinions towards the TSRS program on 4 main points: (a) learning material and presentation, (b) graphics and language use, (c) interface, and (d) pedagogy and learning management. The evaluation form also contained one open-ended statement asking about the experts' free comments and suggestions.

4.8.1 Results from Experts' Evaluation Form

The data on the experts' evaluation of the TSRS CALL program were calculated for the arithmetic means and the means then were interpreted based on the criteria presented in Table 3.7 (see Chapter 3). The findings from the experts' evaluation form are presented in Table 4.4.

Table 4.4 Findings from the Experts' Evaluation Form of the TSRS CALL Program

Statements	$\overline{X}$	S.D.
On contents and presentation		
1. The lesson contents are in line with the objectives	8.3	0.82
2. The steps in the TSRS CALL program are clear and easy to implement.	8.2	0.63
3. The contents in the TSRS CALL program are correct.	7.7	0.82
4. The explanation of the contents in the TSRS CALL program is clear.	7.1	0.87
5. The contents in the TSRS CALL program are interesting.	6.8	0.63
6. The quantity of the contents in the TSRS CALL program is appropriate.	7.5	0.70
7. The contents in the TSRS CALL program are based on authentic resources.	7.7	0.67
On graphics and language use		
8. The graphics/animations in the TSRS CALL program are appropriate for the contents.	7.9	0.73
9. The graphics/animations in the TSRS CALL program have appropriate sizes.	6.8	0.78
10. The graphics/animations in the TSRS CALL program are meaningful for the contents.	6.9	0.87
11. The graphics/animations in the TSRS CALL program are interesting.	7.1	0.73
12. The graphics/animations in the TSRS CALL program are clear.	7.5	0.97
13. The grammar and spellings in the TSRS CALL program are correct.	7.9	0.56
On the interface		
14. The fonts in the TSRS CALL program are clear and easy to read.	7.6	0.51
15. The font sizes are appropriate.	7.8	0.63

Table 4.4 (Continued)

Statements	$\overline{X}$	S.D.
16. The font colors are appropriate.	7.5	0.70
17. The fonts are clear on different background colors.	7.9	0.87
18. The background colors in the TSRS CALL program are appropriate.	7.1	0.73
19. The text highlights in different font types and colors are appropriate.	7.6	0.69
On pedagogy and learning management		
20. The interaction in the TSRS CALL program is appropriate.	7.3	0.94
21. The activities in the TSRS CALL program are various.	7.5	1.08
22. The feedback in the TSRS CALL program is appropriate.	6.5	0.84
23. The question formats in the TSRS CALL program are appropriate.	8.4	0.51
24. The answer formats in the TSRS CALL program are appropriate.	7.3	0.67
25. The directions in the TSRS CALL program lessons and practice exercises are clear.	7.9	1.19
26. Each component in the TSRS CALL program has appropriate connection.	7.5	0.70
27. The user controls (such as buttons) are appropriate.	7.2	1.03
28. The TSRS CALL program opens the opportunities for self-learning.	7.1	0.87
29. The activities in the TSRS CALL program support English reading comprehension development.	7.5	0.70
30. The activities in the TSRS CALL program encourage the text structure strategy use.	7.5	0.84
Total	**7.48**	**0.78**

Table 4.4 shows that the experts rated the quality of the TSRS CALL program as "good" ($\overline{X}$ = 7.48). The experts also provided comments and suggestions in

response to the open-ended statement in the evaluation form. Based on their comments and suggestions, the researcher improved the program as follows:

1) Adding sound and more pictures. It was not clear whether which type of sound should be added. However, the researcher took it for granted that the sound of the explanation of each studying page was meant. As a consequence, explanations of each page in the main study section of TSRS lessons were made, and then uploaded to TSRS pages as a hyperlink. More pictures were added to where it would look interesting and meaning full.

2) Creating own animations or graphics rather than using the ones available on the Internet. One expert in educational technology suggested that using animations or graphics specially created by the researcher would be more interesting and more relevant. However, it was impractical for the researcher who was not profoundly dept in animation making to create all animations by himself. He, therefore, created as many graphics on his own as possible.

3) Being more careful about missing links. There were several dead links in TSRS lessons. As a result, every attempt was made to fix them all and finally no missing links were left in the program.

4) Using easy language. Three experts in the field of English language teaching expressed concerns about difficult English language used in the explanations in some TSRS lessons. As a result, simple sentences and words were used.

5) Slow downloading. Five experts commented on the slow access to TSRS website. The researcher checked and found that there were some unwanted html codes in several sections of the TSRS CALL program. These codes made it slow to open TSRS pages. As a result, all of them were eradicated.

6) Too many exercises. One expert expressed concerns about the large number of exercises in each lesson. Initially, there were 9 practice texts. Too many exercises might make the students bored and heavy-hearted. Consequently, the researcher decided to take out 1 text from the practice exercises in lessons 2, 3, and 4, resulting in each lesson containing only 2 practice texts.

4.8.2 The Three Tryouts and Results

The researcher conducted three tryouts in order to improve the content and design of the TSRS CALL program: individual tryout (1:1); small-group tryout (1:10); and field tryout (1:100). The results of the tryouts were analyzed to determine the efficiency of the program based on the 80/80 criteria with the E^1/E^2 formula. The results of the three tryouts are shown in Table 4.5.

Moreover, in each tryout, the researcher used a check-list evaluation form (see Appendix 10) to illicit the students' feedback/suggestions about the program. Adapted from Alessi and Trollip (2001), the evaluation form, validated by experts in the fields of English language teaching and educational technology to ensure the appropriateness, relevance, and representativeness of the program construct, included two main categories; that is, the program content (lessons, exercises, material difficulty etc.) and the program design (screen display and navigation buttons etc). The content category contained 5 items regarding (a) the appropriateness of the lessons and exercises in terms of difficulty and quantity; (b) the sequence of content presentation; (c) learning time; (d) graphics, pictures and animations; and (e) vocabulary helps. The design category, also 5 items, asked the students to judge the program design in terms of (a) use of fonts in terms of size, type, and color, (b) program color schemes which included background and foreground color and

contrast, (c) ease of use; that is, navigation buttons), (d) interaction and user response in terms of question answering and feedback), and (e) instructions and explanations throughout the program.

To evaluate the content and design of the program, the students either checked "Acceptable" meaning the program was appropriate, or "Need work" meaning the program was not appropriate and thus needed improvement. Following each item, there was a blank space where the students could write their comments and suggestions (see Appendix 10). The data from the evaluation form were calculated using frequency and percentage and the results were reported using percentage.

Table 4.5 The Results of the Three Tryouts

Tryout	E_1 (Efficiency of Process)	E_2 (Efficiency of Product)
Individual	66.15	71.66
Small-group	73.84	77.79
Filed-study	81.30	84.24

4.8.2.1 Individual Tryout

Three students with different English proficiency levels – high, medium, and low – who were purposively selected from those who enrolled in Foundation English III in the first semester of academic 2008, participated in this tryout. A High proficiency student was included because the researcher wanted the program to have high reliability. The criteria for classifying the samples into different levels of English proficiency were: a high proficiency student refers to the one who got a B or an A grade from the previous English III final examination, a medium

proficiency student refers to the one who got a C in the previous English examination, and a low proficiency student refers to the one who got a D. The three students studied the TSRS lessons for 15 periods. Then, they filled out the evaluation form.

Table 4.5 shows that the efficiency of the process and product of the individual tryout was below the criteria of 80/80. The reason for this might be that the TSRS content and design were not appropriate for the students' learning abilities.

As indicated by the results from the students' evaluation form, the first five items under the category of the TSRS content gained 40% on average (see Appendix 10 for the categories). However, the average 80% was the result for the 5 items under the design category. This indicated that the students found TSRS design to be somewhat appropriate. Feedback from the students in this tryout included suggestions about lengthening the time for doing activities in each lesson and adding more pictures. The students also commented that the English version of the learning material in each lesson was quite difficult although the students could use an online dictionary and the Thai explanation. Moreover, two students commented that the reading texts were too long in comparison with the study time. In general, the students suggested the following: extending time for studying, adding more vocabulary help, and improving the practice exercises. Based on the students' suggestions, the researcher mainly revised TSRS material as follows:

1) Extending study time from 3 hours to 4 hours. The initially fixed 3 hours for each lesson was not enough because low proficiency students learned at a slower pace as a consequence of consulting a dictionary for unknown words. The medium proficiency one was not particularly faster in this regard.

2) Adding an online English to Thai dictionary. The students commented that it was a waste of time for them to consult an English-English dictionary, especially when they had to look up unknown words all in English.

3) Making clearer the Thai translation of each frame in each lesson. One student commented that she did not understand the Thai translation, which might be due to a lot of technical terms. Therefore, the researcher provided a new version of Thai translation of some lesson pages that still looked vague or unclear, and also avoided using technical terms.

4) Adding more pictures, and graphics. The students commented that more pictures would make the lessons more interesting and easier to read the texts. This might be true because pictures or graphics relevant to the text can help in the comprehension. In addition, questions in the lesson and practice exercises were made more concise and intelligible by using simple and short sentences.

4.8.2.2 The Small-Group Tryout

Six students with three different levels of English proficiency (2 high, 2 medium, and 2 low students) participated in the small group tryout. All of them went through the same procedures. The students provided feedback on TSRS content and design by completing an evaluation form.

Table 4.5 shows that the results of the small group tryout were better than those of the individual tryout. However, these results did not meet the prescribed 80/80 criterion. Further improvement of the TSRS CALL program was therefore made.

On average, 4 students (70.60%) agreed that the TSRS content was acceptable, and especially most of them accepted the appropriateness of graphics,

pictures and animations used in the lessons and practice exercises. Regarding the design of the TSRS CALL program, 83.33% of the students accepted it especially in terms of interactions in the lessons, interface, color schemes, use of fonts, and the instructions on activities, respectively.

In the free response section, the students also suggested the following points for improvement:

1) Adding sound link of Thai explanation as additional language help option. According to the students' suggestions, listening versions of the Thai explanations added to each learning material in the study section, would help them understand the lessons better.

2) Putting the practice exercises immediately after the self-test section in each lesson to help the students retain what they had just learned. Initially, the practice exercises were in a separate section from the lessons. Putting them immediately after the study and self-test sections made them feel more comfortable doing those exercises.

3) Keeping various question formats (multiple-choice, short-answer, gap-fill, matching, and true/false) but refining the language that made each question more concise and easily understandable. For example, the question "When can text structure reading strategy be used?" was changed to "When can we use text structure reading strategy?" Various question formats needed to be kept because they were good sources of learners' motivation.

4) Color contrasts for background and text were adjusted to make the text more visible. For example, the yellow text was displayed on a dark blue background.

5) In the lessons and practice exercises, chunking of reading paragraphs and passages on each screen was adjusted. This was done by, for example, means of inserting a hypertext link in order to make a paragraph short.

4.8.2.3 The Field Tryout

This step of tryout involved 30 students. Before learning with the TSRS CALL program, the students took the pre-test. Upon finishing, they took the post-test. The data were analyzed by the E1/E2 and efficiency index (E.I.) formula, the same as the individual tryout and small-group tryouts. Suggestions from the students were incorporated in the final version of the TSRS until achieving the effectiveness criterion required (80/80). Achievement scores of the exercises and the self-tests during the tryouts were calculated for efficiency by using the E1/E2 formula (See Figure 3.2 in Chapter 3).

Finally, the researcher revised the content and design of the program and tested the program with 30 other students who were not the participants of the present study. The results of the field tryout are presented in Table 4.5. As can be seen in Table 4.5, after the modification and revision of TSRS content and design, based on the students' suggestions in the small group tryout, the efficiency of process and product of the field tryout was 81.30 and 84.24 respectively. This was above the 80/80 criterion, indicating that the TSRS CALL program was efficient for the present study.

The results of the student's evaluation form showed that, on average, most students (86.66%) accepted TSRS content and design as appropriate. Specially, on the design category, 93.33 % of students accepted the appropriateness of the use of fonts, users' control, and the directions and explanations. Only 7% of them suggested the following changes:

1) Providing English-Thai dictionary. One student suggested that only English-Thai dictionary, but not English-English, should be provided because that would help her understand the lessons more. Initially, the online English-English dictionary was provided as another language learning tool. The researcher considered that an English-English dictionary would rather add more burdens on the low proficiency students than motivate them to learn. Therefore, an online English-Thai dictionary was provided instead (see Figure 4.6). This online dictionary was chosen because it was of simple and fast-loading design.

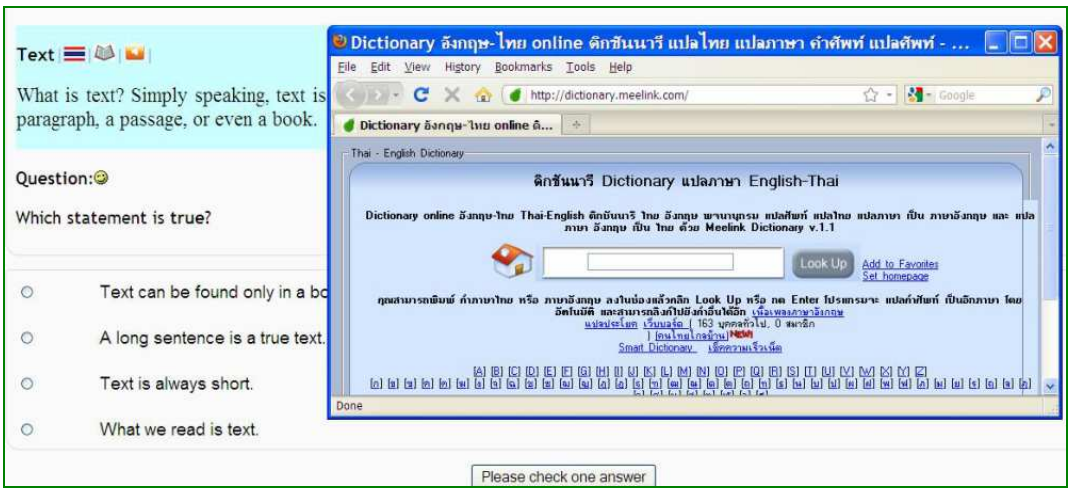


Figure 4.15 A Screenshot Showing an Online English-Thai Dictionary Link

2) Using different background color schemes for different lessons and exercises, based on one student's suggestion. This suggestion was heeded on the grounds that usually learners have different learning styles. Providing different background color schemes could serve as a motivating factor for their learning. The researcher, therefore, provided the "Allow course themes" option within the program. With this option, the students could change the color schemes of the lessons as they wished (orange, oceanblue, green, etc.)

3) Providing feedback only in Thai. Two students suggested providing feedback only in Thai because that would be more beneficial to their learning. However, the researcher paid every attention to keeping balance between L1 and L2 use in developing the program. Therefore, both Thai and English were used in feedback. Feedback with a long explanation was in Thai, but the one with a short one was mostly in English and Thai. See Figure 4.16 below as an example of feedback in both Thai and English.

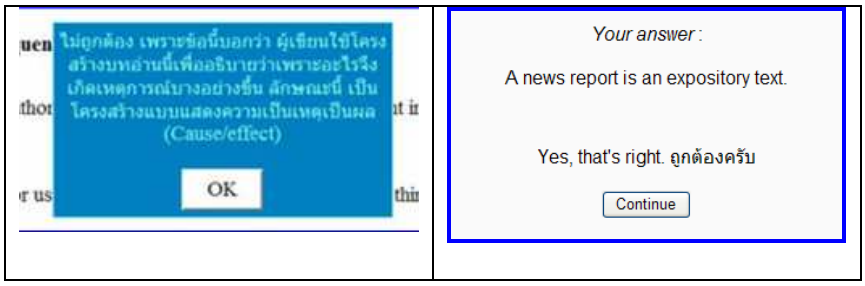


Figure 4.16 Examples of Feedback in Thai and English

4.9 Learning Time

The learning time for the present study was 15 hours (3 hours for the first lesson, and 12 hours for lessons 2, 3, and 4 respectively). The convenience and availability of the participants and the program per se were the main reasons behind this time fixation.

CHAPTER 5

RESULTS

5.1 Introduction

This chapter will report on the results of the study, and it will be organized according to the two research questions the study has set off to find answers to. The results will be reported in two main sections. The first section demonstrates the effects of the TSRS CALL program on the participants' reading comprehension. The second section illustrates the participants' opinions toward the program and its usefulness. The results are presented both quantitatively and qualitatively.

5.2 The Effects of the TSRS CALL Program on the Participants' Reading Comprehension

An independent samples t-test was conducted to determine whether the medium proficiency participants (MPPs) in the experimental group scored significantly higher than the MPPs in the control group on the mean scores of the pre and post-reading comprehension tests. See Appendix 5 for the original scores of the tests. The results of the comparison are presented in Table 5.1.

Table 5.1 Comparing MPPs Pre-and Post-Reading Comprehension Test Scores

	MPPs	N	Mean	S.D.	t	Sig.
Pre-test	experiment	18	14.11	2.11	-.701	.488
	control	19	14.63	2.38		
Post-test	experiment	18	16.89	2.11	1.672	.103
	control	19	15.68	2.26		

Note: MPPs = Medium Proficiency Participants

The comparison of the mean scores of the pre- and post reading comprehension tests shows a gain of 2.78 for the MPPs in the experimental group, and a gain of 1.05 for the MPPs in the control group.

Based on Table 5.1, the MPPs in the two groups were not significantly different in their pre-reading comprehension test scores ($t = -.701$, $p > .05$, $df = 35$). The post-test mean of the MPPs in the experimental group was 16.89 and that of the control group was 15.68. The mean difference was only 1.21. The result from the independent samples t-test showed that there was no significant difference between the two means of the two groups ($t = 1.672$, $p > .05$, $df = 35$). This finding suggested that there was no significant difference between the MPPs who learned with the TSRS CALL program and the MPPs who did not learn with the program.

An independent samples t-test was conducted to determine whether there was a significant difference of means in the pre and post- reading comprehension tests between the low proficiency participants (LPPs) in the experimental group and the LPPs in the control group. Table 5.2 shows the results of the independent samples t-test statistics comparison.

Table 5.2 Comparing LPPs' Pre- and Post Reading Comprehension Test Scores

	LPPs	N	Mean	S.D.	t	Sig.
Pre-test	experiment	24	8.83	.868	.464	.645
	control	25	8.72	.843		
Post-test	experiment	24	11.92	1.909	5.620**	.000
	control	25	9.04	1.670		

**p < .01

Note: LPPs = Low Proficiency Participants

Table 5.2 shows that there was no significant difference in the pre-test means between the LPPs in the two groups (t = .464, p>.05, df = 47). However, the post-test mean of the experimental group was 11.92, an increase from the pre-test mean (8.83) by 3.09 points, while the post-test mean of the control group was 9.04. The mean difference between the experimental group and the control group was 2.88. The results from the independent samples t-test showed that there was a significant difference between the post-test means of the two groups (t = 5.620, p<.01, df = 47). That is, the LPPs in the experimental group scored significantly higher than the LPPs in the control group. This finding suggested that the TSRS program was effective in promoting the reading comprehension of EFL students with low English proficiency.

To further investigate whether all the participants (MPPs and LPPs) in the experimental group would have significantly higher post reading comprehension test scores than the participants (MPPs and LPPs) in the control group, an independent samples t-test was computed. Table 5.3 shows the results of the t-test, comparing the two groups' post-test scores.

Table 5.3 Means and Standard Deviations of the Two Groups' Pre-Test and Post-Test

Group	N	Pre-test		Post-test	
		Mean	S.D.	Mean	S.D.
Experiment	42	11.10	3.04	14.05	3.17
Control	44	11.27	3.39	11.91	3.84

Table 5.3 shows that the experimental group had an average score of 14.05, and the control group had an average score of 11.91. The difference was only 2.14. To test whether this difference of the means was statistically different or not, an independent samples t-test was computed to determine if the experimental and control groups were significantly different on their post reading comprehension test scores.

Based on Levene's test, Equality of Variances between the two groups was assumed, $F(1, 84) = 3.075$, $p = .083$. The results of the independent samples t-test indicated that the means of the two groups' post-test scores were different. The researcher rejected the null hypothesis, $t(3.07) = 2.805$, $p = .006$. There appeared to be a significant difference in the post-test means of the two groups. The means and standard deviations of the post-test scores for the two groups are presented in Table 5.4.

Table 5.4 Comparing Two Groups' Post-Test Means

	Group	N	Mean	S.D.	t	Sig.
Post-test	experiment	42	14.05	3.177	2.805*	.006
	control	44	11.91	3.845		

*p<.05

From Table 5.4, the difference of the two means, 2.14, is from 14.05 -11.91. The t value, 2.805, was used for this test because the homogeneity of variance assumption (H_0: $\sigma^2_1 = \sigma^2_2$), was confirmed. That is, the variances of the two groups of participants were equal. The level of significance, .006, was less than the set level (.05). The probability of rejecting the null hypothesis when it was true was greater than .05. Therefore, the null hypothesis was rejected. That is, the means of the participants' post-test scores were different. The researcher concluded that the reading comprehension ability of the students in the two groups were different from each other after the treatment.

To evaluate the effects of the TSRS CALL program on the students' reading comprehension ability, ANCOVA was used to compare the post-test means of the experimental and control groups, using the pre-test as a covariate. This approach to data analysis was used to increase statistical power by reducing error variance. ANCOVA statistically removes the advantage one group might have over the other in terms of known content (covariate). Thus, the results of the post-test can be compared fairly as if both groups began equally.

Before computing ANCOVA, the homogeneity-of-slopes assumption was tested to determine the interaction between the covariate (pre-test) and the factor (group) in the prediction of the dependent variable (post-test). The analysis evaluating the homogeneity-of-slopes assumption indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable, $F(1,82) = .238$, $p = .627$. The results of this test are shown in Table 5.5.

Table 5.5 The Test of Homogeneity of Regression

Dependent Variable: Post-Test					
Source	SS	df	MS	F	Sig.
group	29.073	1	29.073	6.127	.015
pretest	624.606	1	624.606	131.641	.000
group * pretest	6.735	1	6.735	1.419	.237
Error	389.071	82	4.745		

From Table 5.5, strong, significant main effects were obtained for the pre-test, F (1, 82) = 131.641, p<.001. The homogeneity of regression between the two groups of students (group) and the pre-test was not statistically significant (p = .237). This suggested that the regression lines of the groups and the pre-test scores were parallel. Therefore, the homogeneity of regression assumption was confirmed. Based on these results, an ANCOVA was appropriate (Green, Salkind, and Akey, 2000).

After analyzing the data with ANCOVA, the F test was utilized to indicate the statistical significance of the mean difference. It was found that the experimental group scored significantly higher than the control group on the post- reading comprehension test. The results of the analysis are shown in Table 5.6 below.

Table 5.6 ANCOVA for the Pre-Test and Post-Test

Dependent Variable: Post-test

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	752.008[a]	2	376.004	78.848	.000
Intercept	71.351	1	71.351	14.962	.000
pretest	653.735	1	653.735	137.087	.000
group	112.780	1	112.780	23.650	.000
Error	395.806	83	4.769		
Total	15578.000	86			
Corrected Total	1147.814	85			

a. R Squared = .655 (Adjusted R Squared = .647)

Table 5.6 shows that there was a significant effect of the covariate (pre-test) on the dependent variable (post-test), $p<.001$. However, with the pre-test as a covariate, it was found that the experimental group scored significantly higher than the control group, $F (1, 83) = 23.650$, $p = .000$. The significant difference of the adjusted means of the post-test of the two groups is presented in Table 5.7.

Table 5.7 Adjusted Means for the Post-Test

	Experimental group (n = 42)		Control group (n = 44)	
Dependent variable	M	SE	M	SE
Post-test	14.12	.337	11.83	.329

The adjusted means of the post-test scores for the two groups were higher than those presented in Table 5.4. This indicated that the post-test scores of the experimental group were significantly higher than the post-test scores of the control group after the treatment. Consequently, the researcher concluded that the participants who learned with the TSRS CALL program had significantly higher post reading comprehension test scores than the participants who did not learn with the program.

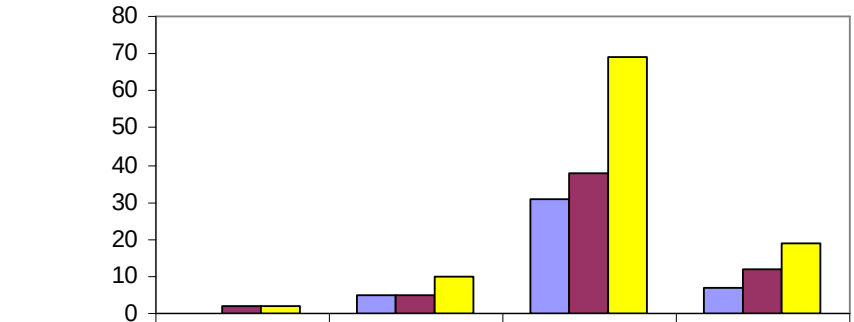
5.3 The Participants' Opinions towards the TSRS CALL Program and Its Usefulness

Regarding the participants' opinions towards the TSRS CALL program and its usefulness, the data from the TSRS questionnaire (see Appendix B) were analyzed using an SPSS program, version 16, and then calculated for the arithmetic means.

To illustrate the participants' opinions, charts summarizing the results of the relevant quantitative items in the questionnaire, as well as qualitative data in the form of quotations are included to support the quantitative results. Quotations are derived from the open-ended part of the questionnaire, and from the semi-structured interviews.

5.3.1 Opinions towards the TSRS CALL Program

Statement One: I like learning with the TSRS CALL program.



	disagree	uncertain	agree	strongly agree
% medium	0	5	31	7
% low	2	5	38	12
% Total	2	10	69	19

Figure 5.1 The Pattern of Participants' Responses to Statement One.

The participants had very positive opinions ($\overline{X}$ = 4.05, S.D. = .62) towards the TSRS CALL program on this point. Overall, most participants (69%) reported that they liked learning with the program. Some participants (19%) especially the LPPs strongly agreed on this point, indicating that they really like learning with the program. However, some other participants (10%) were uncertain whether they liked learning with the program or not. There was one participant (2%) who disagreed on this point, indicating that s/he did not like learning with the program.

The participants' responses to the open-ended questionnaire revealed that they perceived the program as good and enjoyed learning with it. However, they did not elaborate. To obtain more information about how they liked the program, the researcher interviewed all the 42 participants. The interview data revealed that, in summary, most participants thought the program was of interesting and convenient interface and design. They liked the program because it was online and easy to

navigate, making it convenient for them to perform required tasks in the lessons and practice exercises. The following quotations from the interviews represent these views:

(Student TC [MPP]): I thought it was good, not uh.. serious. It was kind of fun. I mean when I learn with the program, it does not make me serious. I can learn sentence by sentence, and paragraph by paragraph. I like it because it is online.

(Student WL [MPP]): In my opinion, the design and how it looks on the screen is O.K. I like the sound in English reading. I can repeat or review. When I read English, and I don't understand, I can switch to the Thai version easily. This is what I like because it does not make me distressed.

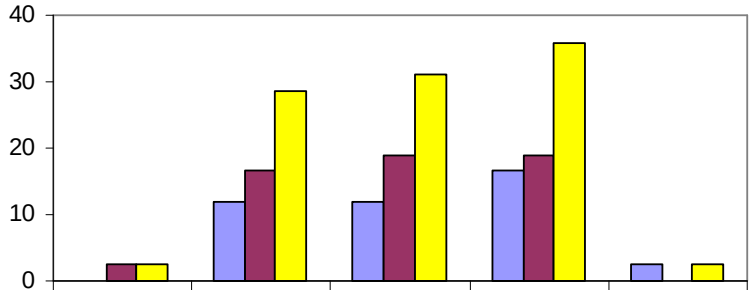
Some participants reported in the interview that they were not sure whether they liked learning with the TSRS CALL program or not. Further asked to elaborate, they just couldn't say exactly what they thought about the program. But others were ambivalent. However, they did not report that learning with the program made them bored. The following quotation reflects such a view.

(Student WD [LPP]): It's difficult to say. I er.. think it is good but it is something I can do and sometimes I think I cannot do. No, I don't think I don't like learning with the program, I just am not sure. How to say…

However, one participant suggested in the open-ended questionnaire response that if program integrated 4 skills (listening, speaking, reading, and writing), it would be more interesting. She was quoted as saying thus,

"There should be an integration of listening, speaking, reading and writing to the TSRS CALL program in order that it would be more interesting".

<u>Statement Two</u>: I prefer conventional reading strategy teaching to learning with the TSRS CALL program.



	strongly disagree	disagree	uncertain	agree	strongly agree
% medium	0	11.9	11.9	16.7	2.4
% low	2.4	16.7	19	19	0
% Total	2.4	28.6	31	35.7	2.4

Figure 5.2 The Pattern of Participants' Responses to Statement Two.

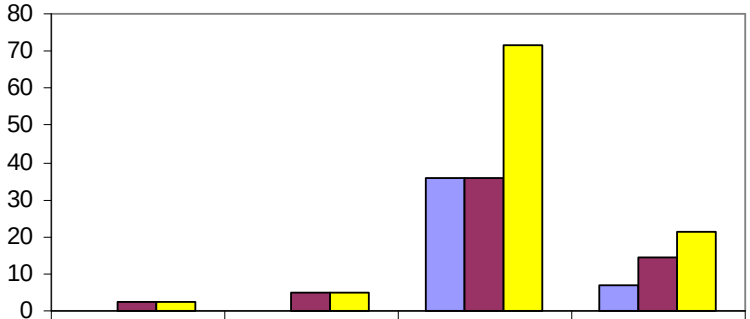
The participants had positive opinions ($\overline{X}$ = 3.07, S.D. = .92) towards the program on this point. The participants were almost equally separated on this point. The number of participants who were uncertain (31%) was almost as large as the number of those who agreed (35.7%) and disagreed (28.6%). Perhaps, the intended meaning of the key term "conventional reading strategy teaching" was not clear enough to some participants because it covers a large area of interpretation.

The summary findings from the interview data regarding this statement revealed that most participants still thought online teaching was interesting. Although some participants thought traditional classroom teaching was nothing bad, they thought it would be better if Web-based instruction was integrated into conventional reading strategy teaching, that is, in a classroom-based setting. This indicated their uncertainty in responding to Statement Two in the questionnaire. This finding indicated that those who disagreed and were uncertain suggested integration of online teaching to conventional classroom reading strategy teaching. The following

quotations from some interviewed participants can reflect such views:

(Student TC [MPP]): I think teaching in a new fashion…like going online like this is something new and interesting. But I think traditional teaching, you know, we in class and the teacher teaches, is nothing bad. But today the Internet is prevalent everywhere, if the teacher can teach online, then it would be more interesting and fun.

<u>Statement Three</u>: The presentation format of the lessons and practice exercises in the TSRS CALL program are appropriate.



	disagree	uncertain	agree	strongly agree
% medium	0	0	35.7	7.1
% low	2.4	4.8	35.7	14.3
% Total	2.4	4.8	71.4	21.4

Figure 5.3 The Pattern of Participants' Responses to Statement Three

The participants had very positive opinions ($\overline{X}$ = 4.12, S.D. = .59) towards the program on this point. The majority of participants (71.4%) agreed that the program was properly designed in the way the lessons and practice exercises were presented. Nine participants (21.4%) took a strong stand on this agreement, showing that the program presentation format was easy and convenient for them to study. However, two participants (4.8%) were uncertain about the appropriateness of the presentation formats used in TSRS lessons and practice exercises, and one participant (2.4%) disagreed, indicating that the presentation format of program lessons and practice exercises was inappropriate.

The researcher interviewed the participants to obtain qualitative data to support the finding here. On the whole, the participants agreed that the way the lessons and practice exercises were presented in the program was appropriate. The time fixed for the lessons and practice exercises was also appropriate. Most participants pointed out that the provision of immediate corrective feedback and Thai translation made the program highly suitable for their proficiency levels. The participant who disagreed on this statement reported in the interview that she wished program had cartoon animation in every section and it had less exercises, and that was why she chose 'disagree' in the questionnaire response. In her view, there were too many exercises in the program. In summary, the participants took two features - feedback and Thai translation - as the most unique ones. The following quotations support these findings:

(Student CP [LPP]): It is good that we do not have to open from books to know whether our answers are correct or not. We can know instantly after we have entered our answers, and we know why they are correct or incorrect. It is automatic checking. I like this. One more thing is the Thai translation. This made the program look very interesting. It is like it does not leave alone those who don't know.

(Student TC [MPP]): I think the presentation format in the TSRS CALL program is OK. It made us convenient to learn. I think the time fixed for learning with this program is already good, appropriate. Not too much, not too little.

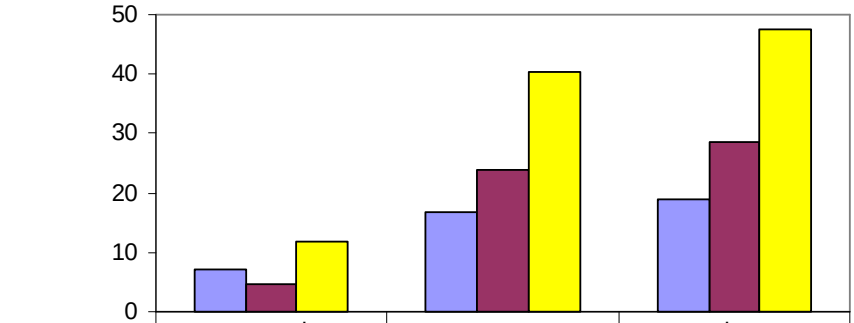
(Student AP [MPP]): What I really like about the TSRS CALL program is the practice exercises. I can check my performance from the feedback. I very much like this. But one disadvantage is that I can redo what I have done. I mean the mistakes can be made correct. I think the scores do not truly reflect our real ability.

Also it was found from the interview data that the participants took 'self-paced learning' as an addition to the appropriateness of the program because they thought this motivated them to engage themselves with the learning task in the program. The

participants felt they could learn with the program at their own pace, as can be seen in the following interview quotations:

(Student CTN [LPP]): It is something I can learn according to my own ability. I mean, if we read slowly, we can do it slowly. If we can read fast, we can it fast. It is learning based on understanding. I don't have to rush myself. There are explanations for what we have done correctly or incorrectly. This is very good. I mean I don't need to compete with other students because I have enough time in learning with the program. This is good because it doesn't make me serious and stressful. I can make myself understand what I am learning. I think this makes my knowledge more profound and durable.

