

การศึกษากลวิธีในการอ่านและผลของระดับความสามารถในการอ่านและประเภทของบทอ่านต่อ  
ความสามารถในการตอบแบบทดสอบโคลชชนิดละคำตามเหตุผล  
ของนักศึกษานิติศาสตร์ ปีที่ 1 มหาวิทยาลัยขอนแก่น



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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรดุษฎีบัณฑิต

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ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

A Study of Reading Strategies and Effects of Reading Ability Levels and Text Types on  
Rational Deletion Cloze Test Performance of  
First Year Law Students at Khon Kaen University

Mrs. Nantawan Senchantichai



ศูนย์วิทยทรัพยากร

A Dissertation Submitted in Partial Fulfillment of the Requirements  
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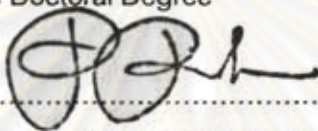
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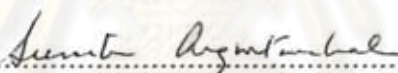
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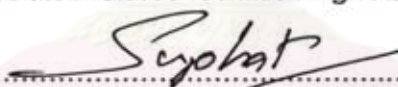
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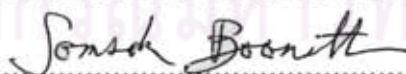
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นางนันทวัน เสนจันทร์ดิษฐ์: การศึกษากลวิธีในการอ่านและผลของระดับความสามารถในการอ่านและประเภทของบทอ่านต่อความสามารถในการตอบแบบทดสอบโคลซชนิดละคำตามเหตุผลของนักศึกษานิติศาสตร์ปีที่ 1 มหาวิทยาลัยขอนแก่น. (A STUDY OF READING STRATEGIES AND EFFECTS OF READING ABILITY LEVELS AND TEXT TYPES ON RATIONAL DELETION CLOZE TEST PERFORMANCE OF FIRST YEAR LAW STUDENTS AT KHON KAEN UNIVERSITY) อ. ที่ปรึกษาวิทยานิพนธ์หลัก : รศ. ดร. สุวัฒน์ สุขมลตันต์, 257 หน้า.

งานวิจัยนี้มีจุดมุ่งหมายเพื่อศึกษากลวิธีในการอ่านของนักศึกษาที่ใช้ในการตอบแบบทดสอบโคลซชนิดละคำตามเหตุผล และศึกษาผลกระทบของระดับความสามารถในการอ่านและประเภทของบทอ่านคือ บทอ่านเรื่องเล่าและบทอ่านเชิงสารกต่อความสามารถในการตอบแบบทดสอบโคลซชนิดละคำตามเหตุผล หลักการละคำในแบบทดสอบโคลซอ้างอิงประเภทการละคำของบากแมน(1985) กลุ่มตัวอย่างเป็นนักศึกษาคณะนิติศาสตร์ชั้นปีที่ 1 มหาวิทยาลัยขอนแก่น ปีการศึกษา 2553 จำนวน 174 คน และแบ่งออกเป็น 3 กลุ่มตามระดับความสามารถในการอ่าน โดยทุกคนได้ทำแบบทดสอบโคลซที่ประกอบไปด้วยบทอ่านทั้งสองประเภท เครื่องมือที่ใช้ได้แก่ แบบทดสอบวัดความสามารถในการอ่าน แบบทดสอบโคลซชนิดละคำตามเหตุผล แบบสอบถามกลวิธีในการอ่านที่ใช้ในการตอบแบบทดสอบโคลซ และการสัมภาษณ์ย้อนหลัง ในการวิเคราะห์ข้อมูลความสามารถในการตอบแบบทดสอบโคลซชนิดละคำตามเหตุผลใช้การวิเคราะห์ความแปรปรวนแบบสองทาง การวิเคราะห์ค่าตอบของแบบสอบถามและการวิเคราะห์ค่าตอบของการสัมภาษณ์ย้อนหลังใช้การทดสอบครัสกัล วอลลิส การทดสอบแมนวิทนีญูและการทดสอบฟริคแมน

ผลการศึกษาพบว่า (1) ระดับความสามารถในการอ่านมีผลต่อความสามารถในการตอบแบบทดสอบโคลซชนิดละคำตามเหตุผลอย่างมีนัยสำคัญ ( $p < .05$ ) คะแนนเฉลี่ยของนักศึกษาในแต่ละกลุ่มที่มีระดับความสามารถในการอ่านที่แตกต่างกันคือแก่่ กลาง อ่อน มีความแตกต่างกันอย่างมีนัยสำคัญ ( $p < .05$ ) (2) ความสามารถในการอ่านบทอ่านเรื่องเล่าและบทอ่านเชิงสารกมีความแตกต่างกันอย่างมีนัยสำคัญ ( $p < .05$ ) คะแนนเฉลี่ยที่ได้จากบทอ่านเรื่องเล่าสูงกว่าคะแนนเฉลี่ยที่ได้จากบทอ่านเชิงสารก (3) ระดับความสามารถในการอ่านและประเภทของบทอ่าน ไม่มีผลกระทบร่วมต่อความสามารถในการตอบแบบทดสอบโคลซชนิดละคำตามเหตุผล (4) การใช้กลวิธีในการอ่านในการตอบแบบทดสอบโคลซชนิดละคำตามเหตุผลของนักศึกษาในแต่ละกลุ่มมีความแตกต่างกันอย่างมีนัยสำคัญ ( $p < .05$ ) นักศึกษาในกลุ่มแก่่ใช้กลวิธีในการอ่านมากกว่ากลุ่มความสามารถอื่นอย่างมีนัยสำคัญ ( $p < .0167$ ) (5) กลวิธีในการอ่านที่ใช้บริบทในการตอบแบบทดสอบโคลซชนิดละคำตามเหตุผลของนักศึกษาในแต่ละกลุ่มมีความแตกต่างกันอย่างมีนัยสำคัญ ( $p < .05$ ) นักศึกษาในกลุ่มแก่่ใช้บริบทในระดับสูงกว่าประโยชน์มากกว่ากลุ่มความสามารถอื่นในการตอบแบบทดสอบโคลซอย่างมีนัยสำคัญที่ ( $p < .0167$ )