<u>Statement Four</u>: Learning experience with the TSRS CALL program is new.



	uncertain	agree	strongly agree
% medium	7.1	16.7	19
% low	4.8	23.8	28.6
% Total	11.9	40.5	47.6

Figure 5.4 The Pattern of Participants' Responses to Statement Four

The participants had very positive opinions ($\overline{X}$ = 4.36, S.D. = .69) towards the program on this point. Overall, the participants had a strong tendency toward strong agreement and agreement with 47.6% strongly agreeing and 40.5% agreeing on this point. This indicates that online learning of this type is a new learning experience for them. The finding here seems to support those in statement one in that they liked

learning with the program. Only 5 participants (11.9%) were not sure about this point.

Qualitative data from the subsequent interview revealed supporting data, that is, most interviewed participants (78%) accepted that the program was different from the online English learning programs they used to study. These participants had some previous online English learning experiences, but the online reading strategy instruction program like the TSRS CALL program was new to them. Twenty-one percent of the interviewed participants reported that program was completely new to them. They had no previous experiences learning with online reading strategy instruction. The researcher interviewed the 5 participants who were not sure that the TSRS program was a new learning experience, as indicated in Figure 5.4, all of them reported they used to study online programs but those programs were somewhat different from the TSRS program. Therefore, they indicated that they were uncertain about the newness of the program because it was online. The statement in the questionnaire did not ask about how the program was different from previous programs. As a result, they chose 'uncertain' in responding to Statement Four in the questionnaire. The following quotations support these findings:

(Student TC [MPP]): I think it's all new. I have never seen something like this. I mean in English learning. I do learn online with other subjects, but, for English learning, this is completely new.

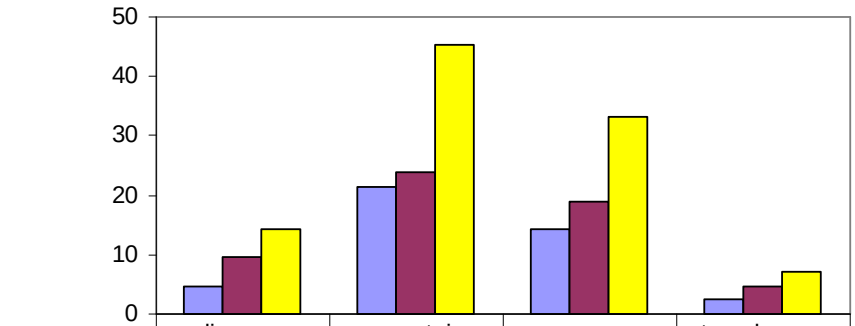
(Student WS [LPP]): It's kind of a self-study. It's completely new to me. I never did something like this before. I mean like reading. I remember that when I was in Mathayom 5 or 6, the teacher had us practice English in the school's language lab. We learned basic listening, grammar, and reading. But it was not like this. We did not have online dictionary, or we could not send an instant message to each other or to the teacher as we did in the TSRS program.

(Student SA [LPP]): I used to learn with online English learning programs for foundation English I and foundation English II. They were online materials. But those were just exercises. This, TSRS CALL program, is something about explanations. It has questionnaire, and it has exercises.

In regard to this statement, one student suggested in the open-ended questionnaire response that bonus scores be given to registered students. In this way, the students could be more motivated to learn. She was quoted as writing thus,

"If bonus scores are given to us who learn with this program, then I think the students will be more interested than now".

<u>Statement Five:</u> The lessons and practice exercises in the TSRS CALL program are not too difficult.



	disagree	uncertain	agree	strongly agree
% medium	4.8	21.4	14.3	2.4
% low	9.5	23.8	19	4.8
% Total	14.2	45.2	33.3	7.1

Figure 5.5 The Pattern of Participants' Responses to Statement Five

The participants had positive opinions ($\overline{X}$ = 3.33, S.D. = .81) towards the program on this point. Overall, the participants tended to be uncertain about the difficulty of the instructional material in the program (45.2%). Fourteen participants (33.3%) agreed that learning with the program was not difficult, and only 3 students (7.1%) found it to be easy. However, 14.2% of the participants thought the program was difficult. The finding here indicates that the TSRS CALL program appeared to be somewhat difficult to some participants.

The data from the open-ended questionnaire responses and the interview were obtained to support the finding here. As revealed from the open-ended questionnaire responses, what made the program materials difficult for some participants were the vocabulary (3 participants), time constraint (1 participant), and the quantity of practice exercises (1 participant). The participants who expressed concerns for vocabulary difficulty said that it would be better if they knew more vocabulary. Further asked to elaborate, they said the vocabulary in some TSRS lessons especially in long texts and practice exercises was difficult. However, all of them agreed that they understood the lessons very well regarding what was being taught.

The subsequent interviews revealed more data about the quantitative finding on this point. The majority of interviewed participants (77%) said TSRS materials were of mediocre difficulty. This was dependent on each individual's English proficiency level and their background knowledge. Moreover, ten participants (23%), 7 LPPs and 3 LPPs, reported that the vocabulary in the TSRS lessons and practice exercises were difficult. However, all the interviewed participants said they understood the lessons very well because they could use the Thai translation help, but in the practice exercises they could use only the online dictionary which did not help them to completely understand the text, that is they understood about 60-70 %. The participants who indicated that they were unsure and disagreed in the questionnaire because they thought they understood about 60-70 percent of the practice exercise texts. These participants suggested adding more translation. If possible, they wanted Thai translation to be embedded in every section of the program. Currently in the TSRS program, Thai translation was made available only for the first four lessons. No Thai translation was provided for the practice exercises. The students' responses are represented below.

(Student YP [LPP]): Why don't you add Thai translation pages to all the places in the program. I quite like it to be that there is a Thai translation page for every practice page and exercise. Like this, I don't like because you provide a translation here, but don't provide it there.

Ten participants (23%) in their interview responses and 1 student in the open-ended questionnaire gave their suggestions for providing easier vocabulary for the TSRS CALL program. They wished the program were provided with easier vocabulary, though they accepted that it was somewhat appropriate for them. These statements were made by the LPPs. Two example statements of such a suggestion are represented below.

(Student DC [LPP]): Vocabulary is difficult. I opened the dictionary and Thai translation when I read about the lesson material. I understand what text structure strategy is because of the translation. There should be a lot of easier vocabulary if possible. However, I cannot say for sure that the TSRS program is not understandable.

The following quotations reporting on the difficulty level of the TSRS CALL program are typical of the statements the students made on this topic:

(Student PP [LPP]): I think it is not too difficult for those who have good English background. But for those whose English is too bad, it is difficult and hard to understand. However, I think it is appropriate for my English level, Foundation English III.

(Student WL [MPP]): Well, its good part is that it is easy to understand with a lot of reading materials which encourage us to follow. I think it is of good choices, I mean how to answer questions.

(Student SA [MPP]): The content is at high level but it is understandable because I can click the Thai version and open the dictionary link when I need help with unknown words.

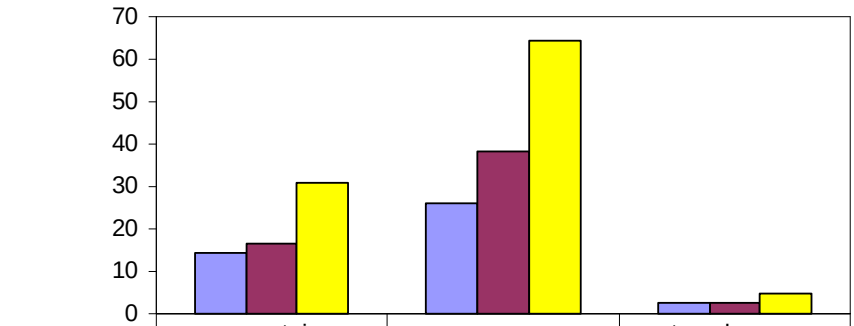
(Student CK [LPP]): For me, vocabulary and grammar are quite difficult. I have to compare between the English and Thai versions of explanation. Time for studying could be too much if we are to do it seriously.

(Student DC [MPP]): As for difficulty, some topics are difficult, some topics are easy, depending on your level. For me, I think it is medium because I understand most of the lessons and exercises.

These views reflect the importance of providing an L1 scaffolding to help the participants better understand the text structure reading strategy. Although half of the participants in the experiment group were of low proficiency level, they did not lose the opportunity of learning to use the text structure reading strategy because of their limited vocabulary size. Thai translation and online dictionary were thus provided as a scaffolding to help them learn the strategy, hence their finding the TSRS CALL program useful, despite some difficult vocabulary.

5.3.2 Opinion towards the Usefulness of the TSRS CALL program

Statement Six: **After learning with the TSRS CALL program, I know more about how to read English texts.**



	uncertain	agree	strongly agree
% medium	14.3	26.2	2.4
% low	16.7	38.1	2.4
% Total	31	64.3	4.8

Figure 5.6 The Pattern of Participants' Responses to Statement Six.

The participants had positive opinions ($\overline{X}$ = 3.47, S.D. = .54) towards the usefulness of the program. Overall, the majority of participants (64.3%) had a strong tendency towards agreement on this point, with 31% of them being uncertain. None expressed disagreement, while 2 participants (4.8%) strongly agreed on this point. The pattern indicates that many participants, LPPs and MPPs, thought they were able

to use the text structure reading strategy for reading English texts, while some participants were not sure whether they knew how to use the strategy. The participants' uncertainty might have be based on their individual understanding of the phrase 'how to read English texts'.

When asked in the interviews what they understood as knowing how to read English texts, many participants said they knew how to start before reading. For example, they would consider text titles or look for signal words before reading the text in details. The following quotation from one participant reflects this finding.

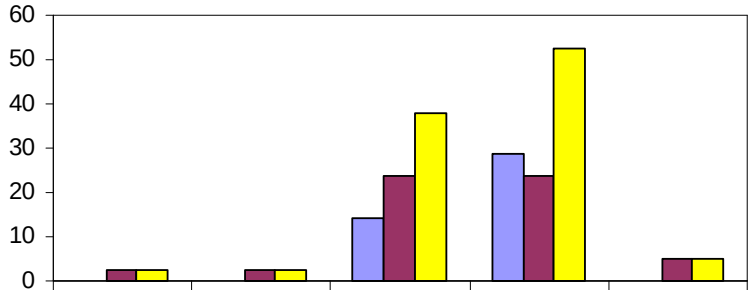
(Student CP [LPP]): For me, the advantage of the TSRS program is that it helped me to read better. Yes, I mean I know how to read. Previously, I just read and read without using any strategy. I don't know. Now I stop to look at headings, titles, and look for some key words or signal words. This way I think I am now a different reader.

However, almost all the interviewed participants reported that they looked for signal words when they read the texts in the post reading comprehension test. They understood that looking for signal words was the knowledge on how to read English texts. Also it was found from the interviews that the participants accepted that knowing and using signal words helped to find the main idea in a text. This corresponds to Statement Seven and Statement Eight, respectively. The following example quotations support the finding here.

(Student NN [MPP]): It taught me to think about and to notice key words. How the key words are important. It's called, what…, yes, signal words.

(Student SS [LPP]): What I remember very well from learning with TSRS is the method of noticing or looking for words in a paragraph. Looking for key words (signal words). And also various vocabulary.

<u>Statement Seven</u>: After learning with the TSRS CALL program, I often look for signal words when I read an English text.



	strongly disagree	disagree	uncertain	agree	strongly agree
% medium	0	0	14.3	28.6	0
% low	2.4	2.4	23.8	23.8	4.8
% Total	2.4	2.4	38.1	52.4	4.8

Figure 5.7 The Pattern of Participants' Responses to Statement Seven

The participants had positive opinions ($\overline{X}$ = 3.55, S.D. = .73) towards the usefulness of the program on this point. Many participants (52.4%) indicated that they looked for signal words when they read English texts. However, 38.1% of them were not sure if they often looked for signal words while reading. In addition, 2 participants (4.8%) indicated that they definitely looked for signal words and identified them when they read English texts. However, 1 participant strongly disagreed and 1 participant disagreed on this point, indicating that they did not often look for signal words and used them to help understand the main idea of and English text they were reading.

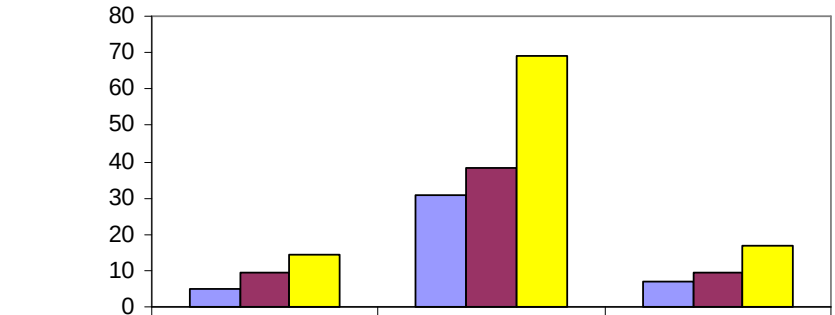
The researcher interviewed the two students who disagreed and strongly disagreed on Statement Seven and found that they were low proficiency students. Based on their interview responses, they did not often look for signal words because if the text was too difficult, they became bored and just forget what to do next. Though only 17 participants (38%) clearly mentioned they first tried to find the signal words of the texts

when they read. The rest of the students did not exactly mention using signal words. However, they implied in their responses that signal words were important as the markers of text structures. One participant said when he came across the word ‘because’ he instantly knew that the text he was reading was about something of a relationship between cause and effect. The following quotations represent such a view.

(Student TT [LPP]): I think the TSRS program teaches me what text structure is, and how I can find it. I use signal words such as because when I try to find out the structure of the text. I know that if I find the word ‘because’, the text must be something about a cause and a result.

(Student TC [LPP): For me, I especially remembered well about how to notice words, paragraphs, key words, and various new vocabulary.

<u>Statement Eight:</u> After learning with the TSRS CALL program, I find it easier to locate the main idea of a text.



	uncertain	agree	strongly agree
% medium	4.8	31	7.1
% low	9.5	38.1	9.5
% Total	14.3	69	16.7

Figure 5.8 The Pattern of Participants’ Responses to Statement Eight

The participants had very positive opinions ($\overline{X}$ = 4.02, S.D. = .56) towards the usefulness of the program on this point. A fairly high percentage of participants (69%) agreed that the TSRS CALL program made it easier for them to identify the main idea of a text. Some participants (16.7%) had a strong agreement on this point. However, some other participants (14.3%) were not sure whether the program helped in locating

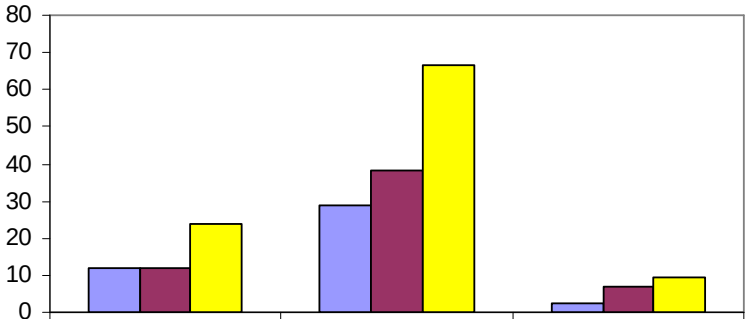
the main idea of a text. None disagreed on this point. This could indicate that most participants agreed that using the text structure strategy learned from the TSRS program made it easier for them to find the main idea of a text.

Twenty-seven participants (62%) reported in their responses to the interview question regarding the benefits of the program that they learned how to scan for or locate important ideas in a text. Of these numbers, 11 participants precisely mentioned the phrase ‘locating the main idea’. Others said they knew how to put or organize ideas in a text. Although the participants in experimental group were not tested for their recall of the reading texts, their comments here clearly supported the effectiveness of the text structure reading strategy in helping them to get the main idea of a text. The following two quotations represent the participants’ views on this point.

(Student WS [LPP): It is useful for my reading. I mean reading comprehension when ur… how to get the main idea. I can do it easier. The core sentence. I mean what is said in the sentence makes it clearer to me.

(Student SP [MPP]): I think it is useful because it helps me to put ideas together.. that is how to organize the ideas in texts.

<u>Statement Nine:</u> After learning with the TSRS CALL program, I find it easier to organize relevant ideas in a text.



	uncertain	agree	strongly agree
% medium	11.9	28.6	2.4
% low	11.9	38.1	7.1
% Total	23.8	66.7	9.5

Figure 5.9 The Pattern of Participants' Responses to Statement Nine

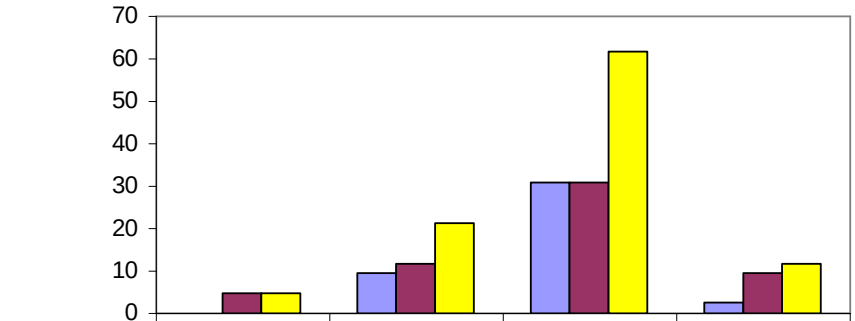
The participants had very positive opinions ($\overline{X}$ = 3.86, S.D. = .56) on this point. A fairly high percentage of participants (66.7%) also agreed that they found it easier to organize relevant ideas in a text as a result of learning with the TSRS CALL program. Four participants (9.5%) took a strong stand on this point. However, 10 participants (23.8%) were uncertain about this point.

The researcher interviewed the participants to illicit more qualitative data on this statement, and found that most of them saw the good side of the program in helping them to organize relevant ideas in the text they read. For the 10 participants who indicated 'uncertain' in the questionnaire response, almost all of them said they chose 'uncertain' because they were not sure about the meaning of the term 'relevant ideas'. The following example quotation supports what was found here.

(Student CP [LPP]): Well, I am not quite sure. I don't know whether the word 'relevant ideas' means the whole sentences or just a sentence. However, I doubt that they might refer to the main ideas or supporting

ideas in the text. So, I was unsure. Nevertheless, if you ask if I understood and could be able to do the practice exercises, the answer is yes.

<u>Statement Ten:</u> After learning with the TSRS CALL program, I want to practice the text structure reading strategy from other resources.



	disagree	uncertain	agree	strongly agree
% medium	0	9.5	31	2.4
% low	4.8	11.9	31	9.5
% Total	4.8	21.4	61.9	11.9

Figure 5.10 The Pattern of Participants' Responses to Statement Ten

On the whole, the participants had very positive opinions ($\overline{X}$ = 3.81, S.D. = .80) towards the usefulness of the program in this aspect. Most participants (61.9%) agreed that they wanted to practice the text structure reading strategy even after they completed the studying with the program. Five participants (11.9%) strongly agreed on this point. However, some participants (21.4%) were uncertain about this point. Interestingly, the number of participants who were uncertain on this statement is exactly the same as that of the ones who were also uncertain on statement eleven. This could indicate that these participants did not want to practice the text structure reading strategy from other resources, neither did they want to practice other reading strategies. The finding here needs further investigation in terms of subsequent

interviews for more information on this point. Qualitative data on this point are collectively presented following the quantitative data based on Statement Eleven. Two participants (4.8%) did not think they wanted further practice with text structure strategy from other resources.

In the subsequent interviews to elicit more qualitative data to support the quantitative findings here, it was found that most participants wanted to practice text structure strategy from other resources. Particularly, the online resources would be a preference to them rather than book resources. The 'uncertain' participants indicated in their responses to the subsequent interviews that they were not sure whether other resources such as books and online reading materials would be as interesting and understandable as the TSRS program. Such views are represented as in the following quotations:

(Student KS [LPP]): I think online teaching like this is already OK. At present, I usually read online texts. I often read my major study materials from online resources. I indicated 'uncertain' because I doubt if other resources such as books or online sites would be interesting or not.

(Student KV [MPP]): I often find that there are lots of online teaching sites which are not truly teaching. They are just collection sites. I mean stuffs are put on the site. And that's all. Something interactive like this program is more interesting. However, I have not tried to search for other online resources for teaching reading strategies, so I cannot say much about this. This is the first online learning site I have seriously taken.

(Student PPP [LPP]):..But I don't know if other resources will be good enough, so I was uncertain. However, I find reading all English is somewhat difficult. If other resources are all in English, then if there is no Thai translation like this, I think I don't want to learn because it will be a waste of time.

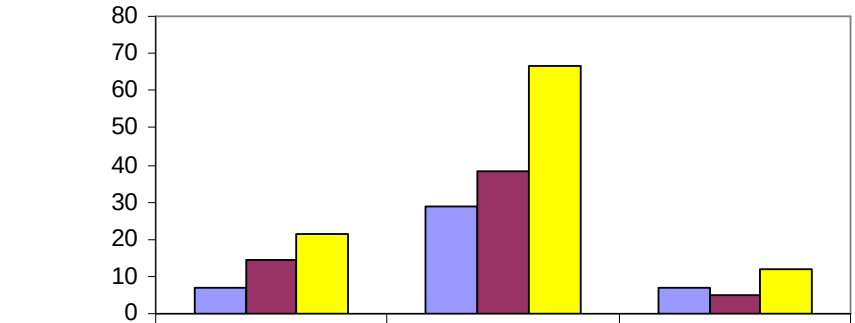
(Student NN [MPP]): Books do not have interactive exercises. You can check your answers very easily. But online system can prevent you from looking at your answers before you have finished or done that item. If you mean other websites, then I will want to learn, but from books, I won't. So I indicated 'uncertain.'

The two participants (LPPs), when asked why they did not want to practice the text structure reading strategy from other resources, mentioned their poor English ability and possible failure in learning as their reasons:

(Student SVM [LPP]): I think the learning here with TSRS is good. I'm afraid that I won't have enough time. More importantly, I'm not sure if other resources as you mentioned in the questionnaire will be easy and good enough to make me understand the lesson, as I do here in TSRS.

(Student NPP [LPP]): I don't want to practice the text structure reading strategy from other resources because I'm not sure if I'll be able to read and understand English. My English is poor. I'm afraid it will be a waste of time if I learn or read what is too difficult to understand. However, it would be good if there is Thai translation given, as in the case of TSRS.

<u>Statement Eleven:</u> After learning with the TSRS CALL program, I want to learn and practice other reading strategies.



	uncertain	agree	strongly agree
% medium	7.1	28.6	7.1
% low	14.3	38.1	4.8
% Total	21.4	66.7	11.9

Figure 5.11 The Pattern of Participants' Responses to Statement Eleven

The participants had very positive opinions ($\overline{X}$ = 3.90, S.D. = .57) towards the usefulness of the TSRS CALL program on this point. To be precise, this statement was meant to investigate if the program encouraged the participants to learn and practice other reading strategies apart from the text structure reading strategy. In line

with Statement Ten, most of the participants (66.7%) expressed their need to learn and practice other reading strategies apart from the text structure reading strategy they had learned and practiced with the program. Five participants (11.9%) strongly agreed on this point. Nine participants (21.4%) were uncertain. They were uncertain because they might have no ideas about other reading strategies. Further interviewing the participants could help to explain more clearly on this point. No participants took a disagreement stand on this point.

Qualitatively, most participants who were subsequently interviewed on this aspect of the program usefulness, expressed their wishes to learn and practice other reading strategies, but most of them said the instruction should be online in order for them to keep abreast with the Internet technology. Most of them did not know much about other reading strategies, however they thought it would be useful if they could learn and practice more reading strategies. For those nine respondents who indicated 'uncertain' in the questionnaire, it was found from the interviews that they did not know what other reading strategies were; they were concerned that other websites would be difficult, and that books would not be as interesting as online instruction websites. The following quotations are the examples reflecting such views:

(Student BB [LPP]): I don't know much about the kinds of reading strategies. Based on what I have done here from this online program, I think it would be of great use if more reading strategies could be taught online, like this program.

(Student SB [MPP]): Yes, it is quite good. It is something I can do on my own. But I don't know much about what reading strategies are available. If there are more reading strategies for me to learn and practice, then I think it would be very helpful for I am usually not quite good at English reading..

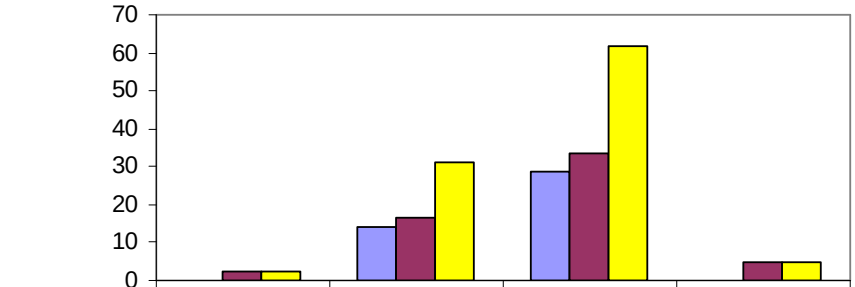
(Student SJ [LPP]): The TSRS program is good because it is interactive and encourages me to spend the time effectively. But I am not sure if other

websites will be interactive and made easy for Thai students or not. Maybe, I will want to practice and learn if other websites are easy.

(Student TP [MPP]): Yes, that's true. Though I'm not very good at English and grammar, I understand the lessons in the program because I can use the translation. From other resources, I think they may be interesting. I will be sure about that only after I have tried studying with them.

(Student NN [MPP]): Books do not have interactive exercises. ....If you mean other websites, then I will want to learn, but from books, I won't. So I indicated 'uncertain.'

<u>Statement Twelve:</u> After learning with the TSRS CALL program, I will use the text structure strategy whenever I read any other English content texts.



	strongly disagree	uncertain	agree	strongly agree
% medium	0	14.3	28.6	0
% low	2.4	16.7	33.3	4.8
% Total	2.4	31	61.9	4.8

Figure 5.12 The Pattern of Participants' Responses to Statement Twelve

The participants had very positive opinions ($\overline{X}$ = 3.67, S.D. = .68) towards the usefulness of the TSRS CALL program on this point. Similar to Statement Ten, the majority of the participants (61.9%) agreed that they would continue using the text structure strategy whenever they read English expository texts. Two participants (4.8%) indicated that they would definitely do so. However, 13 participants (31%) were uncertain about this point. Only 1 participant (2.4%) took a strong stand on disagreement on this point.

In subsequent interviews, most of the participants reported that they would still continue using the strategy in their reading of expository texts of any subject matters. The participants who were not sure if they would continue using the strategy expressed their concern about how well they would still remember the signal words used in each text structure. They said they would not be able to use the strategy because they wouldn't remember the signal words very well. One participant further indicated he would draw a mind-map to help summarize what he would read. Such views are reflected in the following quotations:

(Student CPN [LPP]): Yes, definitely, because the strategy is very useful. But I'm not sure if I will remember very well about the signal words when I read English again maybe in one or two months from now.

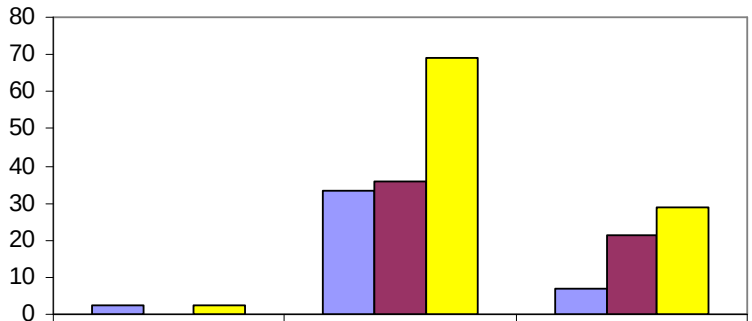
(Student SST [LPP]): I will try. I major in food science. There are lots of English texts on the field. Using text structure strategy will help me summarize and organize ideas when I read those texts.

(Student AN [MPP]): I'll use this strategy when I read online news or even my engineering texts. I'll try to look for main ideas and signal words. I'll also draw a mind-map to help summarize what I read.

The only one participant, who indicated she would not use the strategy whenever she read expository texts, when asked to elaborate, said she was afraid she would forget all the signal words, so she thought she would not be able to use the strategy. This was the only concern she thought might happen in the future. The following quotation supports this view:

(Student ATP [LPP]): I don't know if I will remember all the signal words of each text structure type. So, I think I won't use the strategy. However, if I can remember, then I will use the strategy. Yes, I know that it is a useful strategy.

<u>Statement Thirteen</u>: Learning with the TSRS CALL program is useful for advanced English reading comprehension.



	uncertain	agree	strongly agree
% medium	2.4	33.3	7.1
% low	0	35.7	21.4
% Total	2.4	69	28.6

Figure 5.13 The Pattern of Participants' Responses to Statement Thirteen

The participants had very positive opinions ($\overline{X}$ = 4.26, S.D. = .49) towards the usefulness of the program on this point. Likewise, no participants indicated their disagreement on the usefulness of the TSRS CALL program for advanced English reading comprehension. Most participants (69%) agreed upon the usefulness of the program for advanced English reading comprehension. Many of them (28.6%) strongly agreed on this point. Only one participant (2.4%) was not certain about the usefulness of the program for advanced English reading comprehension.

Qualitative data from the interviews revealed that most participants reported that the TSRS CALL program was very useful for English reading comprehension practice at a high level. Though their proficiency levels were medium and high, the participants still agreed that their reading ability would be improved and consequently become at a higher level if they studied the materials in it again and again. The following quotations support these views:

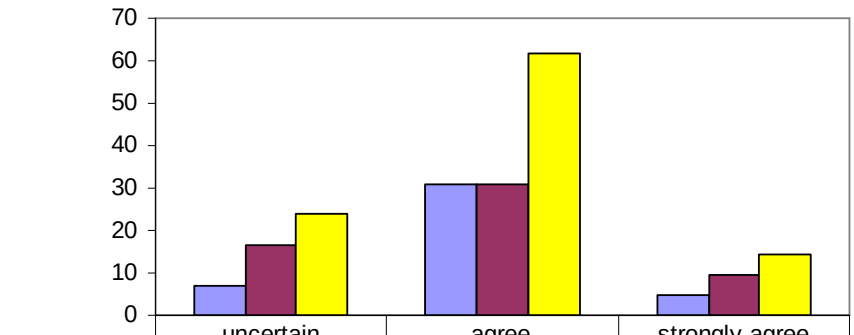
(Student TC [LPP]): It is indeed useful for advanced reading comprehension, yes. I think so because there are lots of new vocabulary, and especially how to find the main ideas. I think this is something advanced. But I think I could read and understand because I can use the Thai translation to help. If I read something like this more and more, my reading skill will be improved. I believe so.

(Student PYP [LPP]): Um…my English is not so good. It's pretty bad, I think. But TSRS is useful because it is advanced. Yes I think it is advanced. Because it is a program for us who are not at a high level, but I think I can learn with it. In the long run, I think it will be more suitable for us who will also become advanced readers.

Regarding this aspect of program usefulness, the uncertain participant elaborated in the interview that it would not be suitable for advanced reading comprehension because she was at a low level. It was an interpretation of her own English ability that guided her in responding to the statement in the questionnaire.

(Student PP [LPP]): I am not sure if it refers to advanced English reading comprehension for us. If so, I think I am not at a high level. But this program is for us who did not score high in the pre-test, as far as I am concerned. I am not sure about that.

<u>Statement Fourteen:</u> After learning with the TSRS CALL program, I am more interested in English reading.



	uncertain	agree	strongly agree
% medium	7.1	31	4.8
% low	16.7	31	9.5
% Total	23.8	61.9	14.3

Figure 5.14 The Pattern of Participants' Responses to Statement Fourteen

The participants had very positive opinions ($\overline{X}$ = 3.90, S.D. = .61) towards the usefulness of the program on this aspect. A high percentage of participants agreed that their interest in English reading increased after learning with the program (61.9%). Six participants (14.3%) really felt that their interest in English reading increased. However, some participants (23.8%) were uncertain about their increased interest in English reading. No participants disagreed on this point. The overall positive tendency toward this statement emphasized the usefulness of the program for the increased interest in English learning for the participants.

In subsequent interviews, most participants reported that they became more interested in English reading. Further asked why, they said because they then knew that reading skill was very important for their study. Though the reading materials in the TSRS CALL program were not directly related to their major fields, they still were very good as the basis for further reading practice. Several other interviewed participants (16%) further commented on the usefulness of the program, saying that it gave them more time for practicing English reading. These participants said they did not have time to study or read English material in their rooms. They only had more opportunities to read and learn in the TSRS class. This was because most of their time was spent reading other subject materials. Here are two example quotations that typify the participants' statements.

(Student SS [LPP]): I read more in English because of the TSRS CALL program because when I am in my room I read other subjects. I don't have time to read English materials.

(Student CK [LPP]): It is very useful for reading. It made me read more.

A few more participants reported that they were motivated to English more and more, not only in reading but also in other skills, after learning with the TSRS CALL

program. The following quotation typifies such view:

(Student DC [MPP]): I have learned a lot from the study. I want to learn more about English even when I am finished with the TSRS CALL program. Yes, my interest in learning English has increased since I learned with it. I want to practice my English online with other websites as well.

In conclusion, the means and standard deviations of all the previously-presented 14 statements in the TSRS questionnaire are summarized here again in Table 5.8.

Table 5.8 Means ($\overline{X}$) and Standard Deviations (S.D.) on the Participants' Opinions towards the TSRS CALL Program and Its Usefulness

Statements	$\overline{X}$	S.D.
Opinions towards the TSRS program		
1. I like learning with the TSRS CALL program.	4.05	.62
2. I prefer conventional reading strategy teaching to learning with the TSRS CALL program.	3.07	.92
3. The presentation format of the lessons and practice exercises in the TSRS CALL program are appropriate.	4.12	.59
4. Learning experience with the TSRS program is new.	4.36	.69
5. The lessons and practice exercises in the TSRS CALL program are not too difficult.	3.33	.81
Opinions towards the Usefulness of the TSRS CALL Program		
6. After learning with the TSRS CALL program, I know more about how to read English texts.	3.74	.54
7. After learning with the TSRS CALL program, I often look for	3.55	.73

Table 5.8 (Continued)

Statements	$\overline{X}$	S.D.
signal words when I read English texts.		
8. After learning with the TSRS CALL program, I find it easier to locate the main idea of a text.	4.02	.56
9. After learning with the TSRS CALL program, I find it easier to organize relevant ideas in a text.	3.86	.56
10. After learning with the TSRS CALL program, I want to practice the text structure reading strategy from other resources.	3.81	.70
11. After learning with the TSRS CALL program, I want to learn and practice other reading strategies.	3.90	.57
12. After learning with the TSRS CALL program, I will use the text structure strategy whenever I read any other English content texts.	3.67	.68
13. Learning with the TSRS CALL program is useful for advanced English reading comprehension.	4.26	.49
14. After learning with the TSRS CALL program, I am more interest in reading English.	3.90	.61
Total	**3.83**	**.64**

Considering the first 5 statements in terms of the overall opinions towards the program, it was found that most participants agreed that learning experience with the TSRS program was new ($\overline{X}$ = 4.36), TSRS lessons and practice exercises had appropriate presentation format ($\overline{X}$ = 4.12), and that is why they liked it ($\overline{X}$ = 4.05).

In terms of the usefulness of the program (statements 6 – 14), it was found that most participants agreed that the TSRS CALL program was useful for advanced English reading comprehension ($\overline{X}$ = 4.26). Also, they agreed that it helped them to locate the main idea in a text more easily ($\overline{X}$ = 4.02). Interestingly, after learning with the program, many participants wanted to learn and practice other reading strategies, and found that they became more interested in English reading ($\overline{X}$ = 3.90).

The total mean of all the 14 statements was 3.83 (S.D. = .64). This mean was interpreted that the participants had very positive opinions towards the TSRS CALL program and its usefulness.

CHAPTER 6

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This study attempted to address the effectiveness of the TSRS CALL program as a responsive instructional tool to improve reading comprehension of Thai university EFL students with medium and low English reading proficiency. Two research questions were addressed: (1) What are the effects of the TSRS CALL program on English reading comprehension of Thai university EFL students with medium and low English proficiency?, and (2) What are the students' opinions toward the TSRS CALL program and its usefulness? To address the first research question, the effects of program intervention was compared with a non-text structure reading strategy class on the reading comprehension of the students. The experimental participants' opinions toward the program and its usefulness were investigated to address the second research question.

The findings of the study can be summarized as follows: Firstly, the medium participants in the experimental group gained better scores on their reading comprehension test as compared to the medium participants in the control group, but there was no significant difference between the two groups' mean scores. Secondly, the low participants in the experimental group gained significantly higher scores than the low participants in the control group as measured by their post reading test scores.

Considered as one single group, the whole participants (medium and low) in the experimental group performed significantly better than the whole participants in the control group. Finally, the experimental participants had very positive opinions toward the TSRS CALL program and its usefulness.

6.2 Discussion

As postulated in Chapter 1, there have been very few research works investigating the effects of a Web-based instruction of the text structure reading strategy on EFL students' reading comprehension. As far as the literature review goes, most previous research investigated if teaching text structure reading strategy (in a paper-based format) would significantly increase students' reading comprehension and recalls. Some other studies either compared the effects of text structure reading strategy taught via the Internet (Theodorou, 2006) and in a traditional classroom setting, or investigated the Web-based instruction of this strategy in combination with other reading strategies (Singhal, 2001). It is, therefore, relatively difficult to find previous research to fully support or even contravene the findings of the present study. The discussion that follows will, as a result, be confined to the context where the present study was conducted.

6.2.1 Discussion in Relation to Research Question 1

Overall, the findings indicated that participants trained to use the text structure reading strategy via the Internet improved their reading comprehension. As found in Chapter 5, the post-test scores of the MPPs in the experimental group were not significantly different from the post-test scores of the MPPs in the control group. However, the two groups' post-test scores slightly increased, indicating that the Web-

based instruction of the text structure reading strategy was beneficial across medium and low EFL students' proficiency levels. One probable explanation about the lack of statistically significant achievement among the MPPs in the two groups might be because they did not pay their utmost attention to every single reading selection in the test. Considering the time they spent doing the tests (pre and post), it was obvious that the medium participants spent shorter time than the low participants, 51.18 minutes on average. They just read and answered the questions as fast as they could. They might not have thought deeply and carefully during their reading. Too fast reading led to careless decision in terms of selecting an answer to a multiple-choice question. As revealed in an interview, one medium participant said,

"I just kept reading the texts and answering the questions that follow. I think they are not especially harder than the pre-test texts. So, I think I can answer them correctly. I do not read in too much detail. Yes, I look for the main ideas and context clues".

This indicates that the MPPs did not self-monitor themselves as well as the LPPs. On the contrary, as revealed by an LPP, she said in the interview that, "I read slowly but make sure that I understand, or at least understand". Chang (2007) found that regardless of different levels of English proficiency, students who applied the self-monitoring strategy obtained higher scores on the comprehension test than students who did not apply the self-monitoring strategy. Lower-level English proficiency students who used the self-monitoring strategy performed better academically and motivationally than those in the higher-level English proficiency group who did not employ the self-monitoring strategy. This clearly suggests that the students with medium English proficiency can be outperformed by the low proficiency students if they lack self-monitoring.

It might also be possible that the MPPs had already possessed some other useful reading strategies and used them to help comprehend the texts in the post-test. Though the MPPs in the experimental group might have known and used the text structure strategy, they were not obviously different from the MPPs in the control group who might have also used other useful reading strategies. One interviewed MPP in the experimental group said,

"I look in the title…and also try to interpret the words that might be synonyms. Yes, I look for signal words and also other words that have similar meanings".

Considering the test scores of the MPPs in the control group, the probable explanation here is even clearer because they did not score differently from the MPPs in the experimental group. Chamot (2001) and Thomas (1996) found that good readers know and use more reading strategies than poor readers. Therefore, the text structure reading strategy that the experimental MPPs learned from the TSRS CALL program just added to their reading strategy repository. It was not known how many reading strategies the MPPs in the two groups knew and used because they were not surveyed on this issue before the commencement of the study. The researcher just tested if they had knowledge about expository text structures or not. This could be counted as a limitation in this study.

As indicated by the questionnaire and interview data, most participants (medium and low) indicated that they knew how to read English texts better, they looked for signal words, and found it easier to locate the main idea of the texts. However, it was not clear to what extent they knew how to read English texts better. These findings show that the MPPs had learned and used the text structure reading

strategy, but the newly-learned strategy did not significantly help them. It just added to their reading strategy repository. Hence, their post-test scores slightly increased as compared to their pre-test scores.

The increase in the post-test scores of the LPPs and the overall participants in the experimental group could be attributed to the following reasons: Self-paced instruction. Learners who set their own paces while learning are more likely to actively learn the material and to create knowledge that is flexible and thus particularly transferable across a variety of tasks (Greenfield, Brannon, and Lohr, 1996; Taylor et al., 1999). The TSRS CALL program was designed to teach the text structure reading strategy at the participants' learning pace. Most of them found that they felt at ease with the instruction in the 4 lessons of the program which was delivered at a sentence, a paragraph, and finally a whole text level, as seen in one participant's interview quotation,

"I think the contents are quite good. There are sentences that are presented in a step by step manner. That is, short sentences with examples. Then, there are longer sentences and paragraphs".

At a sentence level, small chunks of information were presented at a time. Attempts were made not to deliver too much information at the same time in order to avoid cognitive overload. With small chunks of information presented at a time, it was easier for the participants to process it, store it in their short-term, and subsequently long-term memories.

In the TSRS CALL program, when the participants learned how to identify text structures and signal words starting from the sentence level, they felt at ease and were consequently motivated to learn more at the paragraph and whole text levels.

According to Chappelle (1998), a good CALL program should offer modifications of linguistic input. The advantage of linguistic modification, whether in the form of repetition, simplification through restatements, non-verbal cues, decreased speed, reference materials, and change of input mode, is that it provides help to L2 learners while being exposed to the target language. All these can be easily created in a CALL program. For example, the TSRS CALL program used a graphic organizer to explain the relationship of ideas in each sample text with different structures at paragraph and whole text levels. The provision of graphic organizers was useful in helping the participants to grasp the main idea of the paragraph more easily.

As a result of self-paced instruction, the participants were more motivated and more engaged in their task. They consequently became more persistent to work towards successfully completing a new task (Meyer and Poon, 2001). When the participants successfully learned and completed initial lessons and exercises, they were motivated to complete new tasks (subsequent lessons and practice exercises). This was clearly reflected by some participants who said in the interview that they liked learning with the TSRS CALL program because they understood and gained more knowledge from what they were learning. Based on their interview responses, Thai translation and immediate feedback were the causes of their successful learning. One participant was quoted as saying,

"I think the time fixed for learning with this program is already good, appropriate. Not too much, not too little. In addition, the teaching in a sentence by sentence manner with translation makes me understand more about what I am learning. I feel I have studied example sentences and known how to remember the sentence structures of the text. This makes me read better, I think".

The findings here support previous research (e.g. Dreyer and Nel, 2003; Mayer and Poon, 2001; Raymond, 1993) which posited that text structure strategy training was beneficial for EFL students' reading comprehension, and poor comprehenders, in particular, have been assisted considerably by the text structure reading strategy training (Rottman and Cross, 1990).

The correct order of expository text structure could also have led to the significantly increased post-reading comprehension test scores of the experimental participants. In learning a new expository text structure, the learners need time to master one structure before learning another. A new text structure was introduced to the TSRS participants one at a time in the following order: sequence, compare/contrast, and cause/effect. Each structure was explained in both English and Thai, followed by a set of self-test and a set of practice exercises for checking their understanding. Individual teaching of text structures was found to be effective in training the learners to apply their knowledge to more complex text (Kinder and Bursuck, 1991; Seidenberg, 1989). Teaching expository text structures in this order could have made it more convenient and easier for the participants to learn. This is supported by more than 70% of agreement and 21% of strong agreement by the participants who responded to item 3 of the TSRS questionnaire which asked about the participants' opinions toward the appropriateness of the presentation format of the lessons in the program. Also the participants felt at ease and unstressed learning with the program, as indicated by one participant who said,

"I think it is fun, not serious. It is learning from easy to difficult (structures). It is learning from one structure to another. It's easy to understand".

Regarding the order of teaching expository text structures, previous research (Englert and Thomas, 1987) shows that if students are exposed to the text structures in the correct order, beginning with the well-organized ones to the less-organized ones, they will find it easier to learn. In the present study, a sequence structure is supposed to be easier and even more well-organized than a compare/contrast, and a cause/effect one. It was, therefore, the first structure to be taught. The increase in the post-test scores of the experimental MPPs, and significantly the experimental LPPs, was attributed to this method of text structure instruction. It was assumed that if the low EFL participants in this study had been firstly taught difficult structures followed by medium and easy ones, they could have been discouraged from learning the strategy. Knowing the nature of the learners and starting to teach with the structures appropriate for their proficiency levels makes the training become easier (Kinder and Bursuck, 1991). Piccolo (1987) and Englert and Thomas (1987) claimed that the teaching of expository text structures to medium or low readers should start with an easier structure and put a difficult structure such as the cause/effect one at the end. The present study, therefore, posits that even when delivered via the Internet, the instruction of text structure reading strategy to EFL medium and low readers should start with the sequence structure, the easiest structure of all.

However, there is inconsistency among text structure strategy research findings regarding which structure should be taught first, second, and third etc. Some researchers started the training with cause/effect, compare/contrast, description, and problem/solution (Chun, 2000; Nealy, 2003). Others (e.g. Raymond, 1993) included description structure at the beginning and then proceeded with compare/contrast, cause/effect, and finally problem/solution. Some researchers (e.g. Min and Yang-bo,

2009; Theodorou, 2006) just clung to only one or two structures interchangeably; that is problem/solution and compare/contrast. On the whole, most research findings show that training the students in the use of text structure reading strategy is effective in helping them recall and comprehend the text.

Another reason for the LPPs' significantly higher post-test scores after learning with the TSRS CALL program could be because they had spent more time reading and practicing in all the lessons. This finding was consistent with previous research (Johnson, 2005) which claimed that EFL poor readers improved their reading comprehension because of their repeated and more reading. As revealed in the interviews, most participants agreed that the time allowed for learning with the program was sufficient - not too much, not too little, as indicated by one participant,

"I think the time is too much if we really pay our utmost attention to reading it".

With sufficient time for reading and doing practice exercises, they consequently read more, thus being prepared for the reading task in the post-test. One participant said,

"It would be better. This is because the TSRS CALL program made me read more. You know when I am in my room, I don't have time to read as much English as this. I have to read other subjects. When I read more, I know more and believe that I'll be able to do the reading test, at least better than before".

The researcher could therefore claim that the significant increase in the experimental participants' reading comprehension ability was partly the direct effect of longer reading time the participants spent while learning with the program.

However, Theodorou (2006) found that the Web-based group who was taught the same text structure (problem/solution) strategy as the traditional classroom group did not have significantly higher post-test scores on the recall and main idea tests than the traditional classroom group. The researcher discussed the findings in relation to the small amount of time each participant spent on each learning material (about 15 minutes). The participants in the Web-based training condition spent significantly less time working on the training materials than participants in the traditional/classroom training condition. The researcher explained that learners in the Web-based training condition skimmed over the training materials without paying adequate attention to the information to be learned. Participants in the Web-based training may not have monitored their learning very well nor made optimal use of their allotted time. This lack of significant differences made the researcher conclude that web-based training was not better than traditional /classroom training. This was an important conclusion, since Web-based instruction is becoming an emerging tool in teaching learners from all over the world.

The findings in the present study were different from Theodorous' findings in that the LPPs in the TSRS group (Web-based group) performed significantly better than the control group. This study, therefore, confirms that Web-based instruction can be an effective tool for teaching text structure reading strategy to low proficiency EFL students. Different from the case of Theodorou's study, the instruction of text structure reading strategy in this research was carried out in much longer period of time than in Theodorou's. In this study, the participants were allocated 4 hours for learning about each text structure, excluding 3 hours for Lesson 1, which was an introductory lesson. This indicates that they had made the optimal use of the learning time.

Besides, prior to and after the experiment, the participants in this research were tested on their reading comprehension, but not on their free recalls and main ideas of texts despite their practice of main idea identification during the learning. This research, therefore, maintains that using a Web-based CALL program for teaching text structure reading strategy is effective in enhancing low EFL students' reading comprehension.

Explicit instruction applied with the provision of L1 translation help in the TSRS CALL program might also be an explanation of the higher post-test scores of the MPPs and significantly higher post-test scores of the LPPs in the present study. When it comes to explicit instruction in a traditional classroom setting, the teacher plays the key role in explaining the strategy and modeling the use of it to the students. In an Internet-based setting, however, explanations and modeling of the strategy use are provided as a learning program where the students have control over it. They can choose to go fast or slowly while learning, depending on their individual learning pace. Previous reading researchers (Carrier, 2003; Chamot, 2004, 2005; Chamot et al., 1999; Cohen, 1998, 2003) also found, in consistency with this study, that explicit instruction was an effective way to help poor and average readers comprehend expository text. It was effective in improving EFL/ESL students' reading comprehension ability (Ikeda and Takeuchi, 2003; Repley, Blair, and Nichols, 2009), vocabulary learning strategies (Mizumoto and Takeuchi, 2009), and writing skill (Segev-Miller, 2004).

Using L1 in the TSRS lessons as a scaffolding or a learning tool could also help to explain the participants' significantly increased reading ability. In fact, the participants were not expected to solely rely on L1 for learning the text structure

reading strategy. They were expected to use L1 translation help only when they completely failed to understand the target language. The MPPs used the Thai translation help only when it was necessary, as said by one participant

"Only when it was necessary, especially in the long paragraph or stories that were somewhat difficult."

On the contrary, as reported in the interviews, the LPPs clicked on almost every Thai translation help in each learning activity for more understanding of the lessons. The use of L1 in the TSRS CALL program was therefore appropriate for at least one reason: to facilitate the participants' learning. According to Chamot et al. (1999), the students will be taken away from the target language exposure if they are taught the language learning strategies solely in L1. Since both L2 and L1 were provided in the teaching of text structure reading strategy in this study, the students with low reading proficiency did not feel they were left behind, and the medium ones resorted to L1 only when they thought it was necessary, as implied by an interview response. The use of L1 as a learning tool for L2 acquisition has been widely supported (Cianflone, 2009; Forman, 2005; Fung, Wilkinson, and Moore, 2003; Nation, 2003; Noytim, 2006). In doing so, translation is one of the most popular and effective forms of L1 use. However, most research regarding L1 use in support of L2 learning was conducted in a classroom-based setting (Schweers, 1999) but little research was conducted in a Web-based CALL context (Noytim, 2006).

The role of L1 use is still mostly seen as small but important in communicating meaning and content. L1 use is also supported for facilitating foreign language acquisition by helping teachers realize what students have learnt and to explain mistakes or misinterpretations through translation exercise (Baker, 2006).

Using L1 to help explain the text structure reading strategy concept which was almost unknown to the students, as indicated by their responses to the initial interview prior to the experiment, was consequently reasonable. Explaining it only in English would not ensure their complete understanding, especially when it comes to their medium and low English proficiency levels.

The notion of explicit instruction could not be materialized without L1 translation. Providing Thai translation not only facilitated the students' understanding, but also saved time. As revealed in the interviews, most participants said they not only gained new knowledge and vocabulary, but also liked learning with the TSRS CALL program because it was provided with Thai translation and Thai feedback. One participant said,

“The teaching in a sentence by sentence manner with translation makes me understand more about what I am learning”.

However, another participant said,

“The Thai translation is very useful. Without it, I think I won’t’ be able to do answer the questions correctly. You know, I have to compare between the English and Thai versions”.

Another participant also said,

“It is not too difficult because there is a translation help. When I did not understand, I just used the translation help. I made a comparison about which word means what. It was very useful”.

This study, therefore, supports other studies (e.g. Meyer, 2008) that the use of L1 provides a positive support for the learning of L2, and that rather than being a limitation or an obstacle, it serves to facilitate L2 learning. It also supports the use of

L1 help to build students' confidence in using (reading) L2 and saving time when there is a need to explain or clarify specific points. In the EFL context, the students and their teachers or material developers speak the same L1, and thus it can help in communicating clear meaning.

The issue of to what extent L1 should be used in an EFL context is far from being resolved. No clear and concrete guidelines have been given in regard to how much of L1 use should be enough. Most researchers (e.g. Chamot 2005; Nation, 2003) just gave general suggestions and put the issue to be an individual consideration. To reach balance between L1 and L2 use in the TSRS CALL program, the Thai translation was, therefore, provided only for the explanation in the TSRS lessons, but in the practice exercises, it was provided in the form of feedback. Further research is thus needed to investigate if a Web-based CALL program with partly or whole L1 translated will be more effective as a teaching tool for text structure reading strategy.

6.2.2 Discussion in Relation to Research Question 2

It was found in the present study that the students had very positive opinions ($\overline{X}$ = 3.83) towards the program and its usefulness. As presented in Table 5.4 (see Chapter 5), most participants perceived the TSRS CALL program as new, well-designed with appropriate presentation format, and they consequently liked learning with the program.

In addition, on the usefulness of the program, most participants indicated that it was useful for advanced English reading comprehension practice, for helping to locate the main ideas of texts more easily, and for encouraging them to learn English and also to learn and practice other reading strategies. Moreover, the interview data

showed that the participants were generally interested in learning with the program and gained new general knowledge and more new vocabulary as result of reading and doing the practice exercises in the TSRS lessons. One participant said,

"I have learned a lot more new vocabulary such as the one related to global warming and canned food".

Another one said,

"I think the advantage of the TSRS CALL program is that I have learned and understood more English words. I know more about sentence structures, especially the ones for doing exercises. It improves my learning skill".

Several features in the program might help to explain both the quantitative and qualitative findings regarding the participants' very positive opinions towards the program and its usefulness. However, based on the participants' interview data, the following salient features seem to be most appropriate for discussion in relation to the answers to research question 2. These include L1 feedback provision, interesting reading materials, and types of question.

As indicated by the interview data, most participants thought the TSRS CALL program was completely new to them. Some participants had never learned with an online reading strategy instruction program before. Although some participants ever had some experiences with online English learning, they admitted that the TSRS CALL program was totally different in that it provided feedback on both correct and incorrect answers to the questions in the lessons and practice exercises. Reflecting this, one participant said,

"I used to learn with an online program. There is something alike, but there are a lot of things different. There were questions and answers, but in the previous

program, I could go ahead only when I answered the question correctly. You kept answering the same question until you provided the correct answer. In this program, though you answered wrongly, it tells you why it's wrong, then you try again until you are correct. Also it tells you why it is correct.)

The participants learned a lot from the feedback provided as a learning tool (Peat, Franklin and Lewis, 2001). The feedback in the program provided the learners with information to improve their future performance; that is, using the text structure reading strategy knowledge to improve their reading comprehension. However, for EFL students with medium and low English proficiency as in this study, providing informative feedback only in L2 would not help. The feedback in the TSRS exercises was therefore provided using L1, and this feature helped to explain why the participants had very positive opinions towards the usefulness of the program. The participants indicated that they liked learning with the program because they felt at ease and found the learning meaningful and understandable, as reflected in one participant's interview response:

"Feedback is good because it tells me why my answer is correct or incorrect. I understand more about what I was learning".

Providing L1 feedback to support L2 learning in a Web-based CALL setting is, therefore, a new notion confirmed by this research. This finding supports one of Chappelle's SLA principles as guidelines for the design of an effective CALL program which stresses providing opportunities for learners to notice their errors (Chappelle, 1998).

Another feature that motivated the participants to learn and enjoy doing practice exercises in the TSRS CALL program is the provision of interesting reading

texts. The participants found that they had gained a lot of new knowledge and vocabulary from the lessons and practice exercises,

"I have learned a lot of new vocabulary from this program. I have learned new vocabulary about for example, global warming, canned food making and so on".

Although some participants might have found it somewhat difficult to read some texts, they still understood the main ideas and some other details because they could use the translation help and online dictionary.

"I like it when, you know when I don't understand, there is translation help".

The texts in TSRS lessons and practice exercises are usually accompanied with interesting pictures, appropriate for the participants' proficiency levels, and cover various fields of knowledge, such as agriculture, science, and health. In addition, to add to more text interest, the researcher, during the program development stage, added more photos to the original texts, but no change was made to the text. Hence all the texts were still authentic (for an example of VOA texts with original pictures and with more added pictures, see figures 6.1 and 6.2 respectively).

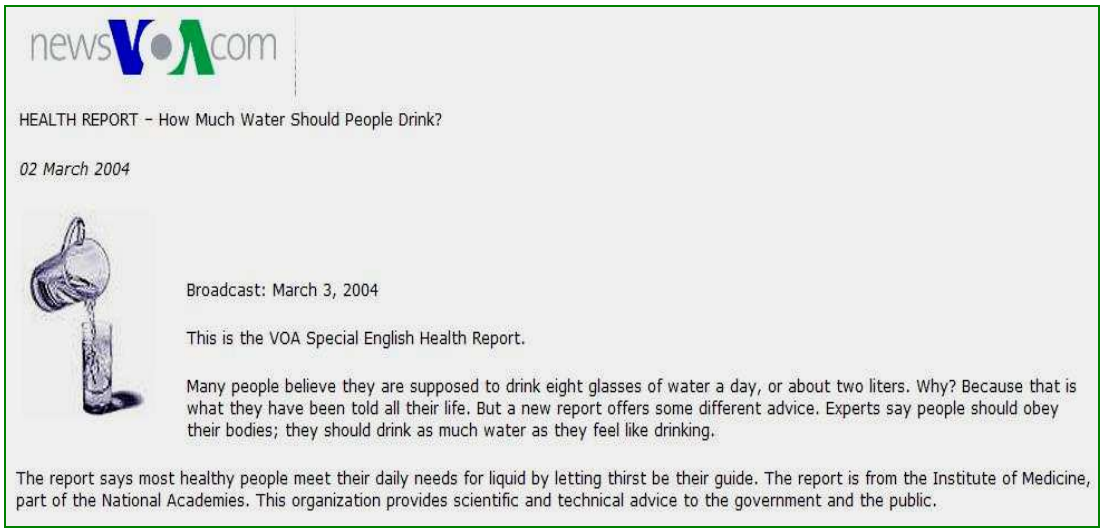


Figure 6.1 An Example of VOA Text with One Original Picture

According to the interviewed participants, practice texts in the TSRS exercises were interesting and understandable because they were of medium difficulty and there were photos which facilitated their understanding, as said by one participant,

"I think pictures or photos presented with those texts in the practice exercises are good. I read, think, then I understand because I look at photos. They help so much with my text comprehension".

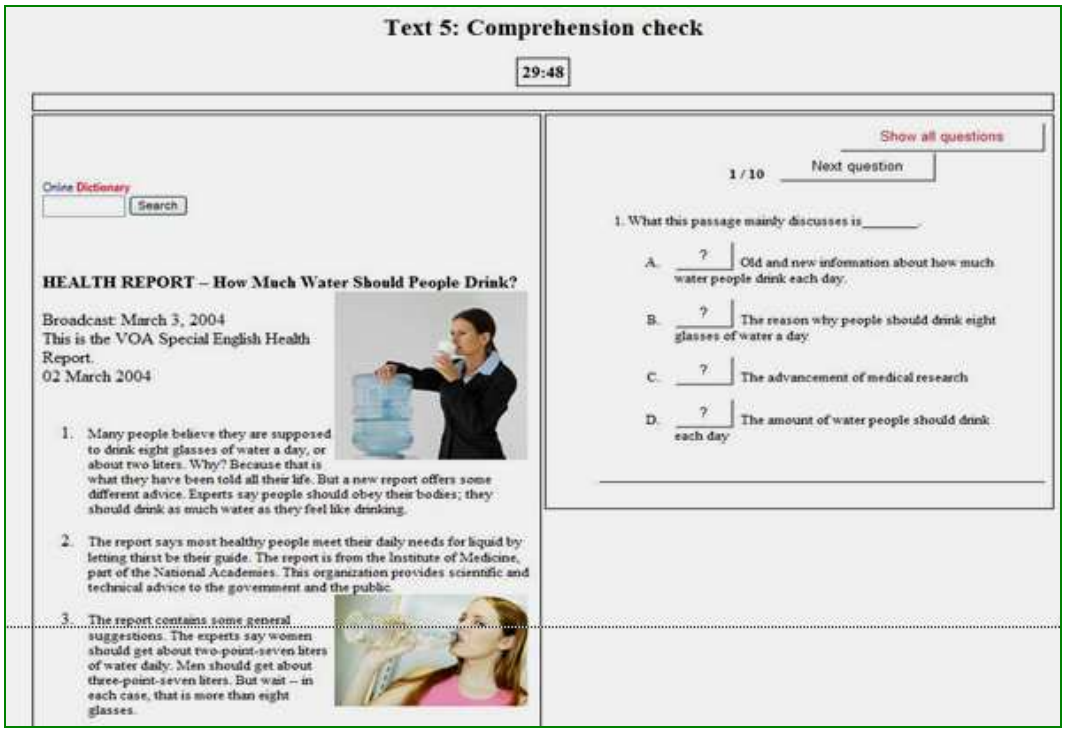


Figure 6.2 An Example of VOA Text with More Added Pictures

Cognitive learning theory postulates that texts presented with pictures and or illustrations will be easier and more motivating for readers. Students are more motivated to sustain their engagement in reading when they find interesting and appropriate texts readily made available (Gambrell, Wilson, and Gantt, 1981). If the students, however, find texts difficult or uninteresting, they become bored and stop reading. Selection of texts that are compatible with the students' interest and reading

ability level is, therefore, one priority a reading teacher/researcher needs to consider. Dickson, Simmons, and Kameenui (1995) suggested that students' background knowledge, degrees of interest, skills, and deficiencies can affect students' learning. To be precise, motivation and learning achievement are linked (Flippo, 1998; Marrow and Gambrell, 1998). In this regard, that the participants found TSRS practice texts interesting and motivational to their learning supports research in educational and cognitive psychology which has revealed that learning will be easier when information is coded by using both visual and verbal modes (Mastropieri and Scruggs, 1997; Mayer, Bove, Bryman, Mars, and Tapango, 1996). Mastropieri and Scruggs (1997) suggested that visual spatial organization provides additional visual codes for the organization and presentation of information, which results in reading comprehension.

Some participants, however, were not satisfied with existing pictures and illustrations provided in the TSRS lessons and exercises. They wished more cartoon animations had been added in order to make the lessons and exercises in the program even more interesting, as seen in the following interview quotation:

"It would be better to add more cartoon animations. It will be more interesting. I think it should be used by children, something like that".

This opens room for further research about the extent to which animations and illustrations should be used in a Web-based CALL program in order to make it most effective as a teaching tool for EFL learners.

Finally, the types of questions in TSRS lessons and practice exercises could have played an important role in making the program highly interactive, hence being interesting to the participants. Generally speaking, a Web-based learning that presents

information without interaction with the learner cannot be successful (Alessi and Trollip, 2004). In theory, questions serve the purposes of keeping the learners attentive to the program, providing practice, encourage deeper processing, and assess how well the learner remembers and understands information (Wager and Wager, 1985).

The questions in TSRS lessons were of alternate-response and constructed-response types. The former included multiple-choice, true/false, and matching formats. The latter was a short-answer format. In the lessons, both types of questions were used to their optimum. That means, while learning, the participants had to answer multiple-choice, true/false, matching, and short answer questions. Only the alternate-response question type was used in the TSRS practice exercises because they were meant to test the participants' comprehension of the strategy they had learned from the lessons. These types of questions made the participants become active learners and consequently attentive to their learning, as revealed in the following interview quotation from one participant:

"How to say…. You know I have practiced doing the exercises and many more. There are true/false questions, multiple-choice, and matching. Some questions also require a short answer, which I have to type a word, or a phrase to answer them. This is interesting. I am not bored because I don't only have to select a, b, c, or d."

The findings in the present study clearly indicated that EFL learners' opinions affect their learning process significantly. In other places, studies (Kang Mi Lim, 2000; Singhal, 2001; Theodorou, 2006) also found that students taught via a Web-based CALL program had positive attitudes or opinions towards learning in such an environment. Studies investigating the attitudes of undergraduate and graduate EFL

students towards Internet-based learning (Aydin, 2007; Slate, Manuel and Brinson, 2002; Usun, 2003) also found that generally the students had positive attitudes towards Internet-based English learning and teaching.

6.3 Conclusion

6.3.1 Contributions of the Present Study

The present study has made some interesting contributions to the area of computer assisted language learning (CALL) and EFL reading strategy instruction. These contributions are categorized as follows:

Firstly, as stated earlier in Chapter 1, scant research on the effects of teaching text structure reading strategy through the Internet has been carried out with Thai university EFL students. Most research on text structure reading strategy instruction was conducted in an ESL/EFL context that did not take Thai university EFL students into account in terms of their English proficiency and learning styles. The main contribution of the present study has been formed exclusively on the use of L1 in support of L2 reading for teaching expository text structure reading strategy. Previous studies in this area have rarely distinguished university EFL students with medium English proficiency from the ones with high and low English proficiency.

Secondly, the major findings in the present study indicated that Thai university EFL students with medium English proficiency who lacked self-monitoring did not derive much benefit from learning with the TSRS CALL program for one possible reason; that is, text structure knowledge gained from learning with the program could have only added to their reading strategy repository, and that the program was effective in developing English reading comprehension of Thai university EFL

students with low English proficiency who derived the most benefit from learning with the program.

Finally, it was found that the participants had very positive opinions towards the program and its usefulness. The features in the TSRS CALL program that made the participants enjoy learning with it included a proper design in terms of explicit instruction of individual text structures and appropriate text selection. Sufficient learning time, various types of interactive questions and L1-assisted feedback also accounted for the participants' very positive opinions towards the program and its usefulness. That the participants had very positive opinions towards the TSRS CALL program and its usefulness indicates that Web-based CALL programs are effective for teaching the text structure reading strategy in an online context.

6.4 Limitations of the Study

The present study has been valid and valuable in dealing with the research questions regarding the effects of a CALL program for teaching the text structure reading strategy to Thai university EFL students. However, in conducting this study, certain limitations have appeared, and the fields for possible future research should take these limitations into consideration:

Firstly, the participants in the present study were limited to those EFL students with medium and low English proficiency who enrolled in a Foundation English III course during the summer semester of 2009 at a university in the Northeast of Thailand. Therefore, the findings may not be applicable to the students with medium and low English proficiency who belong to other foundation English courses elsewhere.

Secondly, in measuring the variables associated with the students' reading comprehension and opinions towards the TSRS program and its usefulness, the researcher was limited in determining if factors not measured would have higher levels of significance than those that are measured.

Thirdly, developing Web-based instruction is time-consuming. Therefore, the practice section in the program covers only three expository text structures: sequence, compare/contrast, and cause/effect.

Finally, there was only immediate post-test of the data collected in the study. The post-test did not take place very long after the training with the program. Without a delayed post-test (e.g. one week later) there is no way of knowing whether the use of the text structure reading strategy based on sequence, compare/contrast, and cause/effect structures will be retained.

6.5 Implications and Recommendations

6.5.1 Pedagogical Implications

Comprehension of expository text is difficult for most EFL students especially those with medium and low proficiency levels. It is a critical factor that becomes increasingly more important as students progress through university and take their places in the occupational world. Reading strategies for comprehending expository text, especially the text structure reading strategy, need to be introduced early so that a strong foundation is established to better ensure academic achievement and success for students of all abilities. Based on the results found in the present study, the followings are the implications for reading instruction in the Thai university EFL setting.

Firstly, Thai university EFL teachers who teach English reading comprehension should teach text structure reading strategy to students with either medium or low proficiency. In so doing, they may develop software focusing more on the low proficiency students than on the medium ones. The instruction of the strategy should start with a well and clearly structured text, ranging from sequence, compare/contrast, and cause/effect respectively. The developed software should be embedded with L1-assisted features that would be especially beneficial for the students.

Secondly, at a university level, more Web-based CALL programs for teaching text structure reading strategy and expository text structures should be developed and integrated to every regular Foundation English course. In developing such programs, authentic texts from various sources such as online newspapers and magazines should be used. The findings from this study showed that the students liked reading authentic texts, although, to some of them, it was somewhat difficult because of the vocabulary used in the texts. To avoid this discouraging factor, readability level of text should be carefully calculated in order to make sure that the text is appropriate for the students' proficiency level.

Thirdly, in teaching the text structure reading strategy via the Internet, explicit instruction should be used. In doing so, the instruction should start from a sentence, paragraph, and finally whole-text level, with clear and enough examples of the text structure being taught individually at a time. Graphics and pictures and cartoon animations should be added to the material to make it more interesting. Informative feedback in L1 should be provided to ensure the students' learning, especially when they are those EFL readers with medium and low English proficiency.