สาขาวิชาภาษาอังกฤษเป็นภาวนานาวาติ

ปีการศึกษา 2553.....

ลายมือชื่อนิสิต .....

ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์หลัก.....



## 4689671520 : MAJOR ENGLISH AS AN INTERNATIONAL LANGUAGE

KEYWORDS : CLOZE TEST / RATIONAL CLOZE TEST / READING ABILITY / READING STRATEGIES / RETROSPECTIVE INTERVIEWS

NANTAWAN SENCHATICHAI : A STUDY OF READING STRATEGIES AND EFFECTS OF READING ABILITY LEVELS AND TEXT TYPES ON RATIONAL DELETION CLOZE TEST PERFORMANCE OF FIRST YEAR LAW STUDENTS AT KHON KAEN UNIVERSITY. ADVISOR : ASSOC. PROF.SUPHAT SUKAMOLSON, Ph.D., 257 pp.

This research work was aimed to study the students' use of reading strategies on their rational cloze test performance and to study the effects of reading ability levels and two text types, narrative and expository text, on the rational deletion cloze test performance. The rationale for item deletion was based on Bachman's (1985) classification of cloze items. The subjects were 174 first-year Law students at Khon Kaen University in the 2010 academic year. All of them were divided into three different groups based on their reading ability. They took the rational deletion cloze test which comprised two text types. The research instruments used in this study were the reading test, the rational deletion cloze test, the reading strategies questionnaire, and the retrospective interview. The data on the rational deletion cloze test performance were analyzed using the Two Way ANOVA analysis with replication. The responses to the questionnaire and to the interview were analyzed using the Kruskal-Wallis tests, the Mann-Whitney U tests and the Friedman tests.

The findings of the study were (1) there was a significant effect of students' reading ability levels on their rational deletion cloze test performance ( $p < .05$ ); there was a significant difference in the average scores of students with different reading ability levels, gained from the rational deletion cloze test ( $p < .05$ ); (2) there was a significant effect of the two text types on the rational deletion cloze test performance ( $p < .05$ ); the average scores on the narrative cloze text were higher than the average scores on the expository cloze text; (3) there was no significant interaction effect of the reading ability levels and text types on the rational deletion cloze test performance; (4) the use of reading strategies while working on the rational deletion cloze test by the three reading ability groups was significantly different ( $p < .05$ ); the high reading ability groups significantly used more reading strategies than the other ability groups ( $p < .0617$ ); (5) there were significant differences in the use of contextual information as a source of information for restoring the cloze gaps ( $p < .05$ ); the high reading ability students significantly used more text-level information than the students in other ability groups ( $p < .0617$ ).

Field of Study: English as an International Language

Academic Year : 2010

Student's Signature

Advisor's Signature

*Nantawan*  
*Suphat*

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ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

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ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

# CHAPTER I

## INTRODUCTION

### 1. 1 Background of the Study

English Reading is an essential skill in learning English as a second or foreign language. Among the four basic language skills—listening, speaking, reading and writing—reading seems to be the most taught-skill at all levels of education. It is also the skill that is generally tested as an indicator of learner's proficiency in the English language.

The most commonly found procedure in assessing the English language reading comprehension ability is the multiple-choice question technique (Alderson, 2000; Anderson et al, 1991; Urquhart and Weir, 1998). The test format of this technique consists of a reading passage of certain length, followed by a set of questions and answers in a multiple-choice format. Multiple-choice reading test is considered reliable since the marking process is totally objective; the test marker is not allowed to use his/her own judgment when marking. The marking process is also quick and simple.

Despite its reliability, multiple-choice reading tests have been attacked in many ways. Among common criticisms is whether multiple-choice items can truly elicit test takers' reading ability. Test takers may get right answers by eliminating wrong answers, without referring to the reading passage (Urquhart and Weir, 1998:159), or by guessing some of the items correctly or by recognizing words or phrases from the passage without having understood what they read (Wolf, 1993: 481). Besides, scores on multiple-choice reading tests can be improved by being trained in test-taking techniques (Alderson, 2000: 211). Thus, the process of reaching the correct answer on such tests may not reflect the process involved in actual reading. Concerning the disadvantages of multiple-choice reading tests, cloze procedure seems to be a good alternative as suggested by Grotjahn (1995, cited in Alderson and Banerjee, 2002: 86), or at least as a complement to any reading comprehension test. Cloze tests, according to Brown and Hudson (1998: 88), can minimize the guessing factor's influence. They are easy to construct and quick to



administer; in addition, they measure the interaction of receptive and productive skills (Brown and Hudson, 1998: 87).

Cloze tests have been extensively used, for more than 30 years, as completion measures, aimed at tapping reading skills. The cloze procedure is regarded as an integrative method of assessment since the completion of cloze items requires simultaneous processing of several linguistic components (Madsen, 1983 cited in Keshavarz & Salimi, 2007). Many studies on the concurrent validity of cloze procedures (e.g. Oller, 1972; Irvine et al., 1974; Stubbs and Tucker, 1974; Alderson, 1979; Brown, 1980; Hinofotis, 1980) show high correlations between cloze tests and standardized tests and with their sub-tests. This has led to the assumption that the cloze test can be used as a measure of overall proficiency in English as a second language (Saito, 2003) as well as a measure of reading comprehension (Alavi, 2005).

However, the precise language abilities required by a given cloze test and the effects of cloze methods—fixed-ratio, rational, and multiple-choice—have been the issues of controversy. Among these three methods, the research on fixed-ratio cloze procedure, with every  $n^{\text{th}}$  word deletion, has mostly been conducted. The advocates of cloze procedure claim that cloze tasks involving the discourse processing ability, can measure reading comprehension at the macro level (Oller, 1979, cited in Chapelle and Abraham, 1990; Chavez-Oller et al., 1985; Jonz, 1990; McKenna and Layton, 1990; Fotos, 1991). However, researchers like Alderson (1980, 1983, and 2000) and Cohen (1998) regard cloze tests as only measures of local-level reading ability.

To construct cloze tests to evaluate reading comprehension, Alderson (1979) suggested that the tests should obtain the deletion criteria from aspects of the reading process so as to indicate that test takers relate different pieces of information beyond clause boundaries of the deleted word to restore the gap and therefore the test can measure 'higher order processing abilities.' Bachman (1985) has suggested the development of a rational deletion cloze test, "a cloze test of specific abilities through the use of a rational deletion procedure". He has proposed the principled basis for classifying and selecting words to be deleted by using the hierarchical structure of written discourse as a criterion since "not all deletions in a given cloze passage measure exactly the same abilities" (Bachman, 1985: 535). These criteria were derived from the discourse processing theory which is the fundamental principle

which holds that learners proceed through the text by using both micro-level and macro-level text processing strategies (Read, 2000: 107). Despite being frequently recommended in cloze testing, few studies have employed Bachman's category of cloze items. Only Sasaki (2000) and Yamashita (2003) have employed this category in their coding scheme to analyze the subjects' self report on their cloze test taking process, but not as the classification for cloze deletion as Bachman has suggested.

In conducting language testing research, further to focusing on test construction, researchers need to take account of factors that can affect performance on language tests (Bachman, 1995: 155). In the field of cloze testing, there are vast amount of research on cloze tests on different variables—deletion ratio, scoring systems, passage difficulty, method of student response. However, text type is the variable that does not receive much attention in cloze test research. This may result from the standard practice of cloze testing which employs only one passage of certain length. Nevertheless, this practice has been much attacked since a single text cannot be a representative sample of the language (Klein-Braley, 1997: 59).

Research evidence suggests that text type is related to reading comprehension (Alderson, 2000). Narrative and expository are two main text types (Koda, 2005). These two text types have differential effects upon language learners; narrative text appears to be easier to understand and monitor than expository text (Alderson, 2000; Koda, 2005). While research on reading assessment has studied the relationships of text types to reading comprehension (Brantmeier, 2005), only a handful of studies to date has concentrated on the effects of text types on a cloze task. Among those few is Wu's (1994) work. He has found that the narrative texts were more suitable to measure students' reading comprehension than the expository texts.

Another perspective that a small number of research studies on cloze tests seem to pay attention to is of the test takers themselves. In a normal reading situation, a reader only concentrates on reading strategies that enable him or her to interpret the text, whereas in the testing situation, not only does a test taker have to be concerned with the interpreting of the text, but h/she also “needs to develop different strategies to interpret the test as well as to complete the task...[t]he strategies applied in the testing situation vary with test tasks” (Francis, 1999: 6). There are few studies investigating reading strategies in cloze testing, except those of Kletzien (1991) and

Lu (2006). They found that individual test takers used different reading strategies in restoring the cloze blanks. Two of them seemed to agree that research on reading strategies on cloze test performance would yield some significant aspect in reading education.

Another issue of interest in the area of cloze testing concerning test takers is that test takers may vary in the types of context used in completing a gap in a given cloze test. Their use of context may be different from what analysis might indicate (Storey, 1994, 1995, 1997; Yamashita, 2003). Alderson (1984, cited in Anderson et al., 1991) has called for an investigation into test takers' cognitive processes. This type of investigation not only enables researchers to gain some insights into how test takers process the text, but also help them identify what test takers notice and hypothesize about the ways in which they access and use their language knowledge in the testing situation (Wigglesworth, 2005). Verbal reports are mostly recommended for the investigation of a learner's cognitive processes (Chapelle, 1999; Green, 1998; Wigglesworth, 2005). From the test takers' verbal reports, researchers can explore their cognitive processes and test-taking strategies. In this way, the test passages and test items can be determined whether they measure what they are intended for. This should result in better interpretation of the test results (Anderson et al., 1991; Chapelle, 1999).