Lastly, since text structure reading strategy is beneficial for helping EFL students with low proficiency to develop their reading comprehension, it would be even more

beneficial if more or even all the structures of English expository text can be explicitly taught, for example the problem/solution and description structures.

6.5.2 Recommendations for Future Research

There is still a dearth of research on a Web-based CALL program for text structure reading strategy instruction. The following recommendations for further research in this area are, therefore, provided.

Firstly, the present study investigated the effects of Web-based instruction of text structure reading strategy focusing on three expository text structures – sequence, compare/contrast, and cause/effect. Future research of this type should include all the five structures of expository text – sequence, compare/contrast, cause/effect, description, and problem/solution – in its investigation.

Secondly, immediately after the end of the treatment, the participants in the present study were tested on their reading comprehension to determine the effects of the TSRS CALL program. It would be more interesting to know how long text structure reading strategy knowledge derived from a Web-based CALL program retains. Future research should, therefore, use a delayed post-test (e.g. one week or even one moth after the treatment) to investigate the retention of the knowledge EFL students gain from learning with a Web-based CALL program.

Finally, other Internet functions such as chat, e-mail, and VDO links were not used in the present study. Future research on the effects of text structure reading strategy should include these functions in a Web-based CALL program and investigate to what extent the inclusion of these Internet functions affects students' reading comprehension.

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APPENDICES

APPENDIX A

Invitation Letter and Consent Form

Invitation Letter

Dear participant:

I am seeking your participation in a research study titled "**Enhancing English Reading Comprehension through a Text Structure Reading Strategy (TSRS) CALL Program**". The research is part of my doctoral study at Suranaree University of Technology, Nakhon Ratchasima. The results of this research will be beneficial for EFL instruction in Thailand.

Participation in this research is voluntary. Your refusal to participate will not, in any means, affect your grades. Your answers will be kept completely confidential. Nobody except the researcher will know your answers. The identification number used in the questionnaire will be removed to ensure anonymity and will not be associated in any way with reported results.

If you agree to participate in this research, please put a ✓ before Yes or No. If you agree to participate, please also complete the attached questionnaire, which will take approximately 20 minutes.

☐ Yes, I agree to participate in the study.
☐ No, I do not agree to participate in the study.

Student's name _____ Date _____

Consent to Participate in Research

Purpose of the study

You are asked to participate in a research study conducted by Mr. Dentisak Dorkchandra from the School of English at Suranaree University of Technology, Nakon Ratchasima. This study is designed to teach text structure reading strategy on the web in order to help Thai university EFL students better comprehend English expository texts.

Procedures

If you volunteer to participate in this study, the researcher would ask you to do the following things:

1. Learn with the TSRS program, a Web-based CALL program 8 days, two hours a day, two days a week in the computer room of the campus.
2. Complete a questionnaire about your opinions towards the learning with the program.
3. Take part in an audio-recorded interview.

Potential benefits to the subjects

As a result of this study, you will have the opportunity to learn and practice text structure reading strategy which will be of great use to your English reading ability improvement and, in long term, to your study.

Confidentiality

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only as specified above, with your permission.

Participation and withdrawal

Participating in this study is completely voluntary. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind.

Identification of the investigator

If you have any questions or concerns about the research, please feel free to contact the principal investigator, Mr. Dentisak Dorkchandra 085-7728905, and via dentisak@gmail.com. I am located now at Kasetsart University Chalermphrakiat Saknonnakon Province Campus

Rights of research subjects

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have any questions regarding your rights as a research subject, contact the staff of the School of English, Institute of Social Technology, Suranaree University of Technology, Nakon Ratchasima. The telephone number is 044-224207-9.

Signature of research subject

I agree to participate in this study. I have been given a copy of this form.

_____

Name of Subject

_____ _____

Signature of Subject or Legal Representative Date

Invitation Letter (Thai)

เรียน นิสิตทุกท่าน

ด้วยข้าพเจ้า นายเด่นติศักดิ์ ดอกจันทร์ กำลังทำวิจัยเรื่อง "การเสริมความเข้าใจในการอ่านภาษาอังกฤษด้วยโปรแกรมคอมพิวเตอร์ช่วยสอนกลวิธีการอ่านโครงสร้างของตัวบท (Enhancing English reading comprehension through a text structure reading strategy (TSRS) CALL program)" การวิจัยนี้เป็นส่วนหนึ่งของการศึกษาระดับปริญญาเอกที่มหาวิทยาลัยเทคโนโลยีสุรนารี จังหวัดนครราชสีมา ผลจากการวิจัยนี้จะเป็นประโยชน์ต่อการจัดการเรียนการสอนภาษาอังกฤษในฐานะภาษาต่างประเทศในประเทศไทย

การเข้าร่วมในการวิจัยนี้เป็นไปตามความสมัครใจ นิสิตสามารถปฏิเสธที่จะตอบ โดยจะไม่มีผลในการเรียนวิชาภาษาอังกฤษตามปกติของนิสิต ข้อมูลที่ได้จะถือเป็นความลับ ผู้วิจัยจะเป็นผู้เดียวที่ทราบผลการตอบแบบสอบถาม ส่วนรหัสเลขประจำตัวของท่านจะนำมาใช้เพื่อประกอบการเปรียบเทียบผลการศึกษาเท่านั้น หลังจากนั้นจะถูกลบทิ้งและจะไม่นำไปเกี่ยวข้องกับการวิเคราะห์ข้อมูลดังกล่าวนี้

ถ้านิสิตตกลงที่จะร่วมมือในการวิจัยนี้ โปรดทำเครื่องหมายถูก ☑ หน้าคำว่าตกลง หรือหน้าคำว่า ไม่ตกลง ถ้าไม่ต้องการเข้าร่วมการวิจัย อนึ่ง เมื่อตอบตกลง ผู้วิจัยจะทำการสัมภาษณ์เพื่อทราบข้อมูลส่วนตัวของนิสิตในด้านความรู้เกี่ยวกับโครงสร้างของตัวบท เป็นลำดับต่อไป

☐ ตกลงเข้าร่วมการวิจัย

☐ ไม่ตกลงเข้าร่วมการวิจัย

ลงชื่อ _____ วันที่ _____

Consent to Participate in Research (Thai)

แบบแสดงความยินยอมเข้าร่วมการวิจัย

วัตถุประสงค์การวิจัย

ท่านได้รับเชิญให้เข้าร่วมการวิจัย ที่ดำเนินการโดย นายเด่นติศักดิ์ ดอกจันทร์ นักศึกษาระดับปริญญาเอก สาขาภาษาอังกฤษศึกษา สำนักวิชาเทคโนโลยีสังคม มหาวิทยาลัยเทคโนโลยีสุรนารี จังหวัดนครราชสีมา การวิจัยครั้งนี้ เพื่อสอนกลวิธีการอ่านภาษาอังกฤษโดยใช้โครงสร้างของตัวบท หรือ Text Structure เพื่อส่งเสริมให้นักศึกษาไทยมีความเข้าใจในการอ่านภาษาอังกฤษเชิงเนื้อหาได้ดีขึ้น

ขั้นตอนการวิจัย

ถ้านิสิตสมัครใจเข้าร่วมการวิจัยครั้งนี้สิ่งที่ผู้วิจัยจะให้นิสิตทำได้แก่

1. เรียนกับโปรแกรมคอมพิวเตอร์ช่วยสอนเกี่ยวกับกลวิธีการอ่านภาษาอังกฤษโดยใช้โครงสร้างของบทอ่าน (TSRS) เป็นเวลา 8 วัน วันละ 2 ชั่วโมง วันเว้นวัน ในห้องปฏิบัติการคอมพิวเตอร์ของวิทยาเขต
2. ตอบแบบสอบถามเกี่ยวกับความเห็นของนิสิตต่อการเรียนด้วยโปรแกรม TSRS
3. เข้าร่วมการสัมภาษณ์แบบที่มีการบันทึกเสียงเอาไว้

ประโยชน์ที่จะพึงมีต่อผู้เข้าร่วมวิจัย

จากการวิจัยนี้ นิสิตจะได้มีโอกาสเรียนและฝึกกลวิธีการใช้โครงสร้างของตัวบท ซึ่งจะเป็นประโยชน์มากต่อการพัฒนาความสามารถด้านการอ่านภาษาอังกฤษ และต่อการเรียนของนิสิตเองในระยะยาว

ความลับ

ข้อมูลทั้งหมดที่เกิดจากการวิจัยครั้งนี้และที่สามารถบ่งบอกเกี่ยวกับตัวนิสิตได้ จะเก็บไว้เป็นความลับ จะเปิดเผยเฉพาะกรณีที่เกี่ยวกับการวิจัยดังที่ได้ระบุไว้แล้วเท่านั้น ทั้งนี้ตามที่นิสิตอนุญาต

การเข้าร่วมและการบอกเลิก

การเข้าร่วมการวิจัยครั้งนี้เป็นไปตามความสมัครใจอย่างเต็มที่ ในเมื่อนิสิตสมัครใจจะเข้าร่วมการวิจัยครั้งนี้ นิสิตก็สามารถถอนตัวออกจากการเป็นผู้ร่วมวิจัยได้ตลอดเวลา โดยไม่มีผลใดๆต่อตัวนิสิต

การติดต่อกับผู้วิจัย

ถ้านิสิตมีคำถามหรือข้อสงสัยเกี่ยวกับการวิจัยครั้งนี้ กรุณาติดต่อผู้วิจัยได้ คือ อาจารย์เด่นติ ศักดิ์ ดอกจันทร์ เบอร์โทรศัพท์ 085-7728905 หรือ ที่ dentisak@gmail.com ตอนนี้ ผู้วิจัยพำนักอยู่ที่ มหาวิทยาลัยเกษตรศาสตร์ วิทยาเขตเฉลิมพระเกียรติ จังหวัดสกลนคร

สิทธิของผู้เข้าร่วมการวิจัย

นิสิตอาจถอนตัวออกจากการวิจัยครั้งนี้ได้ตลอดเวลา โดยไม่มีความผิดแต่ประการใด ไม่เป็นการกระทำความผิดทางกฎหมายแต่อย่างใดทั้งสิ้น ถ้านิสิตมีข้อสงสัยเกี่ยวกับสิทธิของตนเองในฐานะเป็นผู้เข้าร่วมวิจัยครั้งนี้ กรุณาติดต่อเจ้าหน้าที่สาขาวิชาภาษาอังกฤษ สำนักวิชาเทคโนโลยีสังคม มหาวิทยาลัยเทคโนโลยีสุรนารี จังหวัดนครราชสีมา เบอร์โทรศัพท์ 044-224207-9

ลายมือชื่อผู้เข้าร่วมวิจัย

ข้าพเจ้ายินดีเข้าร่วมการวิจัยครั้งนี้ ข้าพเจ้าได้รับเอกสารชุดนี้แล้ว

_____

ชื่อผู้เข้าร่วมวิจัย

_____ _____

ลายมือชื่อผู้เข้าร่วมวิจัย วันที่

APPENDIX B

TSRS Questionnaire (Online in Thai)

1 ข้าพเจ้าชอบการเรียนด้วยโปรแกรม TSRS

- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

2 ข้าพเจ้าชอบการเรียนกลวิธีการอ่านแบบเดิมๆมากกว่า

- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

3 รูปแบบการนำเสนอบทเรียนในโปรแกรม TSRS มีความเหมาะสม

- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

4 การเรียนด้วยโปรแกรม TSRS เป็นเรื่องที่ใหม่

- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

5 เนื้อหาของบทเรียนและแบบฝึกหัดในโปรแกรม TSRS ไม่ยากเกินไป

- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

6 การเรียนด้วยโปรแกรม TSRS ทำให้ข้าพเจ้ารู้จักวิธีอ่านภาษาอังกฤษให้เข้าใจมากขึ้น

- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

7 การเรียนด้วยโปรแกรม TSRS ทำให้ข้าพเจ้าสำรวจหา signal words ก่อนอ่านบทอ่านภาษาอังกฤษเสมอ

- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

8 การเรียนด้วยโปรแกรม TSRS ทำให้หาใจความสำคัญของเรื่อง (main idea) ได้ง่ายขึ้น

- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

9 การเรียนด้วยโปรแกรม TSRS ทำให้สามารถรวบรวมประเด็นสำคัญต่างๆ (organize key ideas) ในบทอ่านได้เร็วขึ้น

- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

10 โปรแกรม TSRS ทำให้ข้าพเจ้าต้องการฝึกกลวิธีการอ่านด้วยการใช้โครงสร้างของบทอ่านเพิ่มเติมจากแหล่งอื่นๆ

- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

11 โปรแกรม TSRS ทำให้ข้าพเจ้าสนใจจะศึกษาและฝึกกลวิธีการอ่านอื่นๆเพิ่มเติม

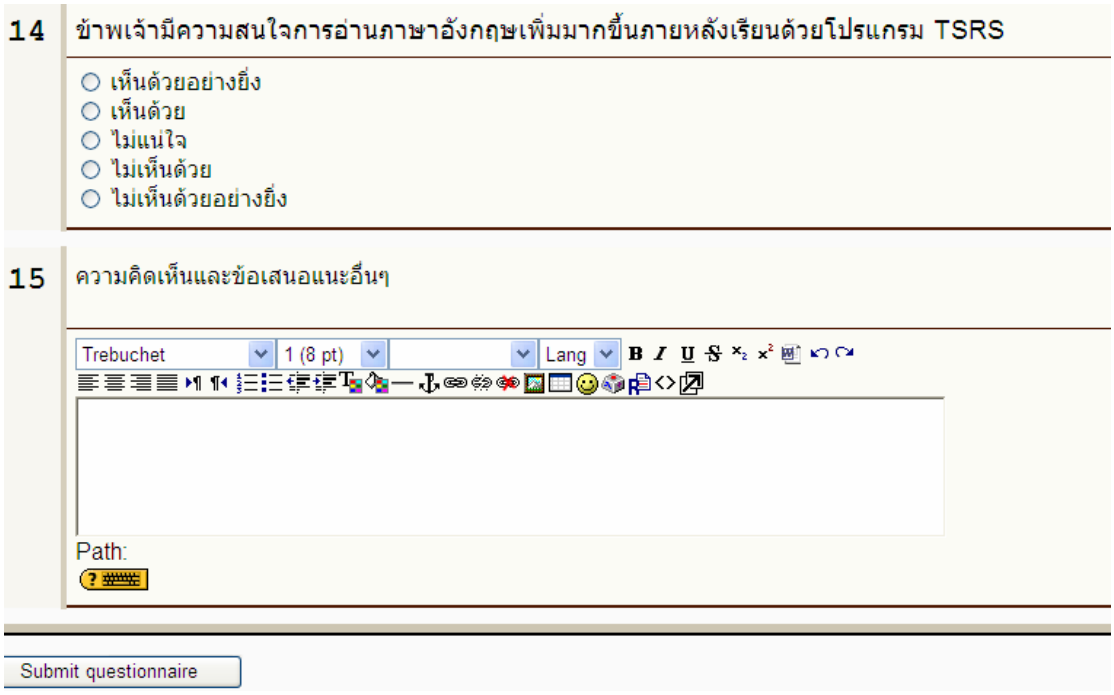
- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

12 ข้าพเจ้าจะใช้กลวิธีการอ่านด้วยการใช้โครงสร้างของบทอ่าน กับการอ่านวิชาอื่นๆที่เป็นภาษาอังกฤษทุกวิชา

- ○ เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง

13 การเรียนด้วยโปรแกรม TSRS มีประโยชน์ต่อการอ่านภาษาอังกฤษขั้นสูง

- ● เห็นด้วยอย่างยิ่ง
- ○ เห็นด้วย
- ○ ไม่แน่ใจ
- ○ ไม่เห็นด้วย
- ○ ไม่เห็นด้วยอย่างยิ่ง


14
ข้าพเจ้ามีความสนใจการอ่านภาษาอังกฤษเพิ่มมากขึ้นภายหลังเรียนด้วยโปรแกรม TSRS
เห็นด้วยอย่างยิ่ง
เห็นด้วย
ไม่แน่ใจ
ไม่เห็นด้วย
ไม่เห็นด้วยอย่างยิ่ง
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Submit questionnaire

APPENDIX C

Semi-Structured Interview Guides on the TSRS CALL program and Its Usefulness

1. What do you think about the TSRS CALL program?
2. What do you think about the lessons and practice exercises in the TSRS CALL program?
3. Please describe the usefulness of the TSRS CALL program.
4. Please tell about your opinion about the design and interface of the TSRS CALL program.
5. Do you like learning with the TSRS CALL program or how do you feel about it?
6. As indicated in the questionnaire, the TSRS CALL program is new. How is it new? Please describe.
7. Please tell about the contents or the material? Are they difficult or easy?
8. How did the feedback help you in learning?
9. What do you want to suggest about the TSRS CALL program?
10. What would you suggest about improving the TSRS CALL program?

APPENDIX D

Evaluation of the Efficiency of the TSRS CALL Program

The Individual Tryout for Effectiveness of the TSRS CALL Program

(3 students)

Lessons / Student Number	**1**	**2**	**3**	$\overline{X}$	
Lesson 1 Exercise score (10 points)	**7**	**6**	**7**	**6.66**	**E1= 66.66**
Lesson 1 Self-test score	**8**	**6**	**7**	**7**	**E2= 70.00**
Lesson 2 Text 1 Main idea	6	6	7		
Lesson 2 Text 1 Comprehension	6	6	5		
Lesson 2 Text 2 Main idea	7	7	8		
Lesson 2 Text 2 Comprehension	6	6	6		
Lesson 2 Exercise score (40 points)	**25**	**25**	**26**	**25.33**	**E1= 63.32**
Lesson 2 Self-test score (10 points)	**7**	**7**	**8**	**7.33**	**E2= 73.3 3**
Lesson 3 Text 1 Main idea	6	6	7		
Lesson 3 Text 1 Comprehension	7	7	6		
Lesson 3 Text 2 Main idea	8	6	8		
Lesson 3 Text 2 Comprehension	7	8	8		
Lesson 3 Exercise score (40 points)	28	27	29	28	**E1=70.00**
Lesson 3 Self-test score (10 points)	7	6	6	6.33	**E2=63.33**
Lesson 4 Text 1 Main idea	6	5	7		
Lesson 4 Text 1 Comprehension	6	6	8		
Lesson 4 Text 2 Main idea	7	6	8		
Lesson 4 Text 2 Comprehension	7	6	6		
Lesson 4 Exercise score (40 points)	26	23	29	26	E1=65.00
Lesson 4 Self-test score (10 points)	8	7	9	8	E2=80.00
					E1 for 4 lesson exercises = 66.15
					E2 for 4 self-tests = 71.66

The Small-Group Tryout for Effectiveness of the TSRS CALL Program

(6 students)

Lessons / Student Number	**1**	**2**	**3**	**4**	**5**	**6**	$\overline{X}$	
Lesson 1 Exercise score (10 points)	7	6	7	8	8	10	7.66	**E1= 76.67**
Lesson 1 Self-test score	8	6	7	9	10	9	8.16	**E2= 81.6**
Lesson 2 Text 1 Main idea	6	6	8	7	9	8		
Lesson 2 Text 1 Comprehension	6	6	7	8	8	9		
Lesson 2 Text 2 Main idea	7	6	8	8	9	7		
Lesson 2 Text 2 Comprehension	6	5	7	6	8	7		
Lesson 2 Exercise score (40 points)	25	23	30	29	34	31	**28.66**	**E1= 71.65**
Lesson 2 Self-test score (10 points)	7	6	7	8	9	8	**7.5**	**E2= 75.00**
Lesson 3 Text 1 Main idea	6		7	8	9	8		
Lesson 3 Text 1 Comprehension	7	7	8	7	7	8		
Lesson 3 Text 2 Main idea	6	6	7	7	9	8		
Lesson 3 Text 2 Comprehension	6	7	8	8	8	9		
Lesson 3 Exercise score (40 points)	**25**	**25**	**30**	**30**	**33**	**33**	**29.33**	**E1=73.32**
Lesson 3 Self-test score (10 points)	**6**	**5**	**7**	**8**	**9**	**10**	**7.5**	**E2=75.00**
Lesson 4 Text 1 Main idea	6		6	8	8	9		
Lesson 4 Text 1 Comprehension	5	6	8	7	9	10		
Lesson 4 Text 2 Main idea	7	5	8	8	10	8		
Lesson 4 Text 2 Comprehension	6	7	8	9	9	7		
Lesson 4 Exercise score (40 points)	24	23	30	32	36	34	**29.83**	**E1=74.57**
Lesson 4 Self-test score (10 points)	6	7	8	9	9	9	**8**	**E2=80.00**

E1 for 4 lesson exercises = 74.05

E2 for 4 self-tests = 77.90

The Field Tryout for Effectiveness of the TSRS CALL Program

(30 students)

Lessons / Student Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
Lesson 1 exercise score (10 points)	7	7	7	8	8	6	7	7	8	6	9	8	8	9	8	8	8
Lesson 1 Self-test score	8	6	7	9	10	8	9	9	7	8	9	10	9	9	10	9	10
Lesson 2 Text 1 Main idea	6	6	8	7	9	7	8	8	7	9	9	10	10	8	9	9	9
Lesson 2 Text 1 Comprehension	6	6	7	8	8	8	7	7	7	8	9	10	8	8	9	9	9
Lesson 2 Text 2 Main idea	7	6	8	8	7	7	6	8	8	9	10	9	9	9	8	7	8
Lesson 2 Text 2 Comprehension	6	5	7	6	8	7	7	8	8	9	9	9	8	10	9	9	10
Lesson 2 Exercise score (40 points)	25	23	30	29	32	29	28	31	30	35	37	38	35	35	35	34	36
Lesson 2 Self-test score (10 points)	7	6	7	8	7	8	8	7	7	8	7	8	8	8	9	10	10
Lesson 3 Text 1 Main idea	6	5	7	8	9	7	7	8	8	7	9	9	9	8	10	10	9
Lesson 3 Text 1 Comprehension	7	7	8	7	7	6	6	7	8	8	9	8	8	9	10	9	9
Lesson 3 Text 2 Main idea	6	6	7	7	9	7	7	8	8	7	6	7	8	8	9	8	7
Lesson 3 Text 2 Comprehension	6	7	8	8	8	6	6	7	8	8	7	6	9	9	8	7	8
Lesson 3 Exercise score (40 points)	25	25	30	30	33	26	26	30	32	30	31	30	34	34	37	34	33
Lesson 3 Self-test score (10 points)	6	5	7	8	9	8	8	7	8	6	9	9	8	8	9	10	10
Lesson 4 Text 1 Main idea	7	7	8	7	7	8	9	7	8	8	9	8	7	7	8	9	9
Lesson 4 Text 1 Comprehension	7	8	6	8	7	7	8	7	7	6	8	8	9	8	9	9	7
Lesson 4 Text 2 Main idea	6	6	7	7	8	8	7	6	6	8	9	9	7	8	8	9	7
Lesson 4 Text 2 Comprehension	7	7	6	8	8	6	6	8	8	9	8	8	7	8	9	9	8
Lesson 4 Exercise score (40 points)	27	28	27	30	30	29	30	28	29	31	34	33	30	31	34	36	31
Lesson 4 Self-test score (10 points)	8	8	7	7	8	7	7	6	8	7	9	8	8	8	7	9	8

The Field Tryout for Effectiveness of the TSRS CALL Program

(30 students) (Continued)

Lessons / Student Number	18	19	20	21	22	23	24	25	26	27	28	29	30	$\overline{X}$	
Lesson 1 Exercise score (10 points)	9	9	7	8	8	9	7	8	9	10	10	9	10	**8.06**	**E1= 80.66**
Lesson 1 Self-test score	9	9	8	8	9	9	10	9	8	9	10	9	9	**8.76**	**E2= 87.66**
Lesson 2 Text 1 Main idea	7	10	9	9	10	9	8	8	8	9	9	10	8		
Lesson 2 Text 1 Comprehension	8	9	10	10	9	9	9	10	9	10	9	9	9		
Lesson 2 Text 2 Main idea	8	9	10	8	8	9	9	9	8	10	9	8	10		
Lesson 2 Text 2 Comprehension	8	8	9	8	8	9	10	10	9	8	8	9	10		
Lesson 2 Exercise score (40 points)	31	36	38	35	35	36	36	37	34	37	35	36	37	**33.50**	**E1= 83.75**
Lesson 2 Self-test score (10 points)	8	9	9	7	10	10	9	9	9	8	7	9	9	**8.20**	**E2= 82.00**
Lesson 3 Text 1 Main idea	9	8	8	8	9	8	9	7	9	9	7	10	8		
Lesson 3 Text 1 Comprehension	8	7	8	9	10	8	7	9	9	10	8	9	10		
Lesson 3 Text 2 Main idea	9	9	8	8	9	7	9	8	8	9	8	9	9		
Lesson 3 Text 2 Comprehension	9	8	9	10	9	9	9	8	10	10	9	9	9		
Lesson 3 Exercise score (40 points)	35	32	33	35	37	32	34	32	36	38	32	37	36	**32.30**	**E1=80.75**
Lesson 3 Self-test score (10 points)	9	9	9	8	9	8	10	9	10	10	9	10	10	**8.50**	**E2=85.00**
Lesson 4 Text 1 Main idea	8	9	8	8	10	9	9	9	8	10	8	9	10		
Lesson 4 Text 1 Comprehension	7	8	8	9	10	8	8	10	10	8	8	9	8		
Lesson 4 Text 2 Main idea	8	9	7	7	7	9	9	8	7	8	9	10	10		
Lesson 4 Text 2 Comprehension	8	8	6	8	8	9	8	8	8	10	10	9	9		
Lesson 4 Exercise score (40 points)	31	34	29	32	35	35	34	35	33	36	35	37	37	**32.03**	**E1=80.07**
Lesson 4 Self-test score (10 points)	10	8	8	9	10	10	9	9	8	9	8	9	10	**8.23**	**E2=82.33**

E1 for 4 lesson exercises = 81.30

E2 for 4 self-tests = 84.24

APPENDIX E

Pre- and Post-Test Scores of the Two Groups

	Experimental Group		Control Group	
No.	pre-test	post-test	pre-test	post-test
1	15	19	10	8
2	17	20	8	7
3	12	16	10	9
4	13	15	8	8
5	11	16	9	10
6	14	18	8	10
7	14	19	8	8
8	16	19	9	8
9	17	15	8	12
10	11	16	10	9
11	12	16	9	11
12	12	19	9	7
13	14	18	8	8
14	15	13	10	12
15	18	13	8	6
16	16	19	9	11
17	13	17	8	9
18	14	16	10	10
19	10	13	8	8
20	9	12	10	9
21	10	13	8	8
22	9	13	12	11
23	8	14	8	10

	Experimental Group		Control Group	
No.	pre-test	post-test	pre-test	post-test
24	10	13	18	14
25	8	10	9	12
26	9	13	8	9
27	8	12	8	7
28	10	16	12	17
29	9	12	12	16
30	9	14	14	15
31	9	13	15	16
32	7	9	18	19
33	10	14	11	18
34	8	12	12	13
35	8	10	17	18
36	9	9	15	17
37	8	13	18	19
38	9	9	16	13
39	9	9	14	16
40	10	12	12	16
41	8	11	15	15
42	8	10	14	14
43			15	13
44			18	18
Total	446	590	496	524
Mean	11.09	14.04	11.27	11.90
S.D.	3.04	3.17	3.39	3.84

APPENDIX F

PRE-TEST AND POST-TEST

PRE-TEST

Part 1

You are going to read a newspaper article about a musical family. For questions **1–8**, choose the answer (**A**, **B**, **C** or **D**) which you think fits best according to the text.

Mark your answers **on the separate answer sheet.**

Meet the Amazing Watkins Family

The sons are composers and prize-winning musicians, while Dad makes the instruments. ***Matthew Rye*** *reports.*

Whole families of musicians are not exactly rare. However, it is unusual to come across one that includes not only writers and performers of music, but also an instrument maker.

When South Wales schoolteachers John and Hetty Watkins needed to get their ten-year-old son, Paul, a cello to suit his blossoming talents, they baulked at the costs involved. 'We had a look at various dealers and it was obvious it was going to be very expensive,' John says. 'So I wondered if I could actually make one. I discovered that the Welsh School of Instrument Making was not far from where I lived, and I went along for evening classes once a week for about three years.'

'After probably three or four goes with violins and violas, he had a crack at his first cello,' Paul, now 28, adds. 'It turned out really well. He made me another one a bit later, when he'd got the hang of it. And that's the one I used right up until a few months ago.' John has since retired as a teacher to work as a full-time craftsman, and makes up to a dozen violins a year – selling one to the esteemed American player Jaime Laredo was 'the icing on the cake'.

line 17

Both Paul and his younger brother, Huw, were encouraged to play music from an early age. The piano came first: 'As soon as I was big enough to climb up and bang the keys, that's what I did,' Paul remembers. But it wasn't long before the cello beckoned. 'My folks were really quite keen for me to take up the violin, because Dad, who played the viola, used to play chamber music with his mates and they needed another violin to make up a string trio. I learned it for about six weeks but didn't take to it. But I really took to the character who played the cello in Dad's group. I thought he was a very cool guy when I was six or seven. So he said he'd give me some lessons, and that really started it all off. Later, they suggested that my brother play the violin too, but he would have none of it.'

'My parents were both supportive and relaxed,' Huw says. 'I don't think I would have responded very well to being pushed. And, rather than feeling threatened by Paul's success, I found that I had something to aspire to.' Now 22, he is beginning to make his own mark as a pianist and composer.

Meanwhile, John Watkins' cello has done his elder son proud. With it, Paul won the string final of the *BBC Young Musician of the Year* competition. Then, at the remarkably youthful age of 20, he was appointed principal cellist of the BBC Symphony Orchestra, a position he held, still playing his father's instrument, until last year. Now, however, he has acquired a Francesco Rugeri cello, on loan from the Royal Academy of Music. 'Dad's not said anything about me moving on, though recently he had the chance to run a bow across the strings of each in turn and had to admit that my new one is quite nice! I think the only thing Dad's doesn't have – and may acquire after about 50–100 years – is the power to project right to the back of large concert halls. It will get richer with age, like my Rugeri, which is already 304 years old.'

Soon he will be seen on television playing the Rugeri as the soloist in Elgar's Cello Concerto, which forms the heart of the second programme in the new series, *Masterworks*. 'The well-known performance history doesn't affect the way I play the work,' he says. 'I'm always going to do it my way.' But Paul won't be able to watch himself on television – the same night he is playing at the Cheltenham Festival. Nor will Huw, whose String Quartet is receiving its London premiere at the Wigmore Hall the same evening. John and Hetty will have to be diplomatic – and energetic – if they are to keep track of all their sons' musical activities over the coming weeks.

1 Why did John Watkins decide to make a cello?

A He wanted to encourage his son Paul to take up the instrument.
B He was keen to do a course at the nearby school.
C He felt that dealers were giving him false information.
D He wanted to avoid having to pay for one.

2 What is meant by 'crack' in line 17?

A attempt
B plan
C shock
D period

3 What do we learn in the third paragraph about the instruments John has made?

A He considers the one used by Jaime Laredo to be the best.
B He is particularly pleased about what happened to one of them.
C His violins have turned out to be better than his cellos.
D It took him longer to learn how to make cellos than violins.

4 Paul first became interested in playing the cello because

A he admired someone his father played music with.
B he wanted to play in his father's group.
C he was not very good at playing the piano.
D he did not want to do what his parents wanted.

5 What do we learn about Huw's musical development?

A His parents' attitude has played little part in it.
B It was slow because he lacked determination.
C His brother's achievements gave him an aim.
D He wanted it to be different from his brother's.

6 What does Paul say about the Rugeri cello?

A His father's reaction to it worried him.
B The cello his father made may become as good as it.
C It has qualities that he had not expected.
D He was not keen to tell his father that he was using it.

7 What does Paul say about his performance of Elgar's Cello Concerto?

A It is less traditional than other performances he has given.
B Some viewers are likely to have a low opinion of it.
C He considers it to be one of his best performances.
D It is typical of his approach to everything he plays.

8 What will require some effort from John and Hetty Watkins?

A preventing their sons from taking on too much work
B being aware of everything their sons are involved in
C reminding their sons what they have arranged to do
D advising their sons on what they should do next

Part 2

You are going to read an article about a bird called the kingfisher. Seven sentences have been removed from the article. Choose from the sentences **A–H** the one which fits each gap (**9–15**). There is one extra sentence which you do not need to use.

Mark your answers **on the separate answer sheet**.

The kingfisher

Wildlife photographer Charlie James is an expert on the kingfisher: a beautiful blue-green bird that lives near streams and rivers, feeding on fish.

Old trees overhang the stream, half shading shallow water. Soft greens, mud browns and the many different yellows of sunlight are the main colours, as soft as the sounds of water in the breeze. The bird cuts like a laser through the scene, straight and fast, a slice of light and motion so striking you almost feel it. It has gone in a split second, but a trace of the image lingers, its power out of proportion to its size.

Charlie James fell in love with kingfishers at an early age. 9 [ ] After all, it is the stuff of legend. Greek myth makes the kingfisher a moon goddess who turned into a bird. Another tale tells how the kingfisher flew so high that its upper body took on the blue of the sky, while its underparts were scorched by the sun.

10 [ ] For despite the many different blues that appear in their coats, kingfishers have no blue pigment at all in their feathers. Rather, the structure of their upper feathers scatters light and strongly reflects blue.

11 [ ] It's small wonder that some wildlife photographers get so enthusiastic about them. Couple the colours with the fact that kingfishers, though shy of direct human approach, can be easy to watch from a hideout, and you have a recipe for a lifelong passion.

Charlie James's first hideout was an old blanket which he put over his head while he waited near a kingfisher's favourite spot. 12 [ ] But it took another four years, he reckons, before he got his first decent picture. In the meantime, the European kingfisher had begun to dominate his life. He spent all the time he could by a kingfisher-rich woodland stream.

The trouble was, school cut the time available to be with the birds. So he missed lessons, becoming what he describes as an 'academic failure'. 13 [ ]

At 16, he was hired as an advisor for a nature magazine. Work as an assistant to the editor followed, then a gradual move to life as a freelance wildlife film cameraman. What he'd really like to do now is make the ultimate kingfisher film. 14 [ ] 'I'm attracted to the simple approach. I like to photograph parts of kingfisher wings ...'

The sentence trails off to nothing. He's thinking of those colours of the bird he's spent more than half his life getting close to, yet which still excites interest. 15 [ ] But, as Charlie knows, there's so much more to his relationship with the kingfisher than his work can ever show.

A This is why a kingfisher may appear to change from bright blue to rich emerald green with only a slight change in the angle at which light falls on it.

B But his interest in this, the world's most widespread kingfisher and the only member of its cosmopolitan family to breed in Europe, was getting noticed.

C A sure sign of his depth of feeling for this little bird is his inability to identify just what it is that draws him to it.

D The movement sends a highly visible signal to rivals, both males and females, as it defends its stretch of water against neighbours.

E The bird came back within minutes and sat only a metre away.

F The photographs succeed in communicating something of his feelings.

G 'No speech, just beautiful images which say it all,' he says.

H There is some scientific truth in that story.

Part 3

You are going to read a magazine article in which various people talk about their jobs. For questions **16–30**, choose from the people (**A–D**). The people may be chosen more than once.

Mark your answers **on the separate answer sheet**.

Which person says their job involves

large amounts of paperwork?	16	
training high-level staff in their area of work?	17	
taking measures to protect public safety?	18	
accepting certain financial limitations?	19	
encouraging visitor participation?	20	
listening to disagreements?	21	
doing considerable background research?	22	
introducing problems that require solutions?	23	
balancing supply and demand?	24	
producing advertising literature?	25	
organising trips designed to increase people's awareness?	26	
constant updating of their own materials?	27	
corresponding with the public?	28	
working in an area that has personal meaning for them?	29	
working with a team of colleagues?	30	

My line of work

Four people talk about their jobs.

A Lisa – Exhibition Programmes Organiser, Science Museum

I'm responsible for putting temporary exhibitions together. This includes planning and designing the exhibition and promoting it. I have to read up about the subject of the exhibition beforehand and then talk to important people in the area so that I can establish the main themes and aims of the exhibition, and plan what objects and pictures should be displayed. I have to make sure the public can understand the thinking behind the exhibition, which means planning interactive displays, workshops and theatre. I also have to bring in engineers and electricians to make sure the final display is not dangerous to visitors. Before the exhibition opens, I help design and write the brochures and leaflets that we'll use to tell people about it.

B Janet – Teacher of London Taxi Drivers

The first thing I do when I get here at 7.30 a.m. is check the accounts. Then I see what new maps and documents need to be produced in order to learn the 'runs' or routes necessary to pass the London taxi-driver test. By midday, about 50 students are in school, working out how to make the journeys. They work out the most direct route, using the correct one-way streets, and right- and left-hand turns. I get involved when there's a difference of opinion – like whether you can do a right turn at a particular junction. When they're close to the test, I'll give them a simple route and no matter what way they say they'll go, I'll tell them they have to use another route because the road is closed. The next student will have to find a third route and again I'll come up with a reason why they can't go that way. It's just to make them think.

C Sarah – Marine Conservationist

I live by the coast and work from home. This involves responding to telephone enquiries, producing educational resources and setting up training courses. Occasionally, I go into our main office but generally I am on the coast. I also work with schools and study centres and run courses for coastal managers and those involved in making decisions about the fate of the seas. I do things like take them out to sea in a boat in an attempt to make them think more about the life underneath them. This often changes their views as it's very different from making decisions using a computer screen. I am extremely lucky because conservation is my hobby, so the job has many highs for me. The downside of the job is that I work for a charity, so there is a constant need for more money. This means I'm always looking for more resources and I'm not able to achieve everything I want.

D Chris – Map and Atlas Publisher

My work is pretty varied. I have to make sure that the publishing programme matches market requirements, and ensure that we keep stocks of 300 or so of the books that we publish. We have very high standards of information and content. We receive many letters from readers on issues such as the representation of international boundaries and these in particular require a careful response. I discuss future projects and current sales with co-publishers. I work as part of an enthusiastic group which makes the job that much more enjoyable. The negative side, as with many jobs, is that there is far too much administration to deal with, which leaves less time to work on the more interesting tasks such as product development and design.

POST-TEST

Part 1

You are going to read an extract from a short story. For questions **1–8**, choose the answer (**A**, **B**, **C** or **D**) which you think fits best according to the text.

Mark your answers **on the separate answer sheet.**

Finding a good flat in Dublin at a price you could afford was like finding gold in the gold rush. The best way was by personal contact: if you knew someone who knew someone who was leaving a place, that often worked. But if, like Jo, you had only just arrived in Dublin, there was no chance of any personal contact, nobody to tell you that
line 5 their bedsit would be vacant at the end of the month. No, it was a matter of staying in a hostel and searching.

For Jo, Dublin was a very big blank spot. She really felt she was stepping into the unknown when she got on the train to go and work there. She didn't ask herself why she was going there in the first place. It had been assumed by everyone she went around with at school that she would go. Who would stay in a one-horse town, the back of beyond, the end of the world, the sticks? That's all she had heard for years. They were all going to get out, escape, see some life, get some living in, have a real kind of existence, and some of the others in her class had gone as far as the towns of Ennis or Limerick, where an elder sister or an aunt would see them settled in. But out of Jo's year, none of them were going to Dublin. She was heading off on her own.

Jo's mother thought it would be great if she stayed permanently in the hostel. It was run by nuns, and she would come to no harm. Her father said that he hoped they kept the place warm; hostels were well known for being freezing. Jo's sisters, who worked in a hotel as waitresses, said she must be off her head to have stayed a whole week in a hostel. But Jo didn't know they were all still thinking about her and discussing her, as she answered the advertisement for a flat in Ringsend. It said, 'Own room, own television, share kitchen, bathroom.' It was very near the post office where she worked and seemed too good to be true. Please, please let it be nice, let them like me, let it not be too dear!

There wasn't a queue for this one because it wasn't so much 'Flat to Let', more 'Third Girl Wanted'. The fact that it said 'own television' made Jo wonder whether it might be too high a class for her, but the house did not look in any way overpowering. An ordinary red-brick terraced house with a basement. But the flat was not in the basement, it was upstairs. And a cheerful-looking girl with a college scarf, obviously a failed applicant, was coming down the stairs. 'Desperate place,' she said to Jo. 'They're both awful. Common as dirt.' 'Oh,' said Jo and went on climbing.

line 31 'Hello,' said the girl with 'Nessa' printed on her T-shirt. 'Did you see that toffee-nosed girl going out? I can't stand that kind, I can't stand them.' 'What did she do?' asked Jo. 'Do? She didn't have to *do* anything. She just poked around and pulled a face and sort of giggled and then said, "Is this all there is to it? Oh dear, oh dear," in a posh accent. We wouldn't have her in here, would we, Pauline?'

Pauline had a psychedelic shirt on, so colourful it almost hurt the eyes, but even so it was only slightly brighter than her hair. Pauline was a punk, Jo noted with amazement. She had seen some of them on O'Connell Street, but hadn't met one close up to talk to. 'I'm Jo, I work in the post office and I rang.' Nessa said they were just about to have a mug of tea. She produced three mugs; one had 'Nessa' and one had 'Pauline' and the other one had 'Other' written on it. 'We'll get your name put on if you come to stay,' she said generously.

1 What does 'it' in line 5 refer to?

A the accommodation available
B finding accommodation
C getting advice on accommodation
D the shortage of accommodation

2 What do we learn about Jo's schoolfriends in paragraph 2?

A They would have liked to be as independent as Jo was.
B They had more self-confidence than Jo had.
C They had made Jo feel that she ought to leave her home town.
D They were not as happy as Jo was to move to a new town.

3 What impression do we get of Jo's home town?

A It was an uninteresting place in the middle of the countryside.
B It was a place where peole struggled to earn a living.
C It was a place where the population had fallen greatly.
D It was an unfriendly place, where young people were treated badly.

4 What did Jo think about the flat in Ringsend before she saw it?

A that she was likely to be able to afford it
B that the advertisement for it was confusing
C that it might not be as suitable for her as it first sounded in the advertisement
D that it did not really have all the facilities mentioned in the advertisement

5 What do we learn about the girl who passed Jo on the stairs?

A She was upset that she was not going to live in the flat.
B She liked neither the flat nor the other girls living there.
C She had not been seriously intending to live in the flat before seeing it.
D She had not realised that other people were already living in the flat.

6 What is meant by 'toffee-nosed' in line 31?

A feeling superior
B being curious about others
C strange-looking
D appearing nervous

7 What did Jo think when she first met Pauline?

A She probably wouldn't like Pauline because of her appearance.
B Pauline was different from other punks she had met.
C Pauline would probably not want to make friends with her.
D She knew very little about people who looked like Pauline.

8 By the end of the extract, we learn that

A Nessa and Pauline did not really want anyone to share their flat.
B other people had moved out of the flat because they had not enjoyed living there.
C Nessa felt that Jo would be more suitable than the previous applicant.
D Nessa and Pauline were not expecting anyone to want to share their flat.

Part 2

You are going to read a magazine article about how to become a published author. Seven sentences have been removed from the article. Choose from the sentences **A–H** the one which fits each gap (**9–15**). There is one extra sentence which you do not need to use.

Mark your answers **on the separate answer sheet**.

Trying to get published?

If you are wondering where to send your story, our expert Margaret Stubbs is here with the advice you need.

Readers of this magazine often write in saying, 'I have written this story/book. Can you please tell me who to send it to?' One of the first things they need to know is that they should be researching their markets and finding out about publishers as well as practising their writing skills. Turning words into a saleable commodity takes a good deal of knowledge about the 'writing game'.

Whatever kind of writing you do, you need to develop a knowledge of the markets you are aiming at. **9** Use your local library and go round the local bookshops and newsagents. Reading widely will always give you the best guide to what kinds of writing publishers are actually accepting at any given time.

As time goes on, this knowledge must be updated as new publications are constantly appearing – editors change jobs, and magazines change direction. **10** Publishers are always hungry for new blood; as writers we have to make sure we give them what they want.

To begin with you may be looking around, not quite sure what you want to write. Let us say you feel that you might like to write short love stories. The very first thing you must do is find out which magazines use love stories, a rather limited market these days, and get hold of as many recent copies as you can. **11** These readers will expect different things from their magazine, and the editor is only interested in catering to their needs.

Writers often send me their stories saying, 'This has been rejected three times – please tell me if I am wasting my time ... do I stand a chance at all?' **12** But it is unlikely that the work is of publishable standard; so I have to try to give an honest opinion, but always with a positive viewpoint.

The problem is that most new writers are too eager to send their work out, usually long before they are ready to enter the market. If you have only written one story or one article, it is not at all likely to be published. **13** When you read about so-called 'overnight success', you usually find that the person has been in the publishing trade or journalism for some years before their current success.

When you do finally send off some of your work for the first time, immediately get on with more work while you await a reply; write ten more stories, twenty even. Each one will be better than the last, and you will begin to think of yourself as a writer, and both your fluency and your confidence will grow. **14** Also I would advise not showing your work to anyone else, certainly in the early stages.

Don't forget that every successful writer will have had many rejections before succeeding. Do everything you can to advance your career as a writer. See whether there's a creative writing course near you. **15** Think of yourself as a writer and get that writing practice in – every day if possible.

A However, if you fancy yourself as a writer of thrillers then you will need to read books by thriller writers.

B Then familiarise yourself with the kind of stories they are buying, taking special note of who the readers are.

C That almost never happens.

D If not, try joining a local writers' group which will help you to gain ideas and confidence from mixing with other aspiring writers.

E There are several ways of doing this, but the best one is simply by reading everything relevant you can lay your hands on.

F Don't tear any of them up – improve them instead.

G New titles are coming and going all the time.

H As a former teacher, I would never actively discourage anyone.

Part 3

You are going to read a magazine article in which five people talk about their favourite places. For questions **16–30**, choose from the people (**A–E**). The people may be chosen more than once. When more than one answer is required, these may be given in any order.

Mark your answers **on the separate answer sheet.**

Which person or people

appreciates a little luxury? 16 ☐

enjoy an area that they appreciated as a child? 17 ☐ 18 ☐

enjoys watching other people in their everyday lives? 19 ☐

appreciates the plantlife in their favourite place? 20 ☐

appreciates a lack of noise? 21 ☐

like an area which few people visit? 22 ☐ 23 ☐

revealed talents as a child which were required in their future career? 24 ☐

stays in inexpensive accommodation? 25 ☐

finds changing circumstances add to their appreciation of the place? 26 ☐

admits the landscape is not very special? 27 ☐

experienced a variety of landscapes while still a child? 28 ☐ 29 ☐

has been keen to share their enthusiasm with others? 30 ☐

Favourite places

A **Bruce**
I don't like landscapes which are completely untamed. It's the human element which is important to me. It's the same when I travel abroad. Lovely villages with old temples attract me, not empty deserts. When I was eight, I went away to school in England and on Saturdays I would cycle to the village of Lastingham in its lovely valley. Cycling was a release from school. I loved exploring the bleak hilltops, the sheltered valleys and old villages. Coming from Scotland myself, I found the landscape familiar yet different and I still go back there today. I used to describe my adventures in my private diary. In a way, that was my first attempt at travel writing, at which I subsequently made my name.

B **Sophia**
There is a miniature railway that goes from Hythe to Dungeness, run by amateurs. I always travel first class as it doesn't cost much more than the regular fare. The scenery is not spectacular. The train moves across Romney Marsh with its sheep, and alongside a canal. But there is one point on the journey that I always look forward to – when our miniature world takes a detour through back gardens. For a few moments, we passengers spy on people at random points in their day, making a cup of tea, doing the washing up, unfolding a deckchair. I see myself in their eyes, a woman in a tiny train carriage, looking into other people's homes. It's the ordinariness of the landscape that attracts me. Just fields and sheep and a distant grey sea. That makes me look more closely, to search for something that opens my eyes.

C **Matthew**
The Hartland Peninsula is a remote and lovely coast. The beaches are hard to reach and scattered with rocks, so crowds are largely non-existent here. They attract a few brave surfers but most visitors prefer instead to reflect on the majesty of the sea. The coast, which faces the Atlantic, is notorious for shipwrecks. There are coast walks which you can combine with trips inland up beautiful damp valleys, full of oak trees, ferns and wild flowers. We stay in modest self-catering accommodation with a family who have some property in the village of Southole.

D **Annette**
My favourite place in England is the Trough of Bowland, a landscape of wide-open moorland which is perfect for hiking. There are not many residents and not many visitors either. It's an unknown corner, empty and remote, and I like the feeling of space. I discovered the area by chance when I was a student, and since then I've made an annual visit, either alone, or with my boyfriend, and now with my son. It has changed little since my first visit. Having a child makes these visits more special. It makes me sad that he's growing up in an urban environment.

E **James**
I purchased Glenthorne, my favourite house in Britain. It was a question of obtaining pure peace and reconnecting with my English roots and coming home. I grew up in what is now known as Sri Lanka, but at the age of twelve went to school in Devon, in the west of England. I used to cycle around the moors and village backstreets. We had a story about a place we would never cycle past: if you went down the driveway you'd never return. That place was Glenthorne. It's the place of my dreams. It's a magic, secluded, romantic house. You can't hear anything except sea, wind and birds.

APPENDIX G

Interview Data (An Example)

Interviewees: RR; AP; BB; NNP; TCT; BJ; RTW; NLP; STS; PP; JD; STW; NTK; JK; WSM; ANT; SPT; JTM; VTY; CTN; MT; MIN; ILD; SUP; CCR; CCK

Interviewer: Researcher (RR)

Time: 13.00, 2009

RR: Thanks for joining in the interview. As I have mentioned, this interview is being recorded and all the data I obtain will be used for research purpose. So, feel free to express your opinions as you really think. Now, What do you think about the TSRS CALL program?

AP: I think it's good. I have the chance to make a self-study at my own pace. I especially like it in that it provides Thai translation. I also like the exercises where there are 4 sets with 10 questions following each set. But I don't understand very well some questions. By the way, I like them.

RR: What advantage do you see?

BB: I have learned new vocabulary, a lot of vocabulary, reading, and things like that.

NNP: I think it is fun, not serious. It is learning from easy to difficult (structures). It is learning from one structure to another. It's easy to understand.

RR: Difficult?

BB: Yes, somewhat.

RR: Do you like learning with the program or how do you feel about it?

BB: I just feel indifferent. I mean when I do the learning here, I am OK, happy, not serious.

RR: What do you see as salient features of TSRS CALL program ?

BB: I have learned a lot from online learning such as TSRS. In this way, it is Internet-based learning which I like.

RR: Anything else? Any suggestions for further improvement of the program?

BB: English translation. I want all sections in TSRS CALL program to be translated.

I don't quite like it when some parts are translated while some others are not.

RR: How did you read? I mean did you first read English and then Thai?

BB: I read English then I read Thai translation in order to understand better.

RR: What do you like and dislike about the TSRS CALL program?

TCT: What I really like about TSRS is the practice exercises. I can check my performance from the feedback. I very much like this. But one disadvantage is that I can redo what I have done. I mean the mistakes can be made correct. I think the scores do not truly reflect our real ability.

RR: Only the scores from the first attempt are counted.

TCT: Then, it's OK.

RR: What do you see as benefits of TSRS?

TCT: I see the benefits of TSRS in that it provides interactive exercises.

RTW: How to say…. You know I have practiced doing the exercises and many more. There are true/false questions, multiple choice, and matching. Some questions also require a short answer, which I have to type a word, or a phrase to answer them. This is interesting. I am not bored (เซ็ง) because there is not only one question format. I have had a lot of more knowledge.

BJ: It is very useful for reading. It made me read more.

RR: What about the difficulty of the program?

BJ: It is when I have to fill in the blanks in the exercise. I think it's somewhat difficult. But not too difficult.

RR: So, is it good or not?

BJ: It's mediocre.

NLP: It is good because I have learned a lot of things that are strange and new. They are different from general classroom learning stuff, from books. This is a program. Yes, it is new and strange. I have learned here. I have learned a lot of new vocabulary from TSRS. I have learned new vocabulary about for example, global warming, canned food making and so on.

STS: I have learned a lot more new vocabulary such as the one related to global warming and canned food. I think pictures or photos presented with those texts in the practice exercises are good. I read, think, then I understand because I look at photos. They help so much with my text comprehension.

PP: Yes, I also think the same way as she does. I have learned new English words and have had various new knowledge. I think the remarkable feature of TSRS is there is translation help. When I don't understand English, I can click on the Thai translation and I can then answer the questions. I think it is new, yes, it is new.

RR: Do you think it is appropriate for your English proficiency level?

JD: For me, I think some sections or exercises are easy, some others are difficult. However, I think it is suitable for me, for my English proficiency level. I think for the students who have good English background, TSRS might not be too difficult. But, for the ones who do not have good English ability, it might be too difficult. They might not understand.

RR: Now, again what do you think are the good parts of TSRS?

STW: The good part of TSRS is that it is easy to understand. There are reading materials that encourage us to think along. There are choices for us to choose. I think the contents are quite good. There are sentences that are presented in a step by step manner. That is, short sentences with examples. Then, there longer sentences, and paragraphs.

NTK: For me, the most noticeable thin about TSRS is that it made me think along about the vocabulary in the lessons. Also about the questions that are broad in contents. I read and then answered the questions based on those texts.

RR: What else? Such as sentence by sentence instruction, from small to big?

NTK: I think the time fixed for learning with this program is already good, appropriate. Not too much, not too little. In addition, the teaching in a sentence by sentence manner with translation makes me understand more about what I am learning. I feel I have studied example sentences and known how to remember sentence structures of the text. This makes me read better, I think.

RR: Please tell about the contents or the material? Are they difficult or easy?

NTK: They are at a high level, but I think they are understandable because there is Thai translation linked to each material. However, the difficult part is that when we read, will we understand that part? [Which one?] The translation part, if you don't understand what is translated, then it is very difficult? [But you understand?] Yes, I think so.

RR: What about the language help such as dictionary / translation ?

NTK: The Thai translation and dictionary are of different use. I only click on the Thai translation help when I don't understand what was asked. As for the dictionary, I just consulted it for some unknown words.

JK: For me, there are new and interesting words to learn, and there are explanations in Thai if we don't understand.

WSM: It is good that we do not have open from books to know if our answers are correct or not. We can know instantly after we have entered our answers, and we know why they are correct or incorrect. It is automatic checking. I like this.

RR: What do you think about the presentation format in TSRS?

WSM: It is interesting. If we study completely all the things, read everything in TSRS, it is very good. However, if you just read and skip, it is not interesting. But I don't skip very often.

RR: You mean you need some time for reading.

WSM: Yes, because in TSRS learning we had to rush ourselves because we learn in a computer room. Outside when you learn in an Internet café, the net might not work well, as well as here. It is fast.

RR: Now, Please tell me about the benefit of TSRS for your English reading comprehension.

ANT: It would be better, this is because TSRS made me read more. You know when I am in my room, I don't have time to read as much English as this. I have to read other subjects. when I read more, I know more and …

RR: What about the Thai translation help?

ANT: The Thai translation is very useful. Without it, I think I won't be able to do answer the questions correctly. You know, I have to compare between the English and Thai versions.

RR: What do you think about the time for the TSRS CALL program?

ANT: I think it could be more than enough, in case you are serious about learning with it.

RR: Please tell about the advantages of the TSRS CALL program.

SPT: I think the advantage of TSRS is that I have learned and understood more

English words. I know more about sentence structures, especially the ones for doing exercises. it improves my learning skill.

RR: How would you apply the knowledge to your future English reading?

SPT: I will follow TSRS in designing my own learning and teaching material, if I can in the future.

RR: What do you see as a unique point of the TSRS CALL program?

SPT: I think it is the time. The time for answering the questions in the lessons and practice exercises.

RR: HOW?

SPT: I think it is enough and appropriate for what we have to study in each lesson.

RR: Tell me about your opinion about the design and interface of the TSRS CALL program.

SPT: It would be better to add more cartoon animations. It will be more interesting. I think it should be used by children, something like that.

RR: How about the language help option, such as Thai translation?

SPT: This is very good, I think.

RR: What do you think about the TSRS CALL program?

JTM: It is something we can do continuously. It is about stories around us and there are questions regarding those stories. I think I have learned a lot from TSRS. I have more knowledge.

RR: What do you think about the contents in the TSRS CALL program?

JTM: Some topics are easy, some other topics are difficult, depending on your level.

RR: What do you remember best about the TSRS CALL program?

VTY:How to notice words in a paragraph, how to find key words, and new vocabulary.

RR: Is it new for you learning with this program?

JTM; VTY; CTN: Yes, of course.

RR: How? Please elaborate.

CTN: It is something I can learn according to my own ability. I mean, if we read slowly, we can do it slowly. If we can read fast, we can it fast. It is learning based on understanding. I don’t have to rush myself. There are explanations for what we have done correctly or incorrectly. This is very good.

RR: How?

CTN: I mean I don't need to compete with other students because I have enough time in learning with the program. This is good because it doesn't make me serious and stressful. I can make myself understand what I am learning. I think this makes my knowledge more profound and durable.

RR: Please tell me about the usefulness of the TSRS CALL program.

MT: It is something I can do at my leisure. But I can access some parts of the program only once or twice. The time fixed for learning with the program is OK, not too much not too little. I used to do something like this when I learned with Ajarn Tim. He has now resigned. It has several features. These include understanding practice, question answering. On the whole, it is very good.

RR: What do you think about the design of the TSRS CALL program, is it interesting?

MIN: There should be a good dictionary program installed on a computer because I can consult in case there are some words I don't know.

MT: For me, The Thai translation is very useful because it helps to understand better.

RR: How often did you use the Thai translation help?

MT: Only when it was necessary, especially in the long paragraph or stories that were somewhat difficult.

RR: What do you think about the TSRS CALL program?

TCT: I used to learn with an online program. There is something alike, but there are a lot of things different. There were questions and answers, but in the previous program, I could go ahead only when I answered the question correctly. You kept answering the same question until you provided the correct answer. In TSRS, though you answered wrongly, it tells you why it's wrong, then you try again until you are correct. Also it tells you why it is correct.

RR: How did you know your correct answer?

TCT: You know, if you answered incorrectly, you could not click on the NEXT.

RR: Did it tell you why it was correct or incorrect?

TCT: No, it just said correct, or Wrong.

RR: There was no feedback?

TCT: No.

ILD: For me, the contents are understandable. I mean if you are intent and serious, you can do the exercises. but you must not just click and skip (laugh). However, at least, it is useful for my English reading comprehension. I think it is easier for me to grasp the main idea, I mean, the core sentences are made easier. It made me able to get the main idea of text more easily. The main sentences make it easier to understand the text contents.

TCT: And, I think one good thing about the program is that it helps to organize the ideas in the text.

RR: After learning with the TSRS CALL program, do you think you want to learn and practice other reading strategies more?

SUP: Yes, it is quite good. It is something I can do on my own. But I don't know much about what reading strategies are available. If there are more reading strategies for me to learn and practice, then I think it would be very helpful for I am usually not quite good at English reading.

RR: Have you ever learned with a program like this?

SUP: No, it's new to me, indeed.

RR: Difficult?

SUP: Not so difficult.

RR: What do you most like or are interested about the TSRS CALL program?

SUP: I like it when, you know when I don't understand, there is translation help.

RR: Do you read Thai translation every time?

SUP: Yes, especially when I don't understand completely.

RR: What do you think about the quantity of the TSRS lessons and exercises?

SUP: Not too much.

RR: What about the time?

WSN: For me, it is too much.

RR: Please tell me about the usefulness of the TSRS CALL program.

CCR: For me, the advantage of TSRS is that it helped me to read better. Yes, I mean I know how to read. Previously, I just read and read without using any strategy. I don't know. Now I stop to look at headings, titles, and look for some key words or signal words. This way I think I am now a different reader.

CCK: This is good. It made me more interested in English learning.

RR: How did the feedback help you in learning?

CCR: Feedback is good because it tells me why my answer is correct or incorrect. I understand more about what I was learning.

RR: What else?

CCK: There are new words, and how to observe signal words in each paragraph.

RR: If you see the word ‘because’ in the sentence, what do you think?

CCK: Oh, that is something about cause/effect.

RR: So, is this what you remember?

CCK; CCR: Yes, yes.

RR: Anything else?

CCK: I think it’s already nice. Good design.

APPENDIX H

The T-Test for Each Item of the Five-Point Rating Scale TSRS Questionnaire

Item No.	T	Sig.	S.D.	Mean
1	25.849	.000	.819	3.87
2	25.849	.000	.819	3.87
3	25.849	.000	.819	3.87
4	25.552	.000	.850	3.97
5	24.810	.000	.868	3.93
6	25.849	.000	.819	3.87
7	24.810	.000	.868	3.93
8	60.208	.000	.379	4.17
9	24.576	.000	.847	3.80
10	34.059	.000	.643	4.00
11	25.849	.000	.819	3.87
12	34.059	.000	.643	4.00
13	35.330	.000	.615	3.97
14	32.492	.000	.669	3.97

Reliability Analysis - Scale (Alpha)

Reliability Coefficients

Numbers of Cases = 30

Numbers of Items = 14

Alpha = 0.838

APPENDIX I

แบบประเมินโปรแกรมคอมพิวเตอร์ช่วยสอนเพื่อเสริมความเข้าใจในการอ่านภาษาอังกฤษโดยใช้กลวิธีการอ่านโครงสร้างของตัวบท

(Evaluation Form for the TSRS CALL Program)

คำชี้แจง: กรุณาแสดงความคิดเห็นของท่าน โดยทำเครื่องหมาย / ในช่องระดับความคิดเห็นของผู้ทรงคุณวุฒิ ซึ่งกำหนดเกณฑ์ตัดสินคุณภาพเป็น 5 ระดับดังนี้

ระดับ 9-10 หมายถึง ดีมาก
ระดับ 7-8 หมายถึง ดี
ระดับ 5-6 หมายถึง พอใช้
ระดับ 3-4 หมายถึง ควรปรับปรุง
ระดับ 1-2 หมายถึง ไม่เหมาะสม

รายการประเมิน	**ระดับความคิดเห็นของผู้ทรงคุณวุฒิ**									
	ดีมาก		ดี		พอใช้		ควรปรับปรุง		ไม่เหมาะสม	
	10	9	8	7	6	5	4	3	2	1
1. ด้านเนื้อหาและการนำเสนอ										
1.1 เนื้อหาของบทเรียนคลอบคลุมวัตถุประสงค์										
1.2 การจัดลำดับขั้นตอนการนำเสนอเนื้อหา										
1.3 ความถูกต้องของเนื้อหา										
1.4 ความชัดเจนในการอธิบายเนื้อหา										
1.5 ความน่าสนใจของเนื้อหาบทเรียน										
1.6 ปริมาณเนื้อหาในแต่ละบทเรียนมีความเหมาะสม										
1.7 เนื้อหานำมาจากสื่อ หรือเอกสารจริง										
2. ด้านภาพและการใช้ภาษา										
2.1 ความตรงตามเนื้อหาของภาพประกอบบทเรียน										

รายการประเมิน	ดีมาก		ดี		พอใช้		ควรปรับปรุง		ไม่เหมาะสม	
	10	9	8	7	6	5	4	3	2	1
2.2 ขนาดภาพประกอบบทเรียนมีความเหมาะสม										
2.3 การสื่อความหมายของภาพประกอบบทเรียน										
2.4 ความน่าสนใจของภาพประกอบบทเรียน										
2.5 ความชัดเจนของภาพประกอบบทเรียน										
2.6 ความถูกต้องของไวยากรณ์และการสะกด										
3. ด้านการออกแบบจอภาพ										
3.1 แบบตัวอักษรอ่านได้ชัดเจน										
3.2 ความเหมาะสมของขนาดตัวอักษร										
3.3 ความเหมาะสมของการเลือกใช้สีตัวอักษร										
3.4 ความชัดเจนของตัวอักษรบนพื้นหลังสีต่างๆ										
3.5 ความเหมาะสมของการเลือกใช้สีจอภาพ										
3.6 ความเหมาะสมของการเน้นข้อความโดยใช้ตัวอักษรและสี										
4. ด้านการเรียนและการจัดการบทเรียน										
4.1 ปฏิสัมพันธ์หรือวิธีโต้ตอบกับบทเรียน										
4.2 ความหลากหลายของกิจกรรม										
4.3 ความเหมาะสมของการให้ข้อมูลย้อนกลับ										
4.4 รูปแบบการตั้งคำถามในบทเรียนและแบบฝึกหัด										
4.5 รูปแบบการให้ตอบคำถามในบทเรียนและแบบฝึกหัด										
4.6 คำอธิบายการปฏิบัติในบทเรียนและแบบฝึกหัด										
4.7 ความต่อเนื่องของการนำเสนอเนื้อหา										

	ดีมาก		ดี		พอใช้		ควรปรับปรุง		ไม่เหมาะสม	
4.8 การเปิดโอกาสให้ผู้เรียนควบคุมบทเรียน เช่นการกดปุ่มต่างๆ										
4.9 บทเรียนเปิดโอกาสให้ผู้เรียนเรียนรู้ด้วยตนเอง										
4.10 กิจกรรมมุ่งพัฒนาความเข้าใจในการอ่านภาษาอังกฤษ										
4.11 กิจกรรมส่งเสริมการใช้กลวิธีโครงสร้างของบทอ่าน										

ข้อเสนอแนะอื่นๆ

.....

....

ข้อผิดพลาดที่เกิดขึ้นขณะใช้งานโปรแกรมฯ (กรณีมีข้อผิดพลาด)

ข้อมูลเกี่ยวกับคอมพิวเตอร์	-ระบบปฏิบัติการ Windows ☐ XP ☐ ME ☐ 98 ☐ VISTA อื่นๆ☐..... -ตัวประมวลผล CPU ☐ 500 MHz ☐ 1 GHz ☐ 2 GHz ☐ อื่นๆ..... -หน่วยความจำ RAM ☐ 128 MB ☐ 256 MB ☐ 512 MB ☐ อื่นๆ..... -จอภาพขนาด ☐ 14 นิ้ว ☐ 15 นิ้ว ☐ 17 นิ้ว ☐ อื่นๆ.....
ข้อผิดพลาดที่พบ	

ลงชื่อ.....ผู้ประเมิน

วันที่...../...../.....

APPENDIX J

แบบประเมินโปรแกรม TSRS สำหรับนิสิต

<u>คำชี้แจง</u>: ให้นิสิตประเมินโปรแกรม TSRS ที่ตนเองได้เรียนมาแล้วตามความเป็นจริงทั้งสองด้าน ถ้านิสิตมีความเห็นเพิ่มเติมใดๆ ให้เขียนลงในช่องข้อเสนอแนะ

ด้านที่ประเมิน	ใช้ได้	ปรับปรุง	ข้อเสนอแนะ
ด้านที่ 1 เกี่ยวกับเนื้อหา			
1. ความเหมาะสมของเนื้อหาในบทเรียนและแบบฝึกหัด			
2. ลำดับการนำเสนอเนื้อหาในบทเรียนและแบบฝึกหัด			
3. ความเหมาะสมด้านเวลาเรียน (ไม่มากหรือน้อยเกินไป)			
4. ความเหมาะสมของภาพประกอบบทเรียน และแบบฝึกหัด (สอดคล้องกับเนื้อหา สื่อ ความหมายได้ดี เร้าความสนใน ชัดเจน)			
5. การช่วยเหลือด้านคำศัพท์ (เช่นการแปล และพจนานุกรม)			
ด้านที่ 2 เกี่ยวกับการออกแบบโปรแกรม			
6. ความเหมาะสมของตัวอักษร (ขนาด รูปแบบ สี อ่านง่าย)			
7. การใช้โทนสีในส่วนต่างๆของโปรแกรม (เช่น หน้าหลัก พื้นหลังในบทเรียน)			
8. ความเหมาะสมด้านการใช้ งาน(เช่น ปุ่มต่างๆใช้งานง่าย)			
9. ปฏิสัมพันธ์และการโต้ตอบในบทเรียน (เช่น การแสดงผลป้อนกลับ)			
10. คำอธิบายและการปฏิบัติต่างๆในโปรแกรม			

APPENDIX K

TSRS CALL PROGRAM MATERIAL (EXAMPLES)

Text Structure Reading Strategy Instruction: Courses

You are logged in as Dentisak Dorkchandra (Logout)

Home ▸ Course categories ▸ Text Structure Strategy

Turn editing on

Assign roles

Course categories: Text Structure Strategy

ค่าชี้แจงก่อน ศึกษาบทเรียน

Pre-test	**Text Structure Lesson 1**	**Text Structure Lesson 3**
Post-Test	**Text Structure Lesson 2**	**Text Structure Lesson 4**

Text structure lesson 1
Teacher: Dentisak Dorkchandra

Study the basic concepts about expository text, text structure, text structure strategy, signal words, and how to use text structure knowledge to help develop reading comprehension ability.