Traditionally, cloze tests are regarded as measures of reading comprehension. Test takers are required to search for "a distribution of elements" in restoring cloze gaps (Weaver, 1965: 127, cited in Raymond, 1988:91) and to supply the gaps, using surrounding words and context (Paris & Jacob, 1984: 2087). Due to the fact that cloze tests highly correlate with other measures of language proficiency (e.g. Oller, 1972; Irvine et al., 1974; Stubbs and Tucker, 1974; Alderson, 1979; Mullen, 1979; Brown, 1980; Hinofotis, 1980), high achievers in cloze tests tend to achieve highly in the reading comprehension tests. However, there are only a few studies on the rational cloze testing with second language learners (e.g., Bensoussan and Ramraz, 1984; Hale et al., 1989; Jonz, 1990; Abraham and Chapelle, 1992; Sasaki, 2000; Yamashita, 2003). Findings from some of these studies seem to support that rational deletion cloze tests can be a measure that can differentiate well between good and poor readers (Yamashita, 2003).

Accordingly, it was interesting to explore whether the rational deletion cloze test could be used as a measure of English as a foreign language (EFL) reading comprehension that can differentiate students of different reading ability. Since few studies has employed Bachman's (1985) classification of cloze items in the cloze testing, it was also interesting to explore if the rational proposed by Bachman could come up with the cloze test with different types of items which can elicit different types of information, ranging from the clause-level information to the text-level information. And, since the traditional cloze test has been attacked regarding using a single text, it was noteworthy to explore if more than one text was employed in the test, and those texts were of different text types for different types of texts have been predicted to have different effects upon language learners. Finally, if it was stipulated that the rational deletion cloze test could be a measure of reading comprehension, students should be predicted to use certain reading strategies in their cloze test performance.

Therefore, this study would be conducted to find out whether the rationale for item deletion proposed by Bachman(1985) could yield a measure of reading comprehension which could differentiate high reading ability students from low reading ability students. Furthermore, two texts of different text types, narrative and expository text, would be used since research evidence suggests that narrative text tends to be easier than expository text. The study of the use of reading strategies while doing the cloze test would also be conducted to find out if there were differences in the strategies uses by students of different reading ability levels. To confirm the results of the study, the retrospective interviews would be conducted to gain solid data from students' perspective of their cloze test-taking processes. The data could also be used to validate the test. The investigation of the rational deletion cloze test performance would be conducted at Khon Kaen University where there were few studies on cloze test performance.

## 1.2 Objectives of the study

The primary purpose of the study was to investigate effects of reading ability levels and text types on rational deletion cloze test performance. In this study, different reading ability levels and text types were deemed as the variables that may have certain effects on the cloze test performance. The secondary purpose of the study was to explore the reading strategies used by students while restoring the cloze gaps in order to obtain information, hoped to be critical to the English reading education at Khon Kaen University. Verbal reports on the retrospective interviews were expected to provide in-depth information concerning the use of reading strategies and cloze test-taking processes.

The research, therefore, aims to:

1. study the effects of different reading ability levels on students' rational deletion cloze test performance;
2. study the effects of two different text types on students' rational deletion cloze test performance;
3. study the interaction effect between different reading ability levels and two different text types on students' rational deletion cloze test performance;
4. study students' use of reading strategies when performing the rational deletion cloze test; and
5. study students' use of contextual information in restoring the cloze gaps.

All these objectives lead to the following research questions.

## 1.3 Research questions

1. Do students' different reading ability levels have a significant effect on their rational deletion cloze test performance?
2. Do different text types have different effects on students' rational deletion cloze test performance?
3. Is there a significant interaction effect between reading ability levels and text types on students' rational deletion cloze test performance?



4. Are there differences in the use of reading strategies by students with different reading ability levels in doing the rational deletion cloze test comprising two different text types?
5. Are there differences in the use of contextual information by students with different reading ability levels in their filling the cloze gaps?

#### **1. 4 Statements of hypotheses**

Hypothesis 1: There is a significant difference in the average scores gained from the rational deletion cloze test.

Hypothesis 2: There is a significant difference in students' average scores gained from the narrative cloze and the expository cloze test performance.

Hypothesis 3: There is a significant interaction effect between reading ability levels and text types on students' average rational deletion cloze scores.

Hypothesis 4: High-reading ability students use more reading strategies than the average and low reading ability groups

Hypothesis 5: High-reading ability students use more text level information than average- and low-reading ability students.

#### **1.5 Scope of the study**

1. The population of the main study was the first-year students studying in the Faculty of Law, Khon Kaen University. They have been studying English as a foreign language for about 10-11 years since their primary level of study. The average ages of the population were 17-18 years of age.
2. The independent variables in the study were reading ability levels and text types. There were three levels of the first variable: high-, average-, and low-reading ability. There were two levels of the second variable: narrative and expository text types.
3. The dependent variable was the mean scores of the rational deletion cloze test.
4. The data on the students' use of reading strategies while working on the rational deletion cloze test was collected by means of questionnaire to obtain an overall, rather than a detailed view.

5. The data on the students' use of contextual information on their solving the rational deletion cloze items was collected by means of retrospective interviews to obtain additional data to supplement the results of the study.

## **1.6 Limitations of the study**

The reading test constructed was confined to the limited range of reading ability/skills.. Therefore, the test could not profile specific individual differences of the participants.

## **1.7 Assumptions of the study**

1. It was assumed that the participants in this study worked to the best of their ability in the reading test and the rational deletion cloze test.
2. It was assumed that the participants provided valid data on their responding to the reading strategy questionnaire.
3. It was assumed that the participants who were randomly selected to participate in the retrospective interviews provided valid data on their use of contextual information to restore cloze gaps.

## **1.8 Definitions of terms**

### **1. Reading ability levels**

Reading ability, in this study, refers to the students' reading ability in comprehending vocabulary, pronoun reference, details both explicitly and implicitly stated in reading passages, in understanding the key concept of the passage and the author's purpose. The construct of the test was operationalized into a reading test consisting of five passages and 40 multiple-choice questions.

Reading ability levels refer to the reading scores gained from the reading test which was constructed by the researcher. The students were put into three different groups based on their performance on the test. Based on the scores of the test, students above the 70<sup>th</sup> percentile rank were identified as readers of high ability. Students between the 69<sup>th</sup> percentile and the 35<sup>th</sup> percentile ranks were identified as

readers of average ability, and those below the 35<sup>th</sup> percentile rank were identified as readers of low reading ability.

## **2. Text types**

The term “text types” used in this study refers to different genres of writing which have different structure of text organization. In this study, two different text types were used. They were narrative and expository text.

A narrative text refers to the text whose purpose is to tell a story. Examples of narrative text are novels, stories, and other forms of fiction. In this study, a simplified version of Aesop’s fable, “The Ant and the Grasshopper,” was used as a narrative cloze. This story was expected to activate the participants’ world knowledge due to their familiarity with the story.

An expository text refers to the text whose purpose is to communicate information (Weaver and Kintsch, 1991). There is some variation in the structural organization in expository text: description, compare/contrast, cause/effect, and problem/solution.

In this study, a passage, “Old Age in Present Society” taken from an EFL textbook was used as an expository cloze. This passage was expected to activate the participants’ world knowledge in terms of cultural familiarity. The rhetorical pattern of organization of the text is compare/contrast. This pattern of organization was used since previous studies has suggested that learner of different levels seem to be sensitive to compare/contrast text structure.

## **3. Rational deletion cloze test performance**

Rational deletion cloze test refers to a cloze test that uses a selective approach as a rationale to the deletion of words from the text.

The rationale for item deletion used in this study was adopted from Bachman’s (1985) classification of cloze items. They are (1) the “within clause” item type; (2) the “across clause, within sentence” item type; (3) the “across sentence” item type, and (4) the “extra textual” item type. The first item type requires the information within the clause where the cloze blank appears as a source of information for gap filling. The second type of cloze item requires the information across clause, but

within the same sentence where the cloze blank appears as a source of information for gap filling. The third type of item requires the students to read beyond the sentence where the gap appears in order to find source of information to restore the gap. The last type of item requires the information outside the text boundary. The students have to relate what they have read to their world knowledge so as to be able to restore the gap.

The rational deletion cloze test used in this study consisted of 20 items on each text type. Each blank, or item, required one word. The students responded to the cloze items by supplying their own words.

Rational deletion cloze test performance refers to cloze scores obtained from the cloze test performed by the participants of high, average, and low reading ability groups.

#### **4. Reading strategies**

Reading strategies used in this study refer to the reading strategies employed by the high-, average-, and low-ability groups of students in solving the rational deletion cloze problems.

The list of reading strategies used in this study was adapted from the work of Kletzien (1991) and Lu (2006). They were “reading the whole cloze passage before working on the blanks”, “skipping unknown words while reading the cloze passage”, “using sentence structures”, “using rhetorical pattern of organization”, “focusing on vocabulary”, “using context to restore the cloze blanks”, “looking for key words and phrases”, “using punctuation”, “making inferences”, “using main idea”, “using prior or world knowledge” and “translating.”

## **1.9 Significance of the study**

If the outcomes of the study are in accord with the hypotheses, the study will contribute theoretically and practically to the significance of cloze testing and the English language education in EFL context.

### **Theoretical significance**

The study can provide additional information to support cloze testing and the use of rational deletion cloze tests as measures of reading comprehension and overall language proficiency, and the use of reading strategies in cloze tests and tasks.

The study can also contribute to the assumption that narrative tends to be easier to comprehend than expository text, and that the narrative text can be used as cloze texts.

In the research into strategy use, the study can provide empirical evidence to support that students use reading strategies on their attempt to fill cloze gaps.

Employing retrospective interviews to obtain data to confirm the research findings is expected to offer a rich source of information that is not available through other types of information.

### **Practical significance**

English teachers in EFL context can benefit from Bachman's (1985) classification of cloze items if their aims are to construct cloze tests or tasks that can measure both lower- and higher-level of text comprehension.

The use of reading strategies while working on cloze tasks will raise awareness of syntax and meaning in students of the process in text construction.



### **1.10 Overview**

Chapter one provides the background of the study. It includes the objectives of the study, the research questions, the statements of hypotheses, the scope of the study, the limitations of the study, the definitions of key terms used in the study, and the study significance.

Chapter two presents a review of related literature in eight areas. They are (1) the nature of reading, (2) comprehension assessment, (3) cloze tests, (4) reading comprehension ability and cloze testing, (5) text types, (6) reading strategies, and (7) verbal reports.

Chapter three focuses on research methodology. The population and the sample are presented. The procedures employed in constructing the research instruments as well as the validation process are provided. Data collection and data analysis are included in the last part of the chapter.