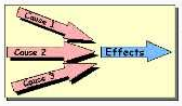
Text structure lesson 2
Teacher: Dentisak Dorkchandra

Study the sequence structure of English expository text, including example texts operating at sentence, paragraph, and whole-text levels. Students will take the self-test at the end of the lesson.

Text structure lesson 3
Teacher: Dentisak Dorkchandra

Study in details the compare/contrast structure of English expository text. Examples of compare/contrast text are presented at a sentence, paragraph,and whole-text levels. You will also study how to find the main idea in a compare/contrast text.

Text structure lesson 4
Teacher: Dentisak Dorkchandra



Study the Cause/Effect structure of English expository text as well as text examples showing the structure functioning at the sentence, paragraph, and whole-text levels.

Re-sort courses by name

Add a new course

Search courses: Go

Moodle Docs for this page

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Home

Course: Text structure lesson 1

Text structure lesson 1

You are logged in as Dentisak Dorkchandra

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Main Menu

- Lesson 1
- Lesson 2
- Lesson 3
- Lesson 4

Topic outline

Introduction

Reading English text can be difficult for you. The difficulty means you understand only a little or none of what you read. Why is it difficult to read English text then? The difficulty can be caused by your limited vocabulary. This means that the text has too many difficult words or technical terms. Or, you do not know how to read the text, which means you do not know reading strategies or how to use any of them. [Read more.]

Objectives of the lesson

By the end of this lesson, you will be able to

- understand and explain about text, narrative and expository text
- understand and explain about the text structure strategy
- distinguish different structures of English expository text
- understand and identify the signal words
- understand and know how to find the subject and the main idea of a text

1 **Lesson 1 Main Study**

In the following 'Main Study', you will learn about text structure strategy. Study and answer all the questions as best as you can.

LESSON 1 STUDY

2 **Lesson 1 Exercise**

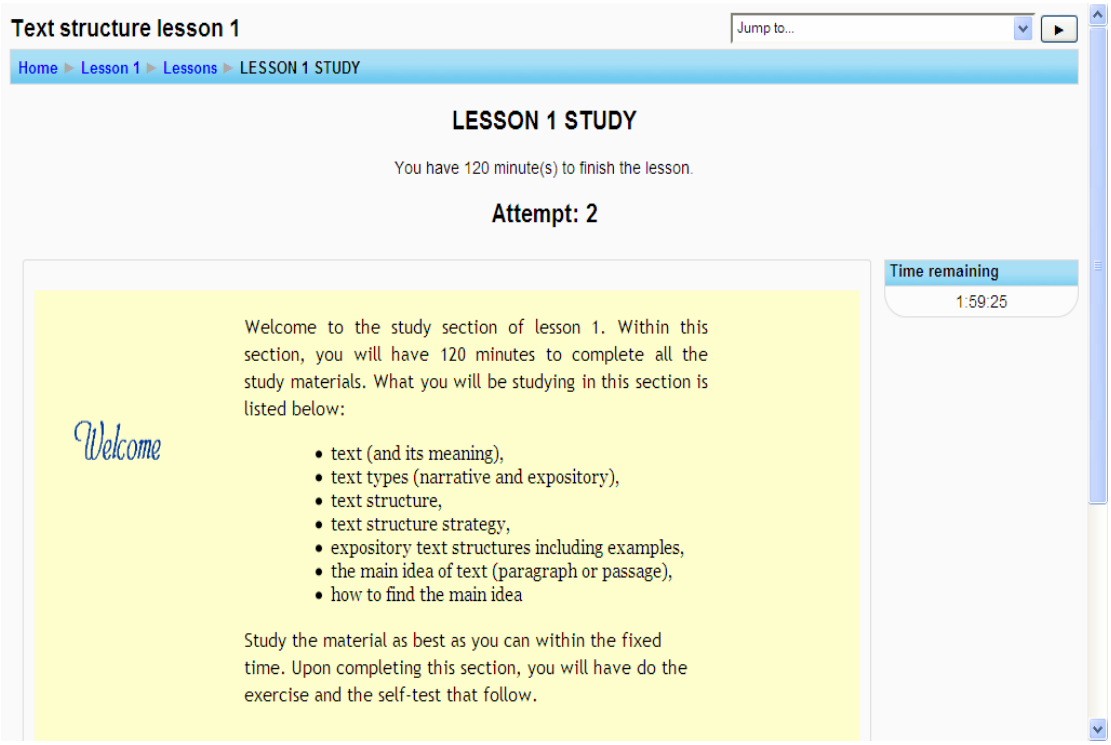
After you have finished with 'Lesson 1 Study', take this 'Lesson 1 exercise'. You will know how well you understand the lesson.

LESSON 1 EXERCISE

3 **Lesson 1 Self-Test**

This self-test is time-limited. You have 30 minutes to complete this test. You will know your test result immediately after the test.

Lesson 1 Self-Test


Text structure lesson 1
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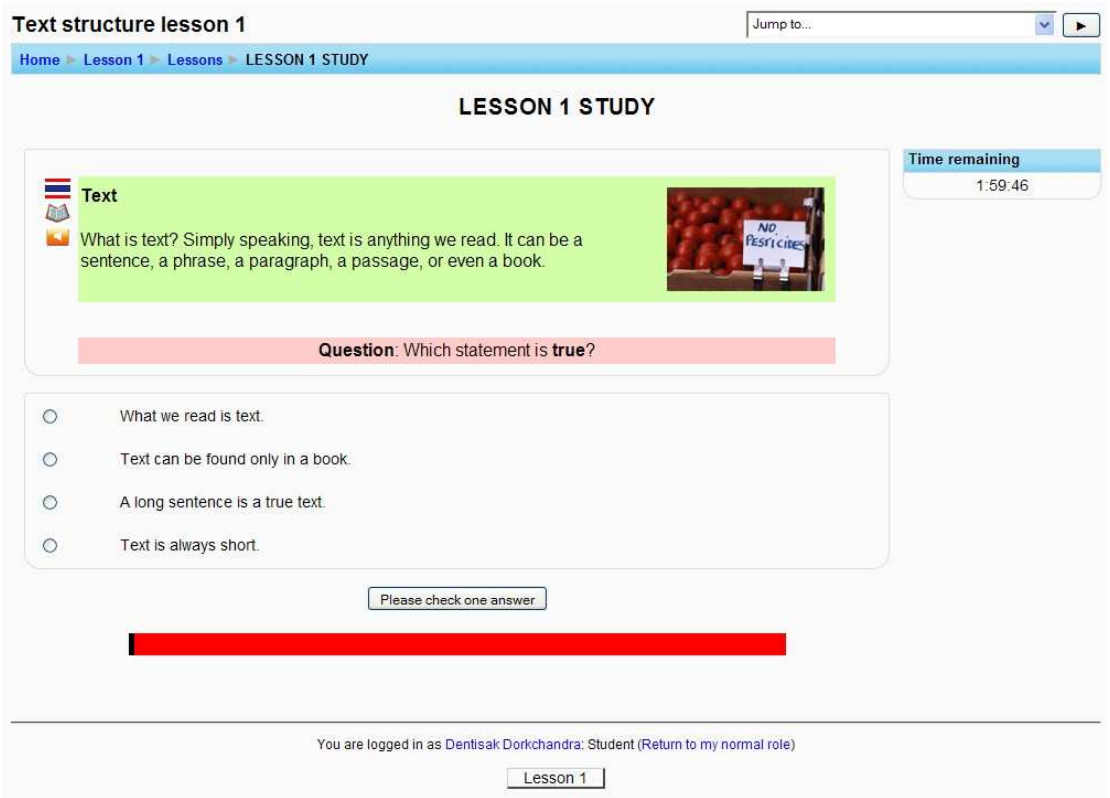
LESSON 1 STUDY
You have 120 minute(s) to finish the lesson.
Attempt: 2
Time remaining
1:59:25
Welcome
Welcome to the study section of lesson 1. Within this section, you will have 120 minutes to complete all the study materials. What you will be studying in this section is listed below:
• text (and its meaning),
• text types (narrative and expository),
• text structure,
• text structure strategy,
• expository text structures including examples,
• the main idea of text (paragraph or passage),
• how to find the main idea
Study the material as best as you can within the fixed time. Upon completing this section, you will have do the exercise and the self-test that follow.


Text structure lesson 1
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LESSON 1 STUDY
Time remaining
1:59:46
Text
What is text? Simply speaking, text is anything we read. It can be a sentence, a phrase, a paragraph, a passage, or even a book.
NO PESTICIDES
Question: Which statement is true?
What we read is text.
Text can be found only in a book.
A long sentence is a true text.
Text is always short.
Please check one answer
You are logged in as Dentisak Dorkchandra: Student (Return to my normal role)
Lesson 1

Text structure lesson 1

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LESSON 1 STUDY

Time remaining
1:59:06

Types of text

There are two types of texts: **Expository** text and **narrative** text. Text that is written to give information or explanations is expository. Text that is generally a story about people or events is narrative. Examples of expository text are **news report**, **essays**, **textbooks**, and **brochures** etc. Examples of narrative are **novel**, **biography**and **short story** etc.

Question: Which statement is true?

- Expository text tells a story and gives explanations.
- Expository text informs but narrative text tells a story.
- Expository text centers around characters and settings.
- Narrative text is short but expository text is long.

Please check one answer

You are logged in as Dentisak Dorkchandra: Student (Return to my normal role)

Lesson 1

Text structure lesson 1

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LESSON 1 STUDY

Time remaining
1:58:47

Types of text

There are two types of texts: **Expository** text and **narrative** text. Text that is written to give information or explanations is expository. Text that is generally a story about people or events is narrative. Examples of expository text are **news report**, **essays**, **textbooks**, and **brochures** etc. Examples of narrative are **novel**, **biography**and **short story** etc.

Question: Which statement is true?

Your answer :

Expository text informs but narrative text tells a story.

ถูกต้อง เก่งจริงๆ ตามข้อความที่เราอ่านข้างต้น ลักษณะเด่นของบทอ่านแบบอธิบายความ (expository text) คือเป็นการให้ข้อมูล แต่แบบเล่าเรื่อง (narrative text) เน้นการเล่าเรื่องซึ่งจะมีตัวละคร ฉาก โครงเรื่อง การดำเนินเรื่อง เป็นต้น

Continue

You are logged in as Dentisak Dorkchandra: Student (Return to my normal role)

Lesson 1

Text structure lesson 1

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LESSON 1 STUDY

Time remaining
1:58:30

Text Structure

Text structure is an **organization of ideas** in a text. Before writing, a writer decides how to put his/her ideas. He or she puts the ideas in the organization which is a **special writing plan**. Therefore, text structure is like a **master plan** of a text, just like a master plan of a house. Both expository text and narrative text have their own structures. However, this study will focus only on the structure expository texts.

Question: What is text structure?

- A writer needs to know the writing plan, then the text structure.
- Text structure is hard to notice without an idea organization.
- There is a relationship between text structure and ideas in the text.
- Text structure is the big picture of a text.

Please check one answer

You are logged in as Dentisak Dorkchandra: Student (Return to my normal role)

Lesson 1

Text structure lesson 1

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LESSON 1 STUDY

Time remaining
1:57:47

Text Structure Strategy

Text structure strategy means*readers' using knowledge of text structures to help comprehend the text*.As you may already know, reading strategy is an action or series of action that we take to help us understand what we read. Now, using text structure is also a reading strategy because it can help comprehend the text better. However, without the knowledge of text structure, we cannot use this strategy. Therefore, this reading strategy can be used either before or during reading. In short, if readers know how the text is organized and try to comprehend the text with that knowledge, they are using text structure strategy.

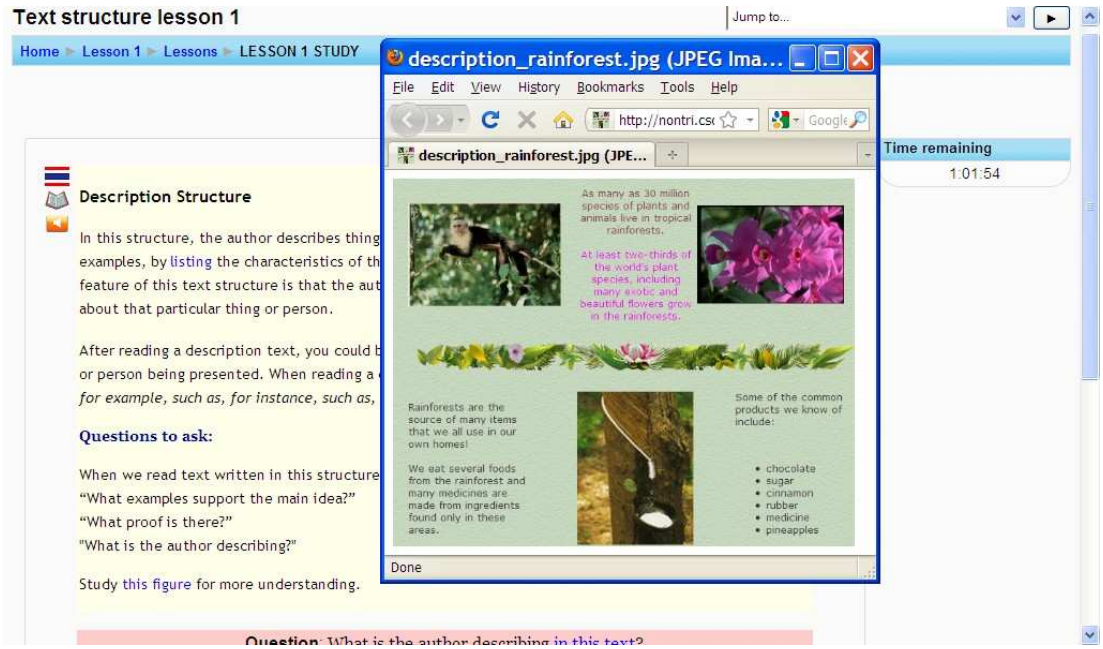
Question: According to the above information, which statement is true?

- We can use text structure strategy if we know the meaning of text structure.
- We can use text structure strategy before, during, and after reading.
- If we know how ideas are organized in a text, we can use text structure strategy.
- Text structure strategy helps in developing speed reading.

Please check one answer

You are logged in as Dentisak Dorkchandra: Student (Return to my normal role)

Lesson 1


Text structure lesson 1
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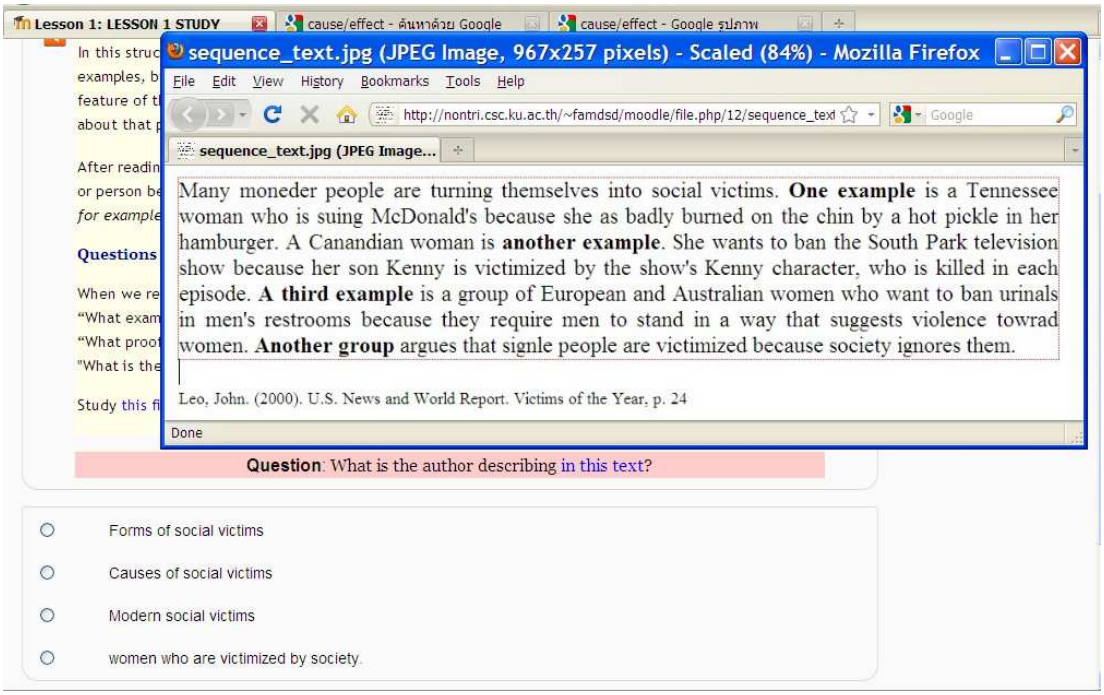
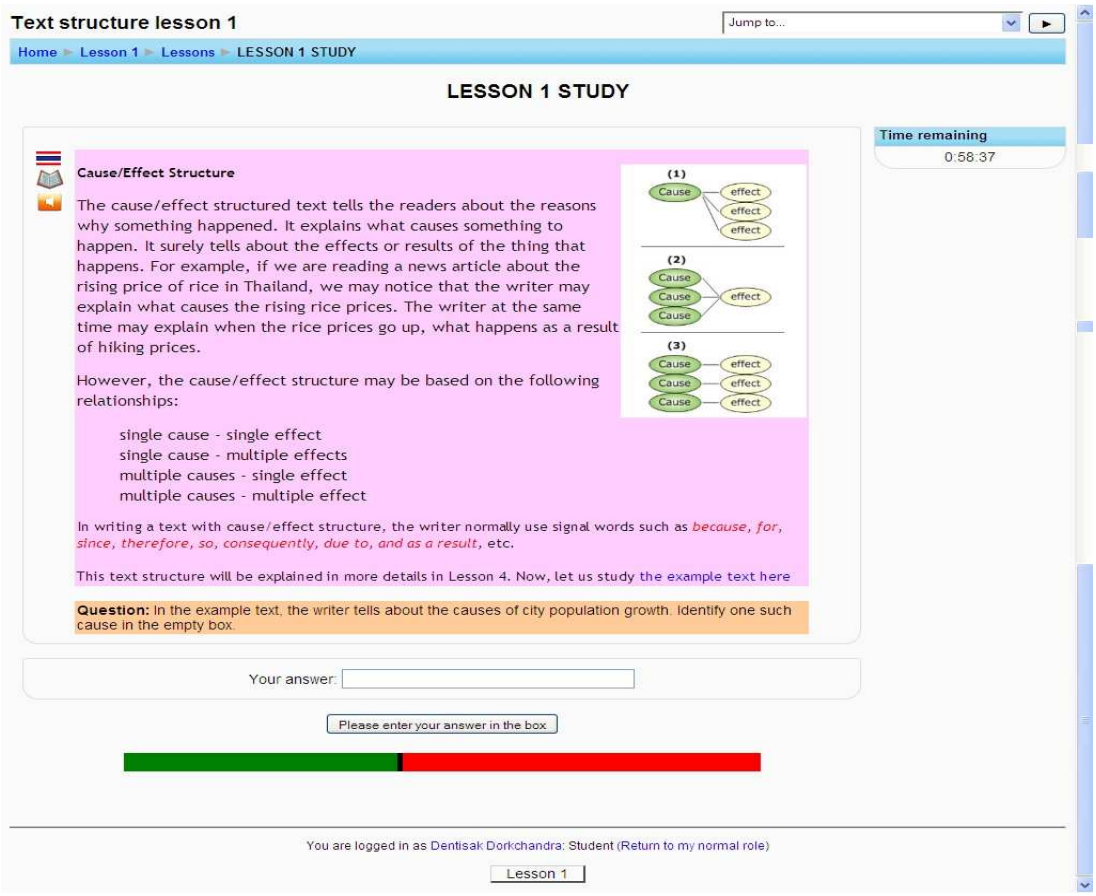
description_rainforest.jpg (JPE...
Time remaining
1:01:54
Description Structure
In this structure, the author describes thing
examples, by listing the characteristics of th
feature of this text structure is that the aut
about that particular thing or person.
After reading a description text, you could b
or person being presented. When reading a
for example, such as, for instance, such as,
Questions to ask:
When we read text written in this structure
"What examples support the main idea?"
"What proof is there?"
"What is the author describing?"
Study this figure for more understanding.
As many as 30 million species of plants and animals live in tropical rainforests.
At least two-thirds of the world's plant species, including many exotic and beautiful flowers grow in the rainforests.
Rainforests are the source of many items that we all use in our own homes!
We eat several foods from the rainforest and many medicines are made from ingredients found only in these areas.
Some of the common products we know of include:
chocolate
sugar
cinnamon
rubber
medicine
pineapples
Done
Question: What is the author describing in this text?


Lesson 1: LESSON 1 STUDY
cause/effect - ค้นหาด้วย Google
cause/effect - Google รูปภาพ
sequence_text.jpg (JPEG Image, 967x257 pixels) - Scaled (84%) - Mozilla Firefox
File Edit View History Bookmarks Tools Help
sequence_text.jpg (JPEG Image...
Many moneder people are turning themselves into social victims. One example is a Tennessee woman who is suing McDonald's because she as badly burned on the chin by a hot pickle in her hamburger. A Canandian woman is another example. She wants to ban the South Park television show because her son Kenny is victimized by the show's Kenny character, who is killed in each episode. A third example is a group of European and Australian women who want to ban urinals in men's restrooms because they require men to stand in a way that suggests violence towrad women. Another group argues that signle people are victimized because society ignores them.
Leo, John. (2000). U.S. News and World Report. Victims of the Year, p. 24
Done
Question: What is the author describing in this text?
Forms of social victims
Causes of social victims
Modern social victims
women who are victimized by society.


Text structure lesson 1
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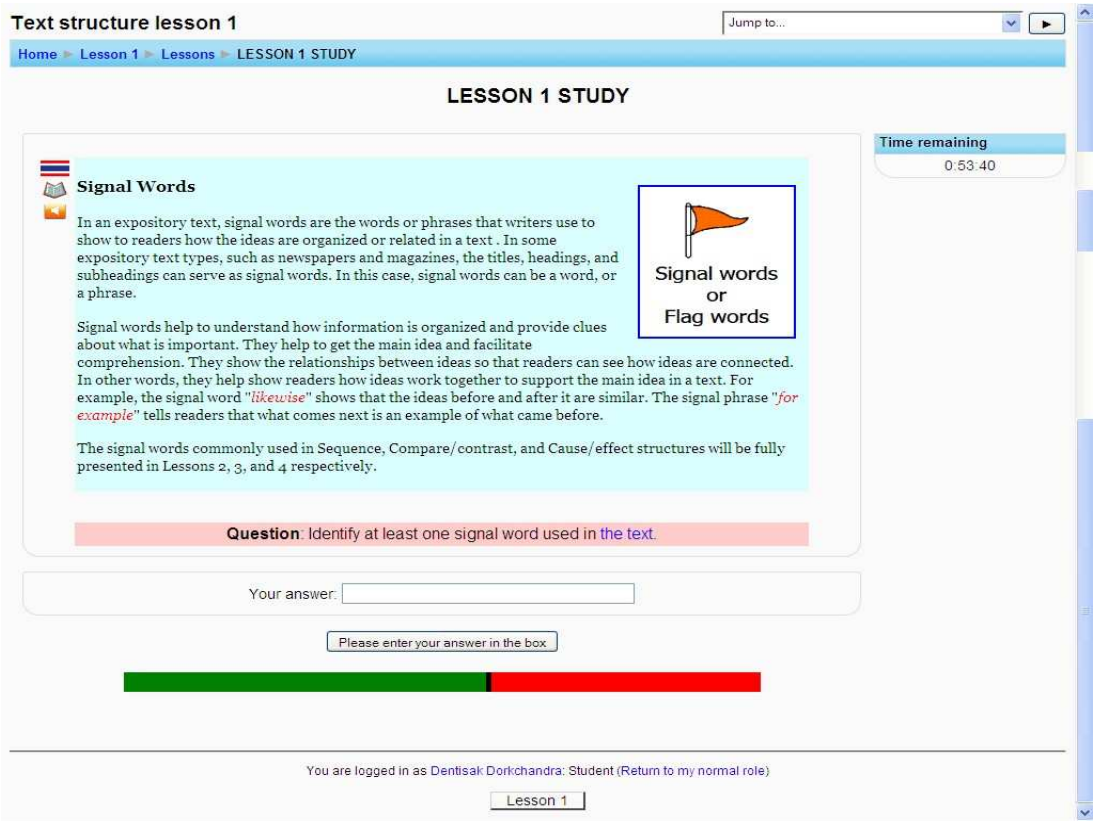
Time remaining
0:58:37
Cause/Effect Structure
The cause/effect structured text tells the readers about the reasons why something happened. It explains what causes something to happen. It surely tells about the effects or results of the thing that happens. For example, if we are reading a news article about the rising price of rice in Thailand, we may notice that the writer may explain what causes the rising rice prices. The writer at the same time may explain when the rice prices go up, what happens as a result of hiking prices.
However, the cause/effect structure may be based on the following relationships:
single cause - single effect
single cause - multiple effects
multiple causes - single effect
multiple causes - multiple effect
In writing a text with cause/effect structure, the writer normally use signal words such as because, for, since, therefore, so, consequently, due to, and as a result, etc.
This text structure will be explained in more details in Lesson 4. Now, let us study the example text here
Question: In the example text, the writer tells about the causes of city population growth. Identify one such cause in the empty box.
Your answer:
Please enter your answer in the box
You are logged in as Dentisak Dorkchandra: Student (Return to my normal role)
Lesson 1


Text structure lesson 1
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Signal Words
In an expository text, signal words are the words or phrases that writers use to show to readers how the ideas are organized or related in a text . In some expository text types, such as newspapers and magazines, the titles, headings, and subheadings can serve as signal words. In this case, signal words can be a word, or a phrase.
Signal words or Flag words
Signal words help to understand how information is organized and provide clues about what is important. They help to get the main idea and facilitate comprehension. They show the relationships between ideas so that readers can see how ideas are connected. In other words, they help show readers how ideas work together to support the main idea in a text. For example, the signal word "likewise" shows that the ideas before and after it are similar. The signal phrase "for example" tells readers that what comes next is an example of what came before.
The signal words commonly used in Sequence, Compare/contrast, and Cause/effect structures will be fully presented in Lessons 2, 3, and 4 respectively.
Question: Identify at least one signal word used in the text.
Your answer:
Please enter your answer in the box
You are logged in as Dentisak Dorkchandra: Student (Return to my normal role)
Lesson 1

Text structure lesson 1

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In a text with sequence structure, the author presents information about what happens first, second, third, and fourth, etc. The events that happened can be separated by years, for example, **in 1990**, **in 2001**, **in May 2002**, etc. This structure is, therefore, sometimes known as *chronological order*.

In addition, if the information in the text is about how to do something, the author normally uses this sequence structure to tell the readers about **the first**, **the second**, **and the third** step of doing. Or the author may narrate the steps of doing something by saying .....**The first…., then….. Next…..After that….** etc.

Sometimes, the author does not use clear signal words, but we can tell ourselves that the author is trying to tell about the steps of doing something. In this case it should be noticed that **imperative sentences** are always used. Imperative sentences are the sentences that tell people to do something. For example: **Come** here. **Sit** down. **Do** the job. Here is an example text. Read it, then answer the question that follows:

Question: The example text is about the Leaning Tower of Pisa, and the information is presented in a _____.

- ○ sequence of events
- ○ step
- ○ stage
- ○ chronological order

Please check one answer

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Lesson 1

Text structure lesson 1

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Problem/Solution Structure

When you read a problem/solution text, you will notice that the author discuses what the problem is. Sometimes, more than one problem is presented.The author perhaps explains why it is a problem, and then offers possible solutions, or how to solve the problem, usually setting on one solution as most appropriate.

For example, in a text about global warming, the author might explain why global warming is a problem. In this case, he may talk about the causes that lead to global warming. He then may suggest a solution or solutions to the problem. Sometimes, only the problem is presented because there is no solution. In this case, it is the work of the readers to further think about what could be the appropriate solutions.

The signal words that are frequently used include, **for example**,**problem is**, **dilemma is**, **if/then**, **because** , **so that** , **question/answer**, etc. However, this text structure will not be explained in more details here because it is not the focus of this online instruction program. Study the example text here > Then answer the question that follows.

Question: What solution is suggested by the author?

- ○ improve village water delivery system
- ○ increase transportation system
- ○ provide cheap public transportation
- ○ incrase clean drinking water

Please check one answer

You are logged in as Dentisak Dorkchandra: Student (Return to my normal role)

Lesson 1

Text structure lesson 1

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Main Idea

The main idea is the most important idea the writer wants to present in the paragraph or in the passage. But when you look for the main idea, do not be confused with the subject (or the general topic) of the paragraph. The subject is what the paragraph is about. But the main idea is what the writer says about the subject.

Consider the following text:

"Two men were arrested by the police after they had sold a stolen painting to an art gallery in Guildford. The owner of the gallery claimed that he had bought the painting in good faith, unaware that it had been stolen. The painting, a portrait of a young woman in a wide brimmed straw had sitting under a tree, was owned by Marie Gilles, aged 84. She claimed that the painting had been given to one of her ancestors by the artist. She had owned it since 1950 when it was given to her by an aunt as a wedding present. The painting had been stolen from her house two weeks previous to the arrest of the two men."

This text is about two men. And that is the subject or topic of the text. What does the writer say about the two men? He says that the two men were arrested after they had sold a stolen painting to an art gallery. And that is the main idea.

The subject = two men
The main idea = two men were arrested for stealing

We can therefore conclude that the subject or topic of a text is a word or phrase, but the main idea is generally a full sentence.

Question: Which are the subjects?

- ☐ The division among the people in Thailand is caused by one person.
- ☐ The King of Thailand
- ☐ Global warming has several effects on sea annimals.
- ☐ Popularity of coffee
- ☐ The relationship between computers and technologies
- ☐ Worldwide cooperation is needed to deal with the financial crisis.

Please check one or more answers

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Lesson 1

Text structure lesson 1

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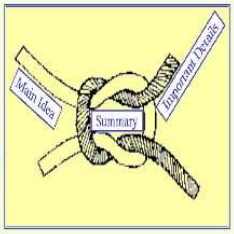
Characteristics of Main Idea



A main idea says something about the subject, but there's more. A main idea must also have the following characteristics:

1. It must be general enough to encompass all of the ideas in the passage.

The main idea of a passage must be something that is general enough to encompass all of the ideas in the passage. That is, it should be broad enough that all of the other sentences in the passage fit underneath it like people under an umbrella. Look at the following example paragraph:

The first sentence states the general main idea. Then each sentence that follows gives specific facts and statistics to support that main idea. These sentences provide specific evidence to show that the main idea is valid or true. They all fit under the "umbrella" of the larger idea—that the demand for health care workers is on the rise.

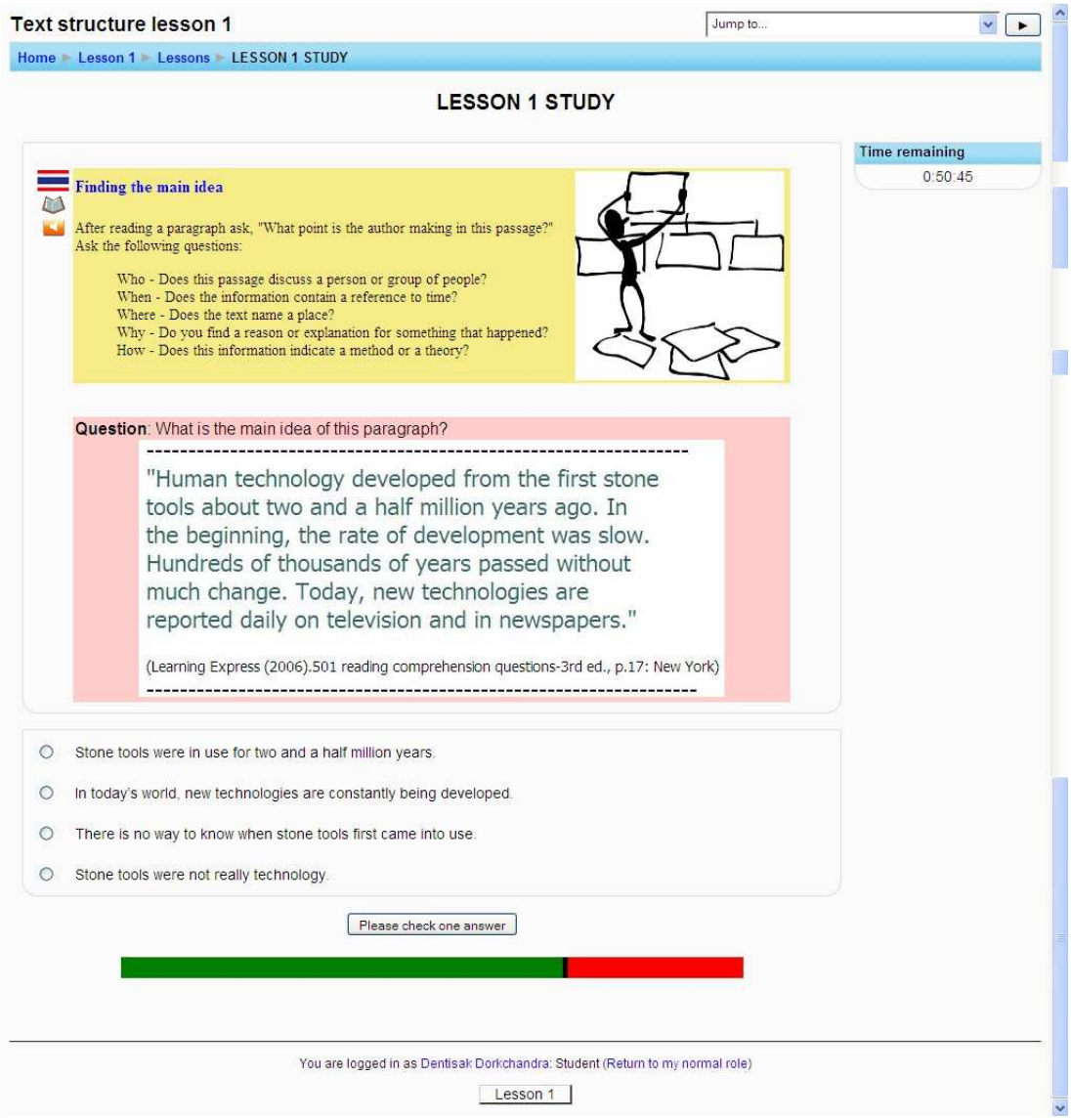
2. It must be an assertion.

The main idea must be an assertion about the subject. An assertion is a claim that needs to be supported with specific details or evidence. Even matters of fact (things that are known to be true) can be assertions. The assertion "The demand for health care workers is on the rise" works as a main idea because it is a general assertion that needs some supporting details to show that it is true. In other words, the main idea tells readers that something is true. The supporting sentences, on the other hand, show that it's true by providing specific facts and detail.

Question: Which statement correctly describes the main idea?

- We cannot find the main idea in a paragraph with no topic sentence.
- The main idea is always clearly stated at the beginning of a paragraph.
- The main idea is stated in the topic sentence of a paragraph.
- The main idea summarizes the facts in a passage.

Please check one answer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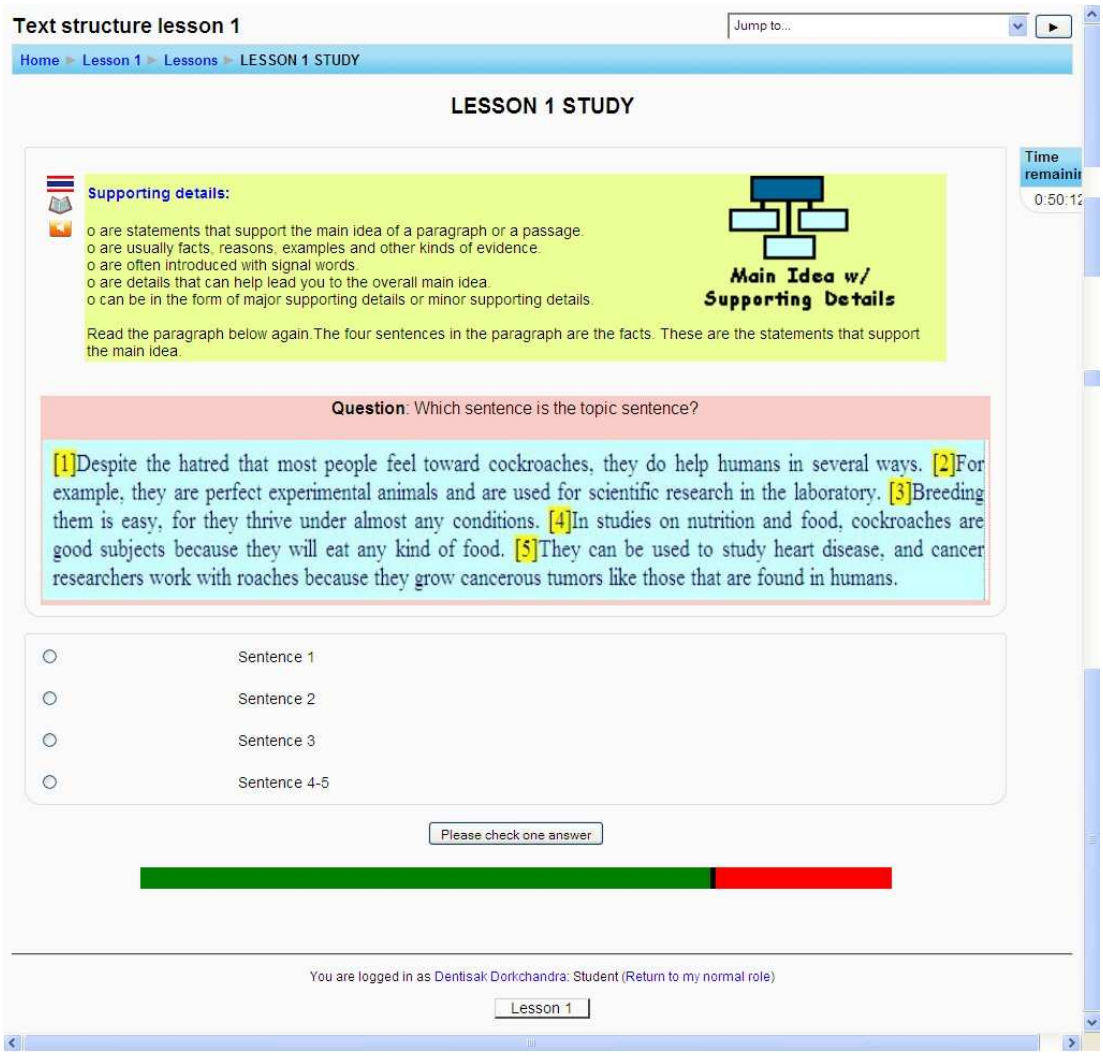
0:50:45
Finding the main idea
After reading a paragraph ask, "What point is the author making in this passage?"
Ask the following questions:
Who - Does this passage discuss a person or group of people?
When - Does the information contain a reference to time?
Where - Does the text name a place?
Why - Do you find a reason or explanation for something that happened?
How - Does this information indicate a method or a theory?
Question: What is the main idea of this paragraph?
"Human technology developed from the first stone tools about two and a half million years ago. In the beginning, the rate of development was slow. Hundreds of thousands of years passed without much change. Today, new technologies are reported daily on television and in newspapers."
(Learning Express (2006).501 reading comprehension questions-3rd ed., p.17: New York)
Stone tools were in use for two and a half million years.
In today's world, new technologies are constantly being developed.
There is no way to know when stone tools first came into use.
Stone tools were not really technology.
Please check one answer
You are logged in as Dentisak Dorkchandra: Student (Return to my normal role)
Lesson 1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LESSON 1 STUDY
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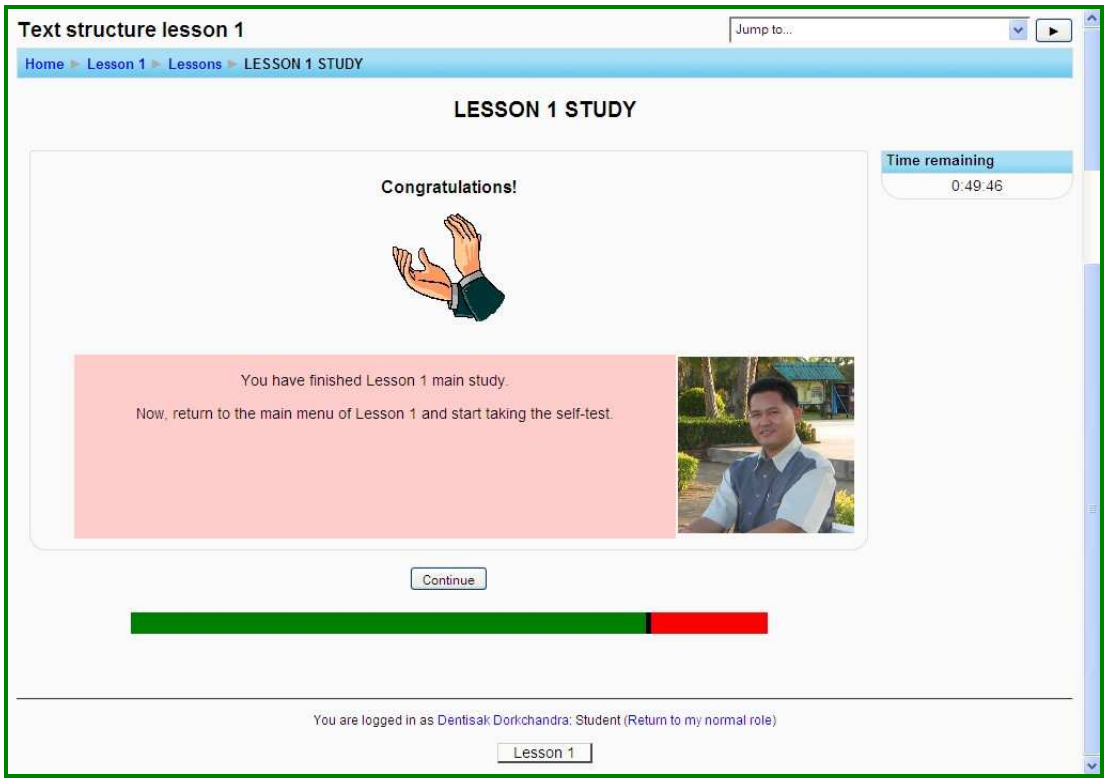
0:50:12
Supporting details:
o are statements that support the main idea of a paragraph or a passage.
o are usually facts, reasons, examples and other kinds of evidence.
o are often introduced with signal words.
o are details that can help lead you to the overall main idea.
o can be in the form of major supporting details or minor supporting details.
Main Idea w/ Supporting Details
Read the paragraph below again.The four sentences in the paragraph are the facts. These are the statements that support the main idea.
Question: Which sentence is the topic sentence?
[1]Despite the hatred that most people feel toward cockroaches, they do help humans in several ways. [2]For example, they are perfect experimental animals and are used for scientific research in the laboratory. [3]Breeding them is easy, for they thrive under almost any conditions. [4]In studies on nutrition and food, cockroaches are good subjects because they will eat any kind of food. [5]They can be used to study heart disease, and cancer researchers work with roaches because they grow cancerous tumors like those that are found in humans.
Sentence 1
Sentence 2
Sentence 3
Sentence 4-5
Please check one answer
You are logged in as Dentisak Dorkchandra: Student (Return to my normal role)
Lesson 1


Text structure lesson 1
Jump to...
Home ► Lesson 1 ► Lessons ► LESSON 1 STUDY
LESSON 1 STUDY
Time remaining
0:49:46
Congratulations!
You have finished Lesson 1 main study.
Now, return to the main menu of Lesson 1 and start taking the self-test.
Continue
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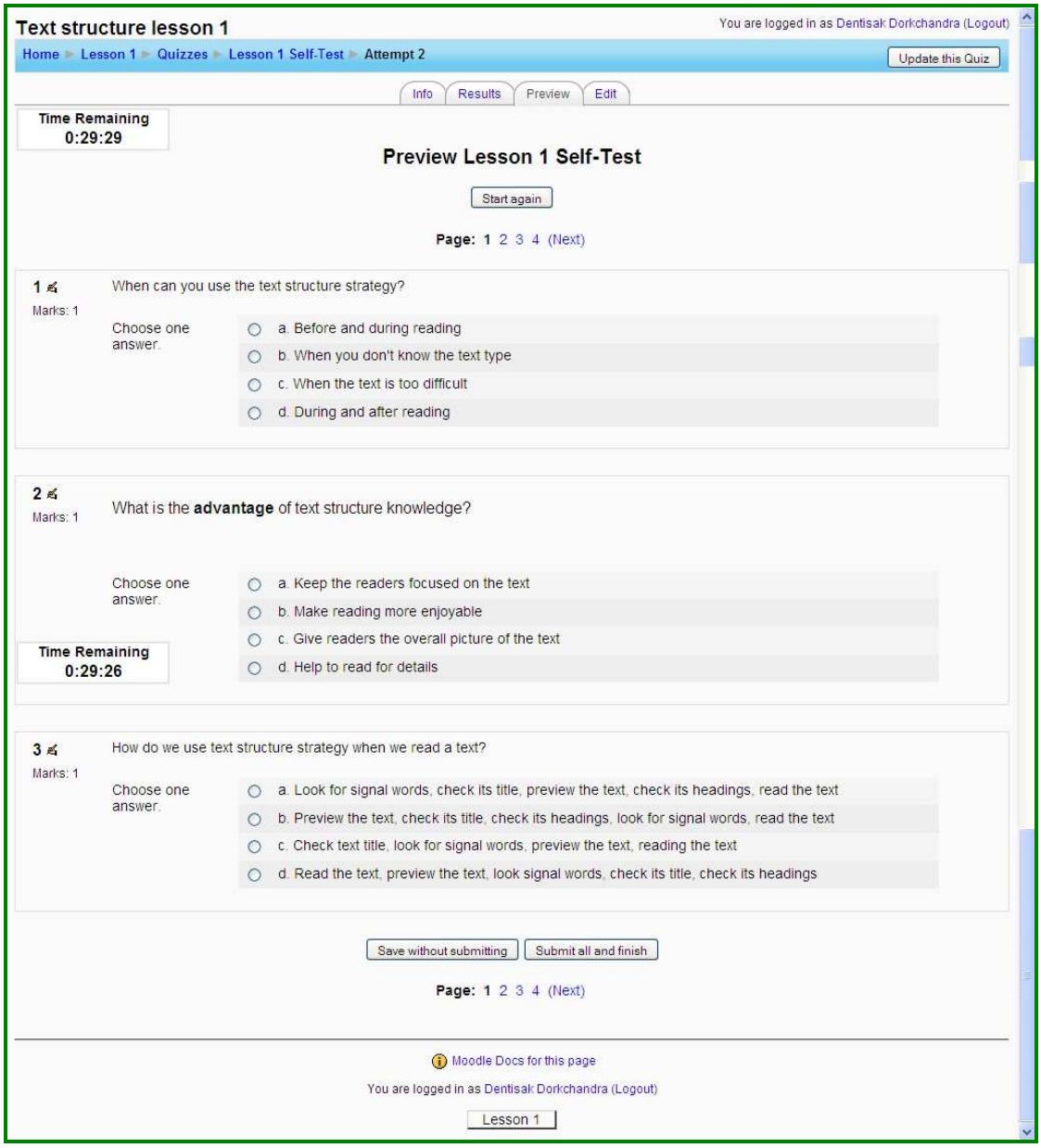
Lesson 1


Text structure lesson 1
You are logged in as Dentisak Dorkchandra (Logout)
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Update this Quiz
Info
Results
Preview
Edit
Time Remaining
0:29:29
Preview Lesson 1 Self-Test
Start again
Page: 1 2 3 4 (Next)
1
Marks: 1
When can you use the text structure strategy?
Choose one answer.
a. Before and during reading
b. When you don't know the text type
c. When the text is too difficult
d. During and after reading
2
Marks: 1
What is the advantage of text structure knowledge?
Choose one answer.
a. Keep the readers focused on the text
b. Make reading more enjoyable
c. Give readers the overall picture of the text
d. Help to read for details
Time Remaining
0:29:26
3
Marks: 1
How do we use text structure strategy when we read a text?
Choose one answer.
a. Look for signal words, check its title, preview the text, check its headings, read the text
b. Preview the text, check its title, check its headings, look for signal words, read the text
c. Check text title, look for signal words, preview the text, reading the text
d. Read the text, preview the text, look signal words, check its title, check its headings
Save without submitting
Submit all and finish
Page: 1 2 3 4 (Next)
Moodle Docs for this page
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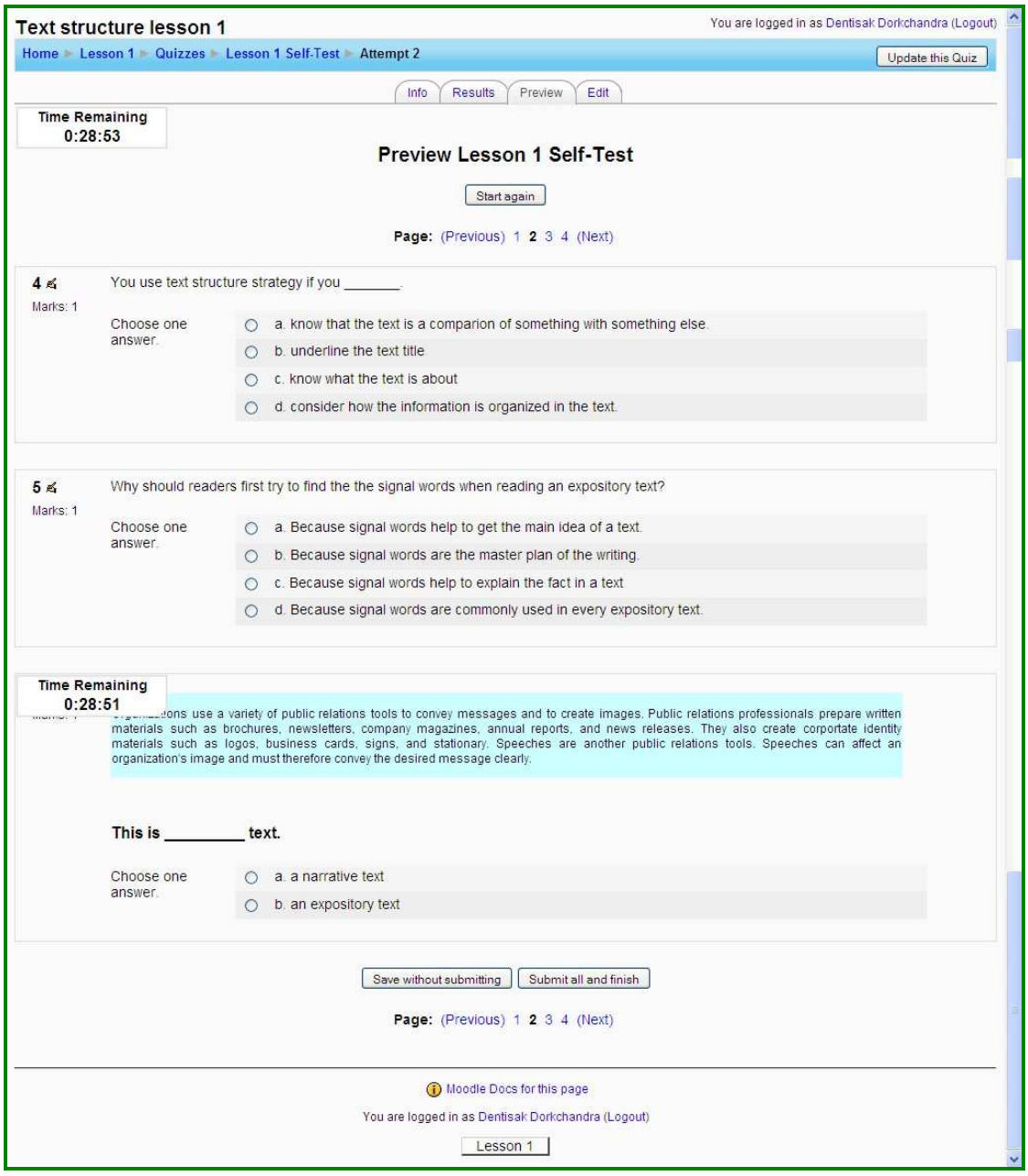
Lesson 1



Text structure lesson 1

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Update this Quiz

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Time Remaining
0:28:53

Preview Lesson 1 Self-Test

Start again

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4
Marks: 1

You use text structure strategy if you _____.

Choose one answer.

- a. know that the text is a comparion of something with something else.
- b. underline the text title
- c. know what the text is about
- d. consider how the information is organized in the text.

5
Marks: 1

Why should readers first try to find the the signal words when reading an expository text?

Choose one answer.

- a. Because signal words help to get the main idea of a text.
- b. Because signal words are the master plan of the writing.
- c. Because signal words help to explain the fact in a text
- d. Because signal words are commonly used in every expository text.

Time Remaining
0:28:51

ons use a variety of public relations tools to convey messages and to create images. Public relations professionals prepare written materials such as brochures, newsletters, company magazines, annual reports, and news releases. They also create corportate identity materials such as logos, business cards, signs, and stationary. Speeches are another public relations tools. Speeches can affect an organization's image and must therefore convey the desired message clearly.

This is _____ text.

Choose one answer.

- a. a narrative text
- b. an expository text

Save without submitting | Submit all and finish

Page: (Previous) 1 2 3 4 (Next)

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Lesson 1

Text structure lesson 1

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0:28:37

Preview Lesson 1 Self-Test

Start again

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7
Marks: 1

Organizations use a variety of public relations tools to convey messages and to create images. Public relations professionals prepare written materials such as brochures, newsletters, company magazines, annual reports, and news releases. They also create corportate identity materials such as logos, business cards, signs, and stationary. Speeches are another public relations tools. Speeches can affect an organization's image and must therefore convey the desired message clearly.

What information does this text give?

Choose one answer.

- a. What public relations tools are available and for what purposes organizations use them.
- b. How public relations tools are used by organizations
- c. How many public relations tools are used by organizations
- d. Why organizations use various public relations tools

8
Marks: 1

One advantage of text structure knowledge is to help to get the main idea of a text. What do you think is the main idea of this text?

Organizations use a variety of public relations tools to convey messages and to create images. Public relations professionals prepare written materials such as brochures, newsletters, company magazines, annual reports, and news releases. They also create corportate identity materials such as logos, business cards, signs, and stationary. Speeches are another public relations tools. Speeches can affect an organization's image and must therefore convey the desired message clearly.

Choose one answer.

- a. Public relations tools and their functions
- b. How to create organization's image
- c. Three tools for creating organization's images
- d. Organization's images

Time Remaining
0:28:34

This text is for questions 9-10.

Worldwide illiteracy rates have consistently declined in the last few decades. One of the major reasons for this decline is the sharp increase of literacy rates among young women, which is a result of specific campaigns designed to increase educational opportunities for girls. However, there are still an estimated 771 million illiterate adults in the world, about two-thirds of who are women.

(Learning Express (2006). 501 Reading comprehension question. ILL, p. 53: New York)

Save without submitting | Submit all and finish

Page: (Previous) 1 2 **3** 4 (Next)

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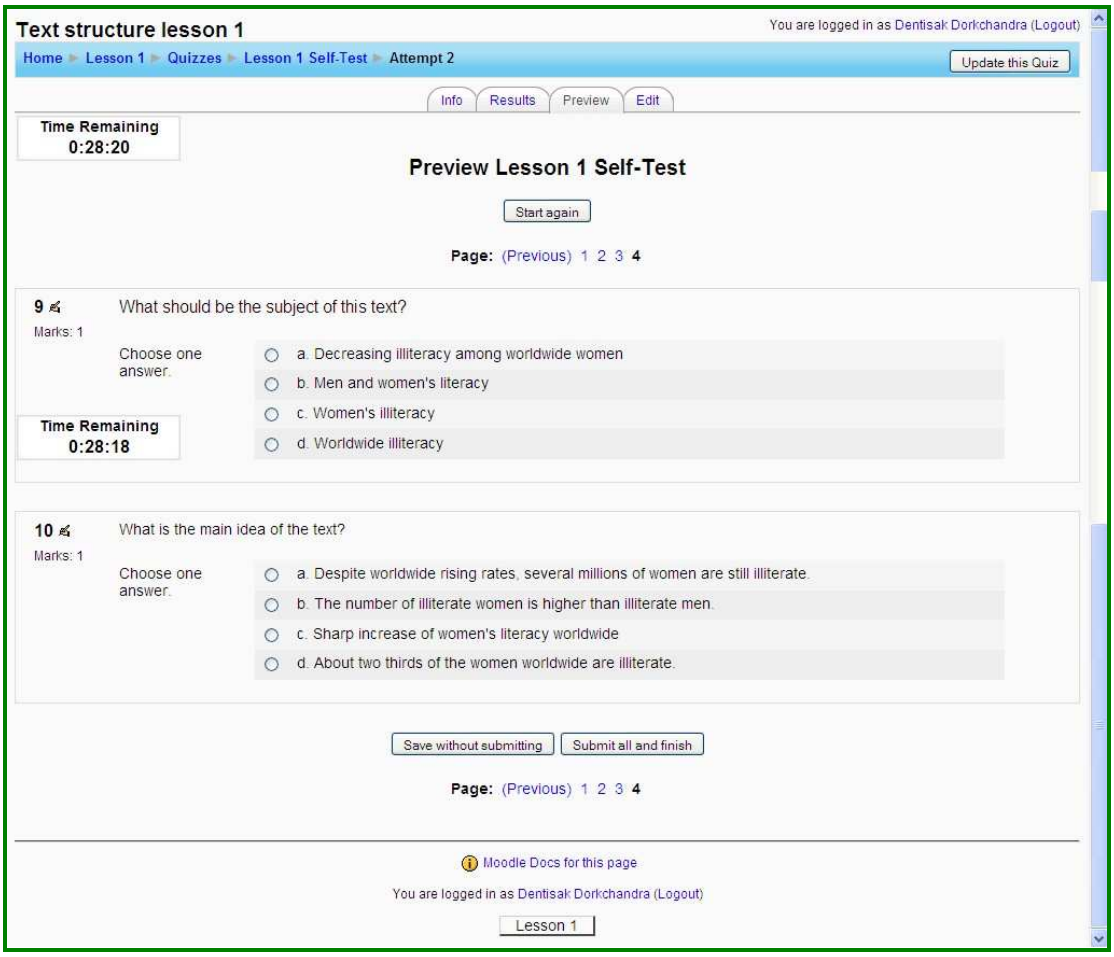
Lesson 1


Text structure lesson 1
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Edit
Time Remaining
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Preview Lesson 1 Self-Test
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Page: (Previous) 1 2 3 4
9
What should be the subject of this text?
Marks: 1
Choose one answer.
a. Decreasing illiteracy among worldwide women
b. Men and women's literacy
c. Women's illiteracy
d. Worldwide illiteracy
Time Remaining
0:28:18
10
What is the main idea of the text?
Marks: 1
Choose one answer.
a. Despite worldwide rising rates, several millions of women are still illiterate.
b. The number of illiterate women is higher than illiterate men.
c. Sharp increase of women's literacy worldwide
d. About two thirds of the women worldwide are illiterate.
Save without submitting
Submit all and finish
Page: (Previous) 1 2 3 4
Moodle Docs for this page
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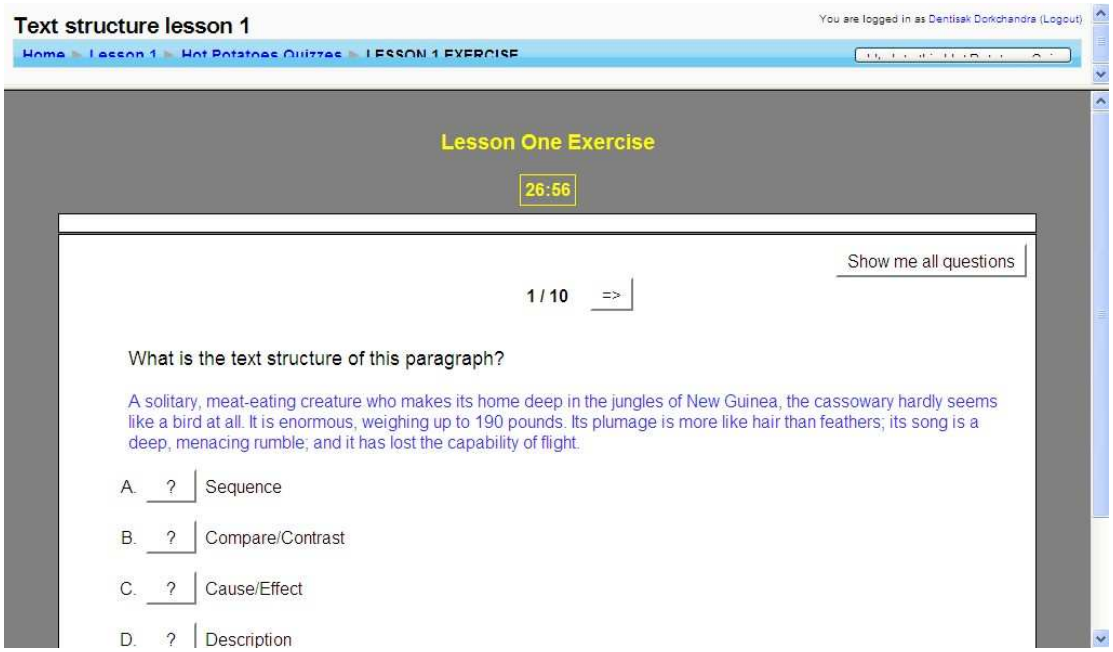
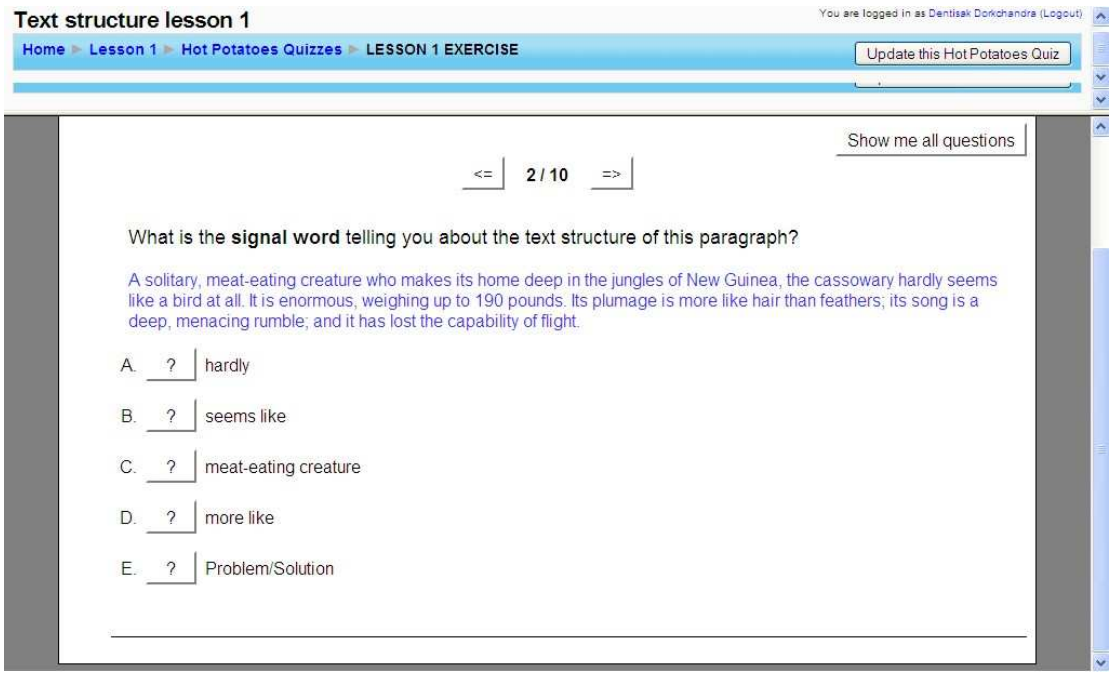
Lesson 1


Text structure lesson 1
You are logged in as Dentisak Dorkchandra (Logout)
Lesson One Exercise
26:56
Show me all questions
1 / 10
=>
What is the text structure of this paragraph?
A solitary, meat-eating creature who makes its home deep in the jungles of New Guinea, the cassowary hardly seems like a bird at all. It is enormous, weighing up to 190 pounds. Its plumage is more like hair than feathers; its song is a deep, menacing rumble; and it has lost the capability of flight.
A. ? Sequence
B. ? Compare/Contrast
C. ? Cause/Effect
D. ? Description


Text structure lesson 1
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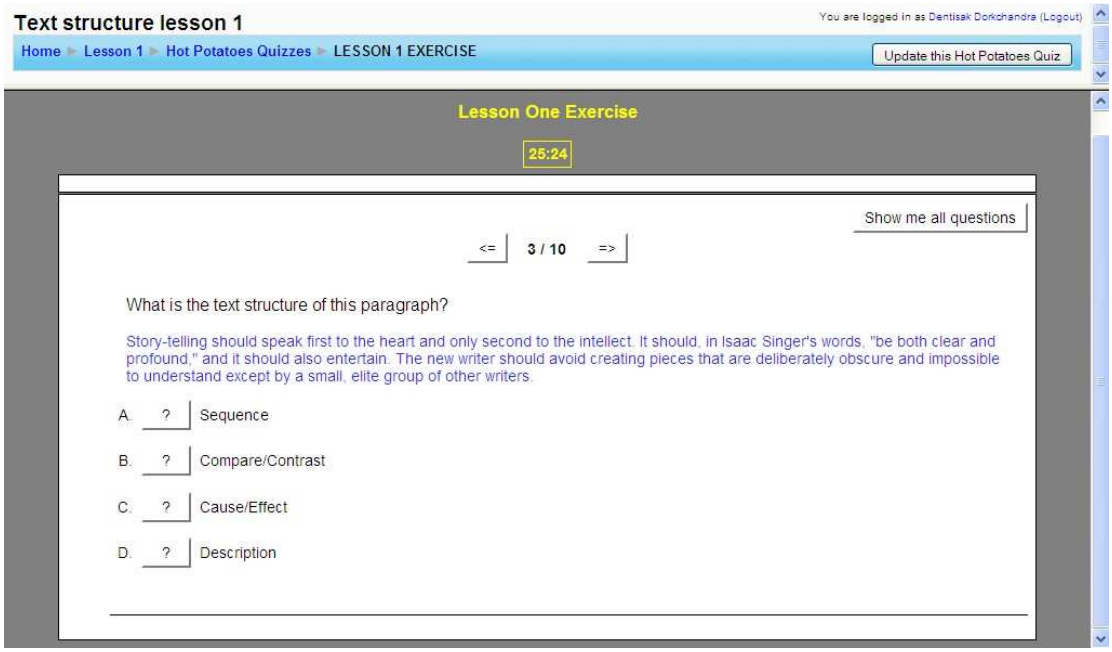
Update this Hot Potatoes Quiz
Show me all questions
<= 2 / 10 =>
What is the signal word telling you about the text structure of this paragraph?
A solitary, meat-eating creature who makes its home deep in the jungles of New Guinea, the cassowary hardly seems like a bird at all. It is enormous, weighing up to 190 pounds. Its plumage is more like hair than feathers; its song is a deep, menacing rumble; and it has lost the capability of flight.
A. ? hardly
B. ? seems like
C. ? meat-eating creature
D. ? more like
E. ? Problem/Solution