Chapter four presents the findings of the study, which are presented according to the research questions.

Chapter five provides a summary of the research, a discussion of each research question and conclusions from the findings. The implications from the study and the recommendations for future research are also included.

## **CHAPTER II**

### **LITERATURE REVIEW**

This study investigated effects of reading ability levels and text types on cloze test performances. The study was also intended to explore the reading strategies used by the students on their cloze performance. Furthermore, in-depth information from verbal reports was expected to shed light into cloze test taking processes to learn how students restored the cloze gaps. Accordingly, some related literature and research studies were reviewed to obtain background information for the study.

The topic discussed in this chapter include (1) the nature of reading, (2) comprehension assessment, (3) cloze tests, (4) reading comprehension ability and cloze testing, (5) text types, (6) reading strategies, (7) verbal reports, and (8) the present study.

#### **2.1 The Nature of reading**

The presentation in this part concerns the nature of reading so as to understand differences among readers with different reading ability, namely good and poor readers. Good readers appeared to differ from poor readers in the product of the reading, in their understanding of what was read, and in the process by which understanding was produced (Taylor et al, 1985: 567). According to Snow, Burns, and Griffin (1998, cited in Mokhtari and Reichard, 2002: 249), skilled readers were good comprehenders. They differed from unskilled readers in their use of general world knowledge to comprehend text, in their comprehension of words, and in their ability to draw inferences from texts (Snow, Burns, and Griffin, 1998, cited in Mokhtari and Reichard, 2002: 249). In order to understand the nature of reading, first the essential components of reading were discussed.

## **2.1.1 The Essential components of reading**

### **2.1.1.1 Word recognition**

Word recognition refers to the processes of obtaining word's sounds and meanings. It is widely recognized by researchers as one of the most important processes contributing to reading comprehension....“fluent reading comprehension is not possible without rapid and automatic word recognition of a large vocabulary” (Grabe, 2009: 22-23).

Research has long suggested that skilled or fluent readers apparently differ from less-skilled readers in the process by which understanding is generated (Taylor et al., 1985). Unlike skilled readers, less-skilled readers read in word-by-word manner, were slow and less accurate, and failed to access or utilize larger context and idea units in the text (Cromer, 1970, and Daneman & Carpenter, 1980, and Perfetti and Lesgold, 1979, cited in Taylor et al., 1985: 567). Horiba (1990, cited in Koda 2005: 39) contrasted reading strategies across proficiency levels and found that low-proficiency readers rely more on word-level than in discourse processing. Low-proficiency readers spent considerable time in their “visual-information sampling” which severely affected their ability to use “multiple information sources” (Koda, 2005: 39). Block (1992) compared proficient native and L2 readers with less proficient native and L2 readers studying in a US college to see how they dealt with a referent problem and a vocabulary problem. She found that the less proficient readers were defeated by word problems. Their word recognition skills seemed to be inadequately developed whereas more proficient readers did not worry about word problems. They were able to decide which problems they could ignore and which they had to solve.

There was a causal link between word recognition and reading ability (Stanovich, 1982: 550). According to Stanovich (1980: 64), good readers seemed to have more capacity in recognize words automatically than poor readers. In addition, they were superior at context-free word recognition. The ability to recognize words automatically is important in reading because “it frees capacity for higher-level integrative and semantic processing” (Stanovich, 1980: 60). Word recognition skills are thus viewed as one of the crucial components to the future development of successful reading comprehension (Stanovich, 1986, cited in Rupp et al., 2006: 444).

### **2.1.1.2 Vocabulary knowledge**

The important role of vocabulary knowledge in reading comprehension of both first language (L1) and second language (L2) readers has been widely recognized (Koda, 2005: 48; Zhang and Annual, 2008: 1). Research has shown that “vocabulary knowledge correlates more highly with reading comprehension than other factors” (Koda, 2005: 49).

Vocabulary knowledge refers to the knowledge of word meanings, word properties, and word meanings in context (Koda, 2005: 51). Nation (2001, cited in Koda, 2005: 51) has divided vocabulary knowledge into three major categories: form, meaning, and use. According to Nation, “form” refers to “spoken, written, and word parts”, “meaning” refers to “meaning and word form, concept and referents associations”, and “use” refers to grammatical functions, collocations, and constraints on use.”

To understand text meaning which is higher level of comprehension, rapid and efficient word recognition and lexical access are necessary (Adams, 2004, cited in Zhang and Annual, 2008: 5). Poor readers are slower and less efficient in lexical access and semantic processing (Grabe, 1999; Grabe and Stoller, 2002; Nassaji, 2003). Within the context of L2 reading, research has shown that inadequacy of vocabulary knowledge is a major obstacle in reading performance of many L2 learners (Laufer, 1992).

### **2.1.1.3 Information integration in sentence processing**

A sentence is a larger linguistic unit, consisting of a string of words putting together. In order to understand the sentence, a reader needs to incorporate the syntactic and semantic information of those individual words with pragmatic information. Therefore, “linguistic information is a major source of individual differences in sentence processing” (Koda, 2005: 95).

Evidence from her studies has led Koda (2005) to posit that L2 sentence comprehension relies heavily on morphosyntactic knowledge. Berman (1984, cited in Koda, 2005: 110) has identified two syntactic factors as major sources of L2 comprehension difficulty: “violation of structural prototypicality and lack of structural

transparency.” To illustrate the first factor, Berman cited the passive construction in English. The surface form of the passive construction, “object-verb-subject”, does not conform to the prototypical syntactic order, “subject-verb-object, thus “violates structural prototypicality.” Structural conflicts of this sort add burden to less-proficiency L2 readers. The second factor is lack of structural transparency. This second factor refers to the cohesive devices in English, such as deletion and substitution. These devices are used to clarify the point. According to Berman, many L2 readers have difficulty determining the grammatical substitutes for repeated lexical items in the following sentences. “I told my sister how much I liked her **mug**. Next day, she bought **one** for me.” Another example is an absence of relative pronoun in reduced relative clause. This type of structure can create confusion by “making the initial clause structurally ambiguous” (Berman, 1984, cited in Koda, 2005:111).

Thus, knowledge of L2 morphosyntactic features, according to Koda (1999, cited in Koda, 2005:121), is another major factor to differentiate good from poor readers. Good readers seem to possess superior ability to “direct attention to the elements providing critical information for text-meaning construction.”

#### **2.1.1.4 Discourse processing**

Text is not displayed in a sequence of isolated words and sentences. Rather, “it is visual communication transmitting the author’s intended message. Text understanding, therefore, is the process of discerning the author’s communicative intent” (Koda, 2005: 123). To understand text, a reader must understand how “coherence relations” are signaled among text elements both explicitly and implicitly (Sanders, Spooren, and Noordman, 1992 cited in Koda, 2005: 127). Coherence relation refers to “the aspect of meaning of two or more discourse segments that cannot be described in terms of meaning of the segments in isolation.” Explicit and implicit methods are used to achieve text coherence. Koda (2005: 128) provides brief definitions of both methods. Explicit methods refer to text clues that are identifiable; these include rhetorical pattern of organization, topic sentence placement, as well as linguistic devices, such as connectives and co-references. Implicit methods refer to “conceptual manipulations” to connect text elements. Examples of these methods are inference and reasoning.



According to Koda, connectives are particularly useful when reading expository texts. Abilities to extract related information from connectives at the local coherence building and incorporate it in the text at the global coherence level are essential for successful comprehension. Co-reference is also a critical device for connecting text elements beyond sentence boundaries. This is because “referential resolution entails far more than simple mappings of anaphors onto their antecedents. Successful resolution necessitates, among other things, sensitivity to semantic and syntactic constraints, particularly when lexically attenuated forms are used as co-references” (Koda, 2005: 130).

Inferencing is another major contributor to reading comprehension. There are two main types of inferences: bridging and elaborative (Koda, 2005: 131). Bridging inferences “occur automatically” during the analysis of the local-level. The factor that distinguishes the successful and unsuccessful use of in bridging inferences is the ability to recognize “the underlying semantic connection between two seemingly unrelated statements.” Bridging inferences are also necessary in identifying causal linkages among text statements, which are fundamental in narrative texts.

According to Koda (2005: 132), elaborative inferences are not generated automatically. Their generation depends on “the reader’s intention to expand an elaborate on explicit text information.” In narrative texts, elaborative inferences can supply unstated messages. Thus, elaborative inferences contribute to global semantic coherence and are “integral in discourse comprehension.”

Inferencing skills are important for reading comprehension since all language comprehension requires readers to infer and to make assumptions (Alderson, 2000: 164). There is evidence that good readers are better at making inferences (Grabe, 1999: 21). Besides, Stansfield and Hansen (1983, cited in Fotos, 1991: 319) report that inferencing process are involved in the success in cloze test-taking.

Fluent reading, according to Grabe (1999: 12) also involves sufficient knowledge of language and knowledge of the world, or background knowledge, as foundations which text comprehension is built on.

### **2.1.2 Conclusion**

The components mentioned in the sections above are regarded as the essential factors that contribute to success in reading comprehension. They are the major sources of variation in reading ability, particularly in differences between readers of different reading ability: good and poor readers. Grabe (1999) emphasizes that word recognition and propositional integration must be carried out in a rapid rate to result in fluent reading. Slow rates of reading, particularly for second language learners, can cause “comprehension problems because working memory is used ineffectively while waiting to assemble clausal information” (Gernsbacher, 1990, cited in Grabe, 1999: 12). Readers of slow rates shift attention from the demand to build the whole text comprehension to local linguistic elements (Stevenson, Schoonen, and Gloppe, 2003: 769; Walczyk, 2000: 561). It is possible that their choices of textual details do not fit together with passage topic, and this could result in poor quality of text comprehension (Cha and Swaffar, 1998: 206). On the other hand, good readers are efficient in text processing because they can recognize word automatically, quickly construct meaning of propositions, integrate propositional information into “a text model” rapidly (Grabe, 1999:12), and “restructuring the text model to reflect the main ideas of the text being read” (Pulido, 2003: 239). From the study of discourse processing, it is apparent that text interpretation is unique to the particular reader. This is a partial explanation to why different readers, who read the same text, but interpret it differently.

In sum, reading ability is very complicated and involves different processes. It is assumed that individuals’ reading ability develop through time as Bernhardt (1999: 7) points out that the more language knowledge a learner has (i.e. more years of being exposed to the second language), the more total amount of information the learner is able to elicit from a text, which, in turn, can construct and effectively interpret a text.