Text structure lesson 1
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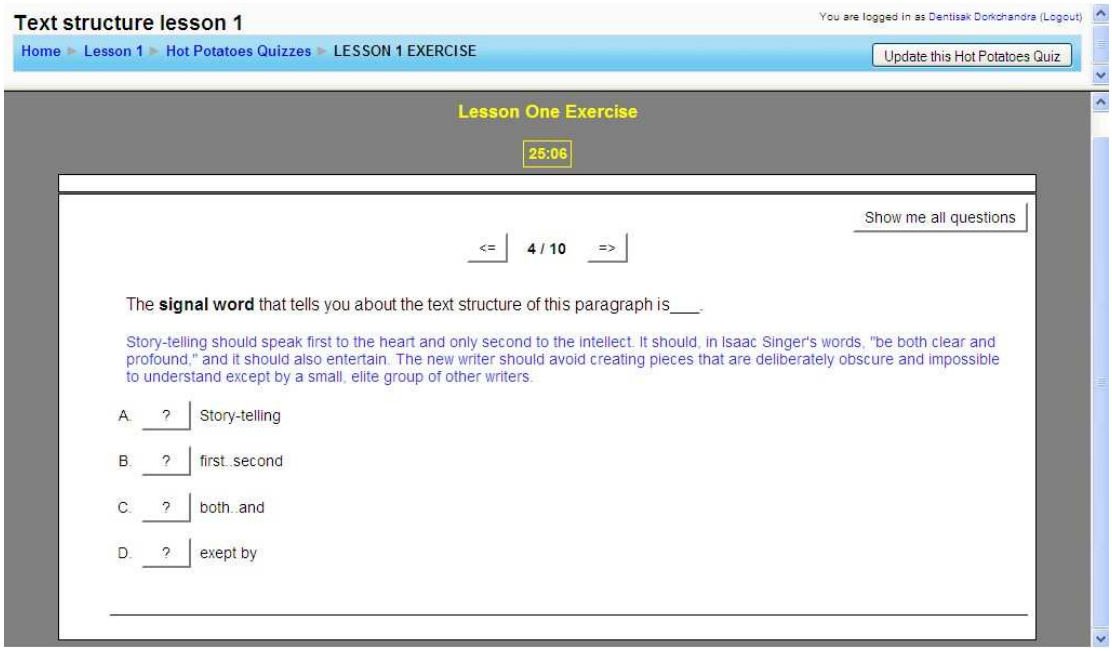
Update this Hot Potatoes Quiz
Lesson One Exercise
25:24
Show me all questions
<= 3 / 10 =>
What is the text structure of this paragraph?
Story-telling should speak first to the heart and only second to the intellect. It should, in Isaac Singer's words, "be both clear and profound," and it should also entertain. The new writer should avoid creating pieces that are deliberately obscure and impossible to understand except by a small, elite group of other writers.
A. ? Sequence
B. ? Compare/Contrast
C. ? Cause/Effect
D. ? Description


Text structure lesson 1
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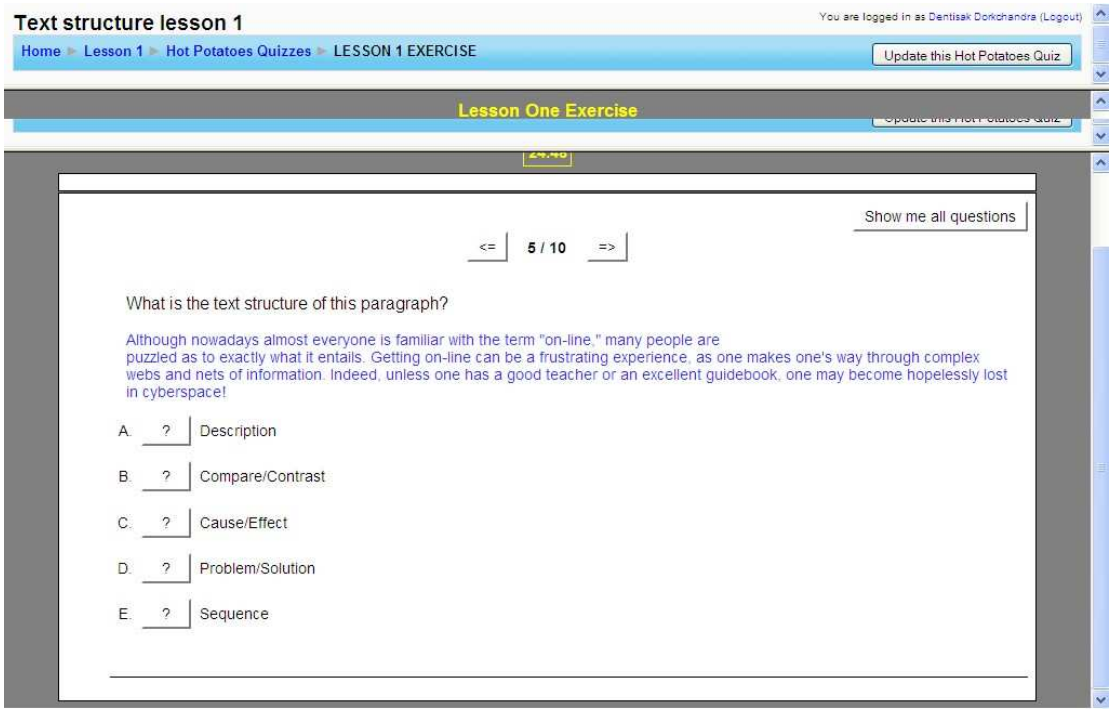
Update this Hot Potatoes Quiz
Lesson One Exercise
25:06
Show me all questions
<= 4 / 10 =>
The signal word that tells you about the text structure of this paragraph is___.
Story-telling should speak first to the heart and only second to the intellect. It should, in Isaac Singer's words, "be both clear and profound," and it should also entertain. The new writer should avoid creating pieces that are deliberately obscure and impossible to understand except by a small, elite group of other writers.
A. ? Story-telling
B. ? first..second
C. ? both..and
D. ? exept by


Text structure lesson 1
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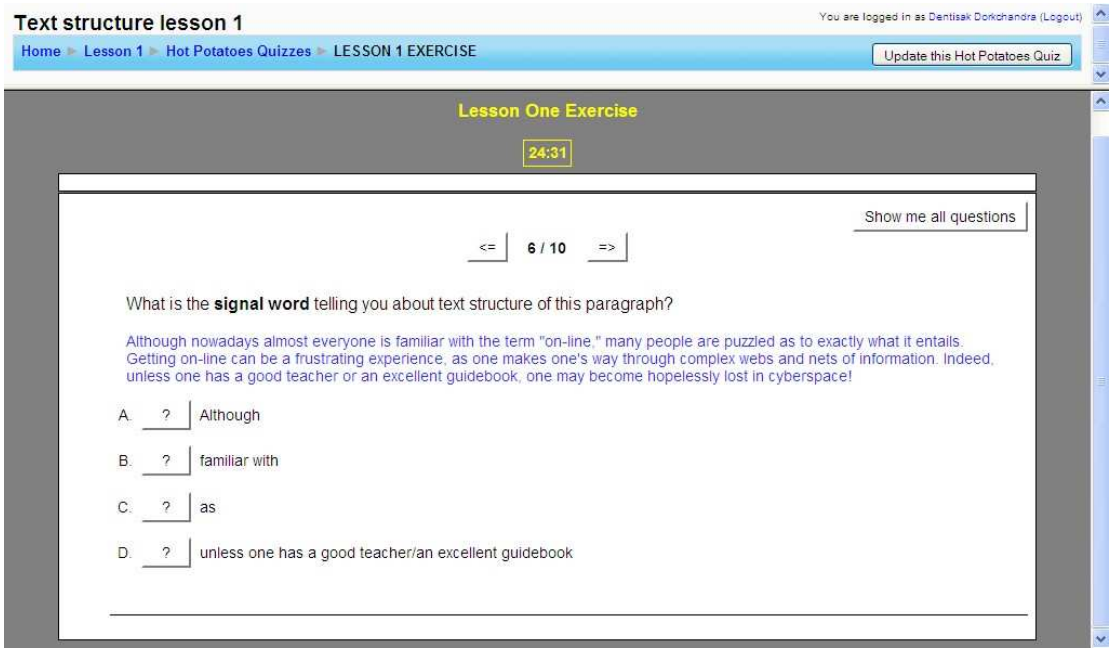
Update this Hot Potatoes Quiz
Lesson One Exercise
Show me all questions
<= 5 / 10 =>
What is the text structure of this paragraph?
Although nowadays almost everyone is familiar with the term "on-line," many people are puzzled as to exactly what it entails. Getting on-line can be a frustrating experience, as one makes one's way through complex webs and nets of information. Indeed, unless one has a good teacher or an excellent guidebook, one may become hopelessly lost in cyberspace!
A. ? Description
B. ? Compare/Contrast
C. ? Cause/Effect
D. ? Problem/Solution
E. ? Sequence


Text structure lesson 1
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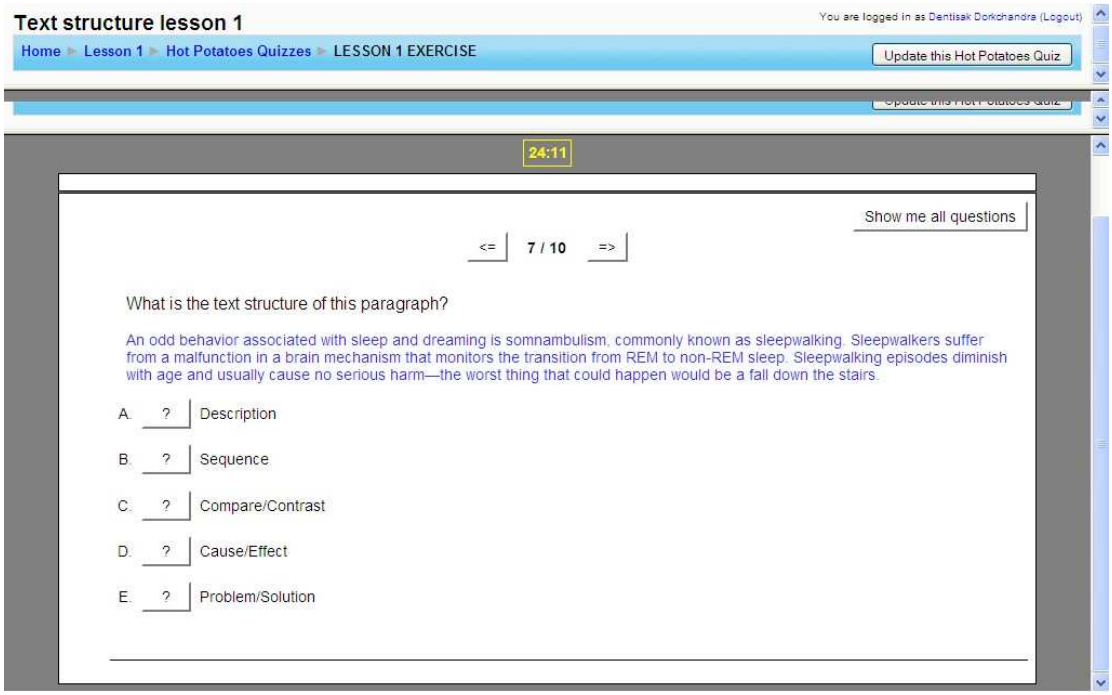
Update this Hot Potatoes Quiz
Lesson One Exercise
24:31
Show me all questions
<= 6 / 10 =>
What is the signal word telling you about text structure of this paragraph?
Although nowadays almost everyone is familiar with the term "on-line," many people are puzzled as to exactly what it entails. Getting on-line can be a frustrating experience, as one makes one's way through complex webs and nets of information. Indeed, unless one has a good teacher or an excellent guidebook, one may become hopelessly lost in cyberspace!
A. ? Although
B. ? familiar with
C. ? as
D. ? unless one has a good teacher/an excellent guidebook


Text structure lesson 1
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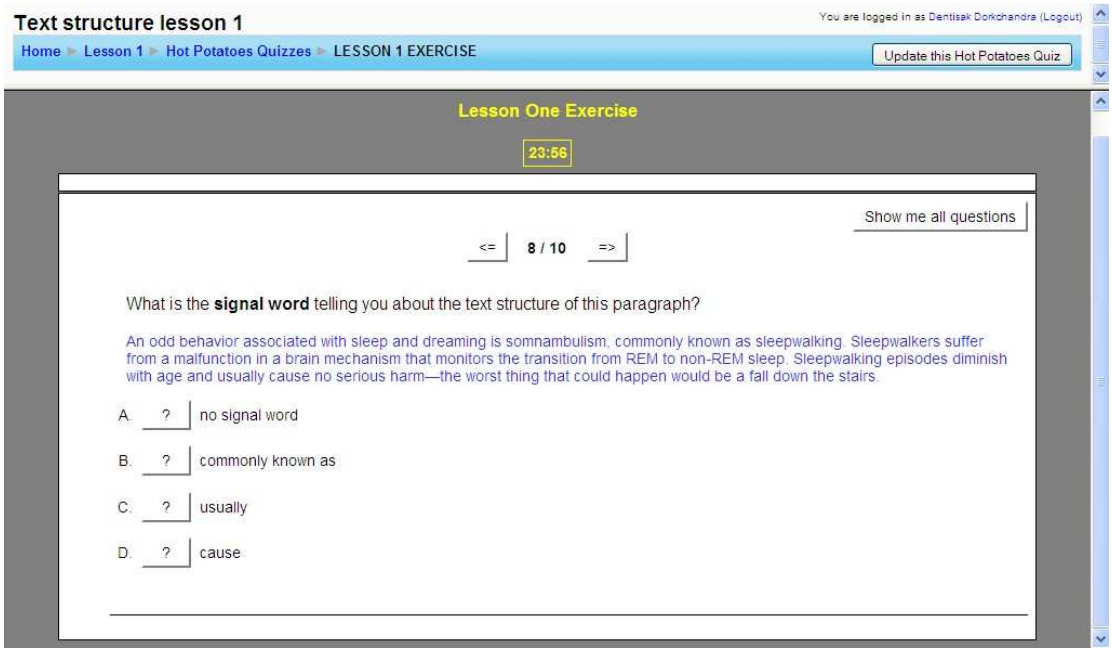
Update this Hot Potatoes Quiz
24:11
Show me all questions
<= 7 / 10 =>
What is the text structure of this paragraph?
An odd behavior associated with sleep and dreaming is somnambulism, commonly known as sleepwalking. Sleepwalkers suffer from a malfunction in a brain mechanism that monitors the transition from REM to non-REM sleep. Sleepwalking episodes diminish with age and usually cause no serious harm—the worst thing that could happen would be a fall down the stairs.
A. ? Description
B. ? Sequence
C. ? Compare/Contrast
D. ? Cause/Effect
E. ? Problem/Solution


Text structure lesson 1
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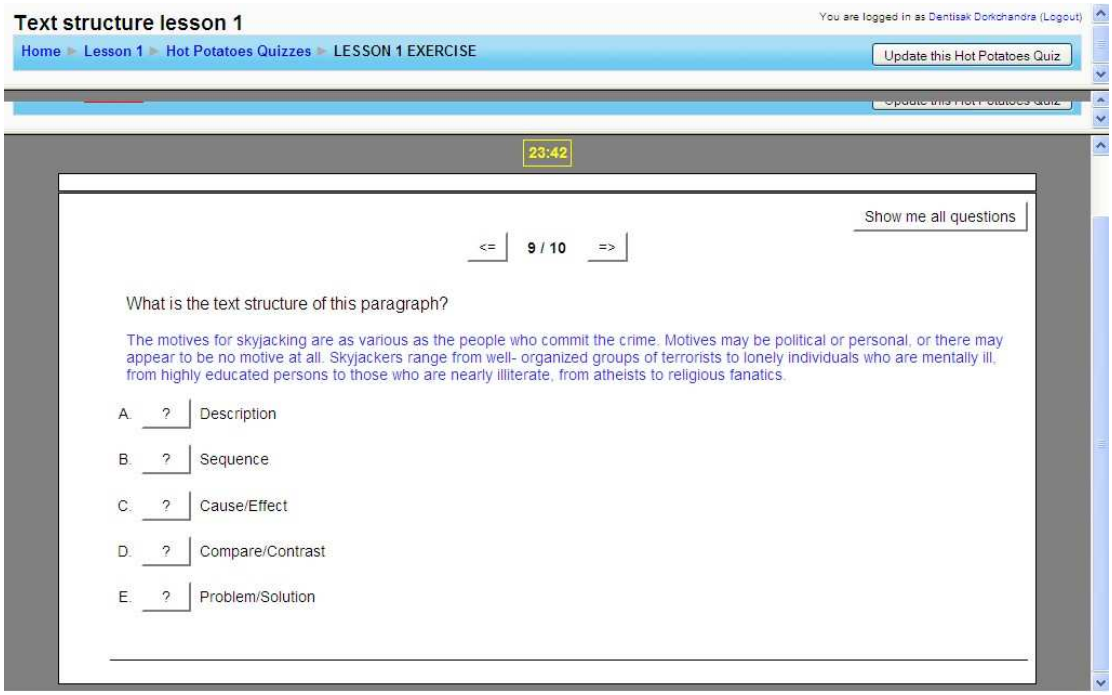
Update this Hot Potatoes Quiz
Lesson One Exercise
23:56
Show me all questions
<= 8 / 10 =>
What is the signal word telling you about the text structure of this paragraph?
An odd behavior associated with sleep and dreaming is somnambulism, commonly known as sleepwalking. Sleepwalkers suffer from a malfunction in a brain mechanism that monitors the transition from REM to non-REM sleep. Sleepwalking episodes diminish with age and usually cause no serious harm—the worst thing that could happen would be a fall down the stairs.
A. ? no signal word
B. ? commonly known as
C. ? usually
D. ? cause


Text structure lesson 1
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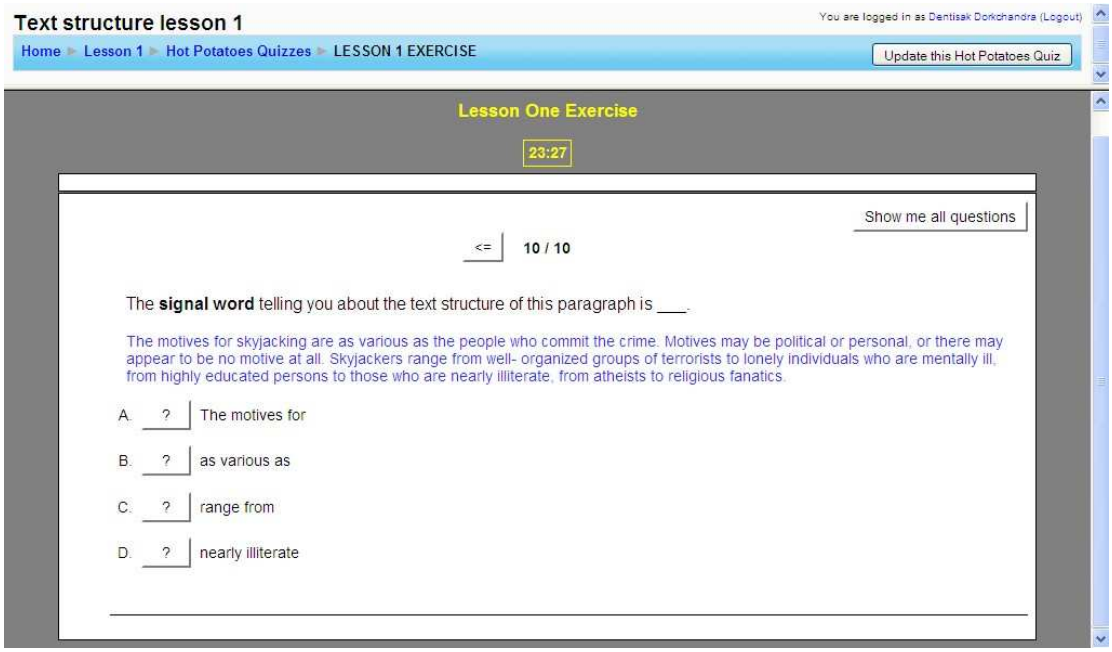
Update this Hot Potatoes Quiz
23:42
Show me all questions
<= 9 / 10 =>
What is the text structure of this paragraph?
The motives for skyjacking are as various as the people who commit the crime. Motives may be political or personal, or there may appear to be no motive at all. Skyjackers range from well- organized groups of terrorists to lonely individuals who are mentally ill, from highly educated persons to those who are nearly illiterate, from atheists to religious fanatics.
A. ? Description
B. ? Sequence
C. ? Cause/Effect
D. ? Compare/Contrast
E. ? Problem/Solution


Text structure lesson 1
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Update this Hot Potatoes Quiz
Lesson One Exercise
23:27
Show me all questions
<=
10 / 10
The signal word telling you about the text structure of this paragraph is ___.
The motives for skyjacking are as various as the people who commit the crime. Motives may be political or personal, or there may appear to be no motive at all. Skyjackers range from well- organized groups of terrorists to lonely individuals who are mentally ill, from highly educated persons to those who are nearly illiterate, from atheists to religious fanatics.
A. ? The motives for
B. ? as various as
C. ? range from
D. ? nearly illiterate

Test 1: Comprehension check

19:28

Online
Search Dictionary

Canning Food

I'm Gwen Outen with the VOA Special English Development Report.

1. People have always had to find ways to keep food safe to eat. Methods to dry, smoke and salt food were invented thousands of years ago. The process of canning is much more recent. This storage method keeps food safe to eat for long periods of time. Today, canning is one of the most popular methods of storing food.

2. Canning uses heat to kill bacteria and other micro-organisms that cause poisons to form in food. Canning also takes away the air that these organisms need to live. One popular method of canning uses a water bath.

3. Clean fruits or vegetables are placed in glass bottles. The food can be put into the bottles either hot or cold. The cold method is used for soft fruits and vegetables that could lose their shape or taste. Firmer fruits and most vegetables are usually cooked. They take up less space in the bottles.

4. After the food has been placed in glass bottles, boiling water is poured into the bottles to about three centimeters below the top. Then covers are placed on the bottles, but are not turned all the way. The bottles are placed in a large container filled with warm water that is then brought to a boil.

5. The water must completely cover the bottles, from three to five centimeters over the top. When the water boils, any air in the bottles will be expelled. The boiling continues for several minutes. Then the bottles are allowed to cool. Finally, they are placed briefly into cold water. This makes a strong barrier to keep the air out. In other words, a vacuum is created.

6. When the bottles are completely cool, notes can be placed on them to identify what is inside. The bottles can then be stored in a cool, dark place at a temperature of between four and twenty-one degrees Celsius.

7. Canning allows your family to enjoy foods that might not come fresh throughout the year. It is also a good way to store food for six months to a year, or even several years, in case of an emergency. It does not cost much to continue canning every year once the equipment has been purchased.

8. You can get more information about canning food from the group, Volunteers in Technical Assistance. VITA is on the Internet at vita.org.

9. This VOA Special English Development Report was written by Gary Garriott. I'm Gwen Outen.

Show all questions

1 / 10 =>

What is the author's purpose of writing this story?

A. ? history of storing food

B. ? Food storing methods

C. ? Food canning method

D. ? Benefits of food canning

Text 1: Locating the main idea and suport details

29:39

Choose the best answer to each question.
You have 30 minutes to complete this quiz.
Use the dictionary options if you need help with vocabulary.

search dictionary

Show all questions

1 / 10 =>

Canning Food

I'm Gwen Outen with the VOA Special English Development Report.

1. People have always had to find ways to keep food safe to eat. Methods to dry, smoke and salt food were invented thousands of years ago. The process of canning is much more recent. This storage method keeps food safe to eat for long periods of time. Today, canning is one of the most popular methods of storing food.

2. Canning uses heat to kill bacteria and other micro-organisms that cause poisons to form in food. Canning also takes away the air that these organisms need to live. One popular method of

What is the main idea of section 1?

A. ? Food storing

B. ? Canning is a new but popular method.

C. ? How people stored food in the past

D. ? Food keeping methods thousands of years ago

Give Up

Comprehension check

29:56

Use the dictionary to help you find the unknown word

search dictionary

Show all questions

1 / 10 =>

Canning Food

1. People have always had to find ways to keep food safe to eat. Methods to dry, smoke and salt food were invented thousands of years ago. The process of canning is much more recent. This storage method keeps food safe to eat for long periods of time. Today, canning is one of the most popular methods of storing food.

2. Canning uses heat to kill bacteria and other micro-organisms that cause poisons to form in food. Canning also takes away the air that these organisms

What is the author's purpose of writing this story?

A. ? To tell about history of storing food

B. ? To tell about food storing methods

C. ? To tell about food canning method

D. ? To tell about benefits of food canning

Give Up

Text 2: Locating the main idea and support details

29:58

Choose the best answer to each question.
Use the dictionary options if you need help with vocabulary.

search dictionary

1. People discovered long ago how to dry meat to keep it safe for a long time. This process called curing interferes with the growth of bacteria. Curing meat is a traditional method used by many cultures. It can be done with some common chemicals. The most common is sodium chloride -- salt.
2. Some very harmful bacteria, like salmonella, can be controlled with low levels of salt. But other kinds of bacteria can require high levels of salt or high drying temperatures to control.
3. The simplest way to cure meat is to put it into a lot of rough salt

Show all questions

1 / 10 =>

The author of this passage mainly discusses

A. ? how to cure meat

B. ? what meat curing is

C. ? the benefits of curing meat

D. ? how to cure meat in the past and in the present

Give Up

Comprehension check

29:52

Choose the best answer to each question.
Use the dictionary options if you need help with vocabulary.

search dictionary

1. People discovered long ago how to dry meat to keep it safe for a long time. This process called curing interferes with the growth of bacteria. Curing meat is a traditional method used by many cultures. It can be done with some common chemicals. The most common is sodium chloride -- salt.
2. Some very harmful bacteria, like salmonella, can be controlled with low levels of salt. But other kinds of

Show all questions

1 / 10 =>

Based on the passage, it can be said that __.

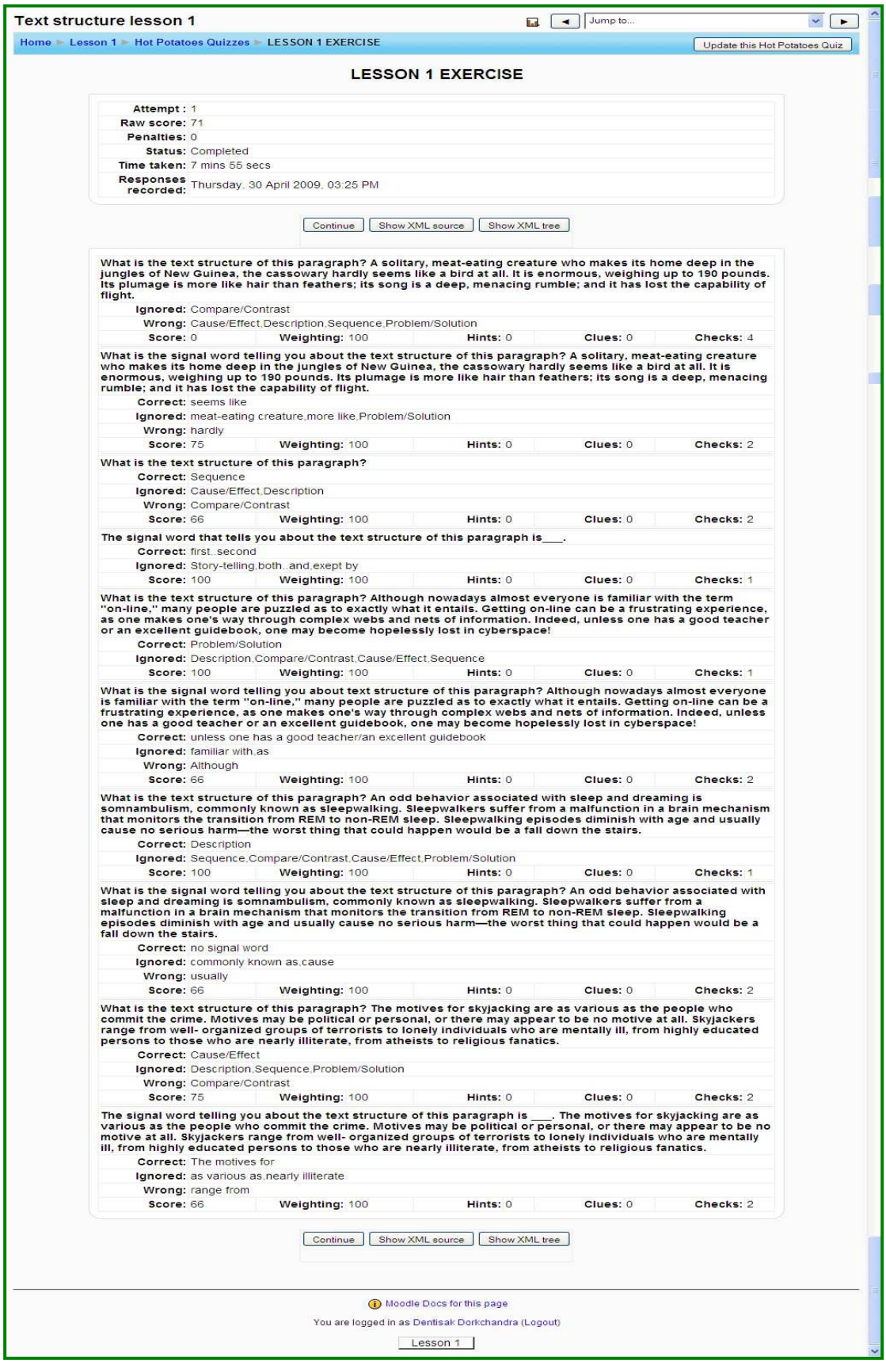
A. ? curing meat has something to do with a long journey.

B. ? bacteria is the most important factor in the process

C. ? cured meat is ideal for all people

D. ? curing meat is popular in the present

An Example of Students' Activity Record



Text structure lesson 1

Jump to...

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Update this Hot Potatoes Quiz

LESSON 1 EXERCISE

Attempt : 1
Raw score: 71
Penalties: 0
Status: Completed
Time taken: 7 mins 55 secs
Responses recorded: Thursday, 30 April 2009, 03:25 PM

Continue | Show XML source | Show XML tree

What is the text structure of this paragraph? A solitary, meat-eating creature who makes its home deep in the jungles of New Guinea, the cassowary hardly seems like a bird at all. It is enormous, weighing up to 190 pounds. Its plumage is more like hair than feathers; its song is a deep, menacing rumble; and it has lost the capability of flight.

Ignored: Compare/Contrast
Wrong: Cause/Effect,Description,Sequence,Problem/Solution
Score: 0 **Weighting:** 100 **Hints:** 0 **Clues:** 0 **Checks:** 4

What is the signal word telling you about the text structure of this paragraph? A solitary, meat-eating creature who makes its home deep in the jungles of New Guinea, the cassowary hardly seems like a bird at all. It is enormous, weighing up to 190 pounds. Its plumage is more like hair than feathers; its song is a deep, menacing rumble; and it has lost the capability of flight.

Correct: seems like
Ignored: meat-eating creature,more like,Problem/Solution
Wrong: hardly
Score: 75 **Weighting:** 100 **Hints:** 0 **Clues:** 0 **Checks:** 2

What is the text structure of this paragraph?

Correct: Sequence
Ignored: Cause/Effect,Description
Wrong: Compare/Contrast
Score: 66 **Weighting:** 100 **Hints:** 0 **Clues:** 0 **Checks:** 2

The signal word that tells you about the text structure of this paragraph is___.

Correct: first..second
Ignored: Story-telling,both..and,exept by
Score: 100 **Weighting:** 100 **Hints:** 0 **Clues:** 0 **Checks:** 1

What is the text structure of this paragraph? Although nowadays almost everyone is familiar with the term "on-line," many people are puzzled as to exactly what it entails. Getting on-line can be a frustrating experience, as one makes one's way through complex webs and nets of information. Indeed, unless one has a good teacher or an excellent guidebook, one may become hopelessly lost in cyberspace!

Correct: Problem/Solution
Ignored: Description,Compare/Contrast,Cause/Effect,Sequence
Score: 100 **Weighting:** 100 **Hints:** 0 **Clues:** 0 **Checks:** 1

What is the signal word telling you about text structure of this paragraph? Although nowadays almost everyone is familiar with the term "on-line," many people are puzzled as to exactly what it entails. Getting on-line can be a frustrating experience, as one makes one's way through complex webs and nets of information. Indeed, unless one has a good teacher or an excellent guidebook, one may become hopelessly lost in cyberspace!

Correct: unless one has a good teacher/an excellent guidebook
Ignored: familiar with,as
Wrong: Although
Score: 66 **Weighting:** 100 **Hints:** 0 **Clues:** 0 **Checks:** 2

What is the text structure of this paragraph? An odd behavior associated with sleep and dreaming is somnambulism, commonly known as sleepwalking. Sleepwalkers suffer from a malfunction in a brain mechanism that monitors the transition from REM to non-REM sleep. Sleepwalking episodes diminish with age and usually cause no serious harm—the worst thing that could happen would be a fall down the stairs.

Correct: Description
Ignored: Sequence,Compare/Contrast,Cause/Effect,Problem/Solution
Score: 100 **Weighting:** 100 **Hints:** 0 **Clues:** 0 **Checks:** 1

What is the signal word telling you about the text structure of this paragraph? An odd behavior associated with sleep and dreaming is somnambulism, commonly known as sleepwalking. Sleepwalkers suffer from a malfunction in a brain mechanism that monitors the transition from REM to non-REM sleep. Sleepwalking episodes diminish with age and usually cause no serious harm—the worst thing that could happen would be a fall down the stairs.

Correct: no signal word
Ignored: commonly known as,cause
Wrong: usually
Score: 66 **Weighting:** 100 **Hints:** 0 **Clues:** 0 **Checks:** 2

What is the text structure of this paragraph? The motives for skyjacking are as various as the people who commit the crime. Motives may be political or personal, or there may appear to be no motive at all. Skyjackers range from well- organized groups of terrorists to lonely individuals who are mentally ill, from highly educated persons to those who are nearly illiterate, from atheists to religious fanatics.

Correct: Cause/Effect
Ignored: Description,Sequence,Problem/Solution
Wrong: Compare/Contrast
Score: 75 **Weighting:** 100 **Hints:** 0 **Clues:** 0 **Checks:** 2

The signal word telling you about the text structure of this paragraph is ___. The motives for skyjacking are as various as the people who commit the crime. Motives may be political or personal, or there may appear to be no motive at all. Skyjackers range from well- organized groups of terrorists to lonely individuals who are mentally ill, from highly educated persons to those who are nearly illiterate, from atheists to religious fanatics.

Correct: The motives for
Ignored: as various as,nearly illiterate
Wrong: range from
Score: 66 **Weighting:** 100 **Hints:** 0 **Clues:** 0 **Checks:** 2

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Lesson 1

CURRICULUM VITAE

Dentisak Dorkchandra is a lecturer in English at the Department of Languages, Faculty of Liberal Arts and Management Science, Kasetsart University, Chalermphrakiat Sakon Nakhon Province. He received a B.A. (English) from Mahamakut Buddhist University, Bangkok, in 1996. Later in the same year, he was granted the opportunity to study for a master's degree, and obtained an M.A. (Entire English) from the University of Pune, India, in 1998.

His academic areas of interest mainly lie in Computer Assisted Language Learning (CALL), EFL/ESL reading/writing, and language learning strategy. He is also interested in modern English literature and Buddhist-related writings.

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