## **2.2 Comprehension assessment**

The discussion about comprehension assessment here was limited to “what” and “how to” to measure reading comprehension via the multiple-choice test format.

### **2.2.1 Assumptions in assessing reading**

There are two major assumptions in assessing reading comprehension: comprehension as product and comprehension as process (Koda, 2005: 228). The following brief explanations of the two assumptions were taken from Koda (2005: 228-229).

According to Johnston (1983, cited in Koda, 2005: 228), the basic assumption underlying the product view is that comprehension is a product of the reader’s interaction with a text. The product views see reading comprehension as the ability to remember. The outcomes of reading are stored in the reader’s memory and can be measured by having the reader demonstrate portions of the stored text representation. These views are “evidenced in common assessment measures such as true-false and multiple-choice questions, constructive responses, and free recall”. In contrast, the process view presumes reading comprehension as the ongoing process of “extracting information from print and integrate it into coherent meaning.” These processing behaviors occur during reading “before text information is conveyed to memory.” The examples of assessment measures that reflect the process view are think-aloud verbal reports and eye-movement tracking. According to Koda (2005: 229), the process-based assessment procedures provide additional insights which compensate the product-based assessment procedures. She has cautioned that the process-based assessment procedures can have serious “disruptive consequences” because they usually involve an additional task during reading.

### **2.2.2 Assessing Comprehension**

Urquhart and Weir (1998: 117) posit that when constructing a test, a tester needs to put into considerations what information readers are expected to extract from a test. It is recommended that a reading test should be developed to account for local and global comprehension (Meyer and Rice, 1984) in order to extract different levels of information in a text.

As cited in Urquhart and Weir (1998: 88), Lunzer et al. (1979) and Vincent (1985) view reading skills as part of the generalized reading process. Both Lunzer and Vincent recommend the use of skills as a means of structuring reading syllabi and constructing reading tests (Weir, 1993). A number of lists, or taxonomies, of skills have been developed. The following are typical taxonomies of reading skills that are arranged from the lower level to the higher level processing.

Lunzer et al. (1979, cited in Urquhart and Weir, 1998: 90):

- Word meaning.
- Words in context.
- Literal comprehension.
- Drawing inferences from single strings.
- Drawing inference from multiple strings.
- Interpretation of metaphor.
- Finding salient or main ideas.
- Forming judgments.

Davies (1990: 9-10):

- Recalling word meanings.
- Drawing inferences about the meaning of a word in context.
- Finding answers to questions answered explicitly or in paraphrase.
- Weaving together ideas in the context.
- Drawing inferences from the content.
- Recognizing a writer's purpose, attitude, tone and mood.
- Identifying a writer's technique.
- Following the structure of a passage.

Grabe (1991: 377):

- Automatic recognition skills.
- Vocabulary and structural knowledge.
- Formal discourse structure knowledge.
- Content/world background knowledge.
- Synthesis and evaluation skills/strategies.
- Metacognitive knowledge and skills monitoring.

### **2.2.3 Topic familiarity**

Topic familiarity is seen as “one of the critical determinants of performance in reading tests (Khalifa, 1997 and Aulls, 1986, cited in Urquhart and Weir, 1998:143). The topic selected should be taken from a suitable genre and should not be biased or favor any section of the test population (Weir, 1993). The content of a text should be “sufficiently familiar to candidates so that candidates of a requisite level of ability have sufficient existing schemata to enable them to deploy appropriate skills and strategies to understand the text” (Urquhart and Weir, 1998:143). At the same time, texts that are so familiar for test takers that any question set can be answered without referring to the text itself should be avoided (Roller, 1990: 82).

### **2.2.4 Test Formats**

There are different test formats in measuring reading assessment such as free recall, cued recall, short-answer questions, multiple-choice questions and cloze test. The discussion under this subheading confined to multiple-choice questions since the format was related to the reading test used in this study. The discussion of cloze test was put in a separate section.

Multiple-choice questions is perhaps the most commonly used format in reading comprehension tests. The test procedure is considered reliable since the marking process is totally objective; the test marker is not allowed to use his/her own judgment when marking. The marking process is also quick and simple. Despite its reliability, multiple-choice reading tests have been attacked in many ways. Among common criticisms is whether multiple-choice items can truly elicit test takers' reading ability. Test takers may get right answers by eliminating wrong answers, without referring to the reading passage (Urquhart and Weir, 1998:159), or by guessing some of the items correctly or by recognizing words or phrases from the passage without having understood what they read (Wolf, 1993: 481). Besides, scores on multiple-choice reading tests can be improved by being trained in test-taking techniques (Alderson, 2000: 211). Thus, the process of reaching the correct answer on such tests may not reflect the process involved in actual reading.



Inasmuch as multiple-choice format is used in high stakes assessment like TOEFL, it is important to see what elements should be taken into considerations when constructing a reading test employing multiple-choice questions.

Alderson et al. (1995: 47-51) have made the following suggestions for constructing multiple-choice items:

- (1) the correct answer must be genuinely correct;
- (2) each wrong alternative should be attractive to some of the students;
- (3) four alternative answers reduce a chance of guessing and answer to 25%;
- (4) multiple-choice items should be presented in context to reduce the possibilities of ambiguity;
- (5) the correct alternative should not stand out from the distracters;
- (6) each alternative should fit equally well to the stem; and
- (7) items should test what they are intended to test: avoid testing something outside the context where students have to use background knowledge.

### **2.2.5 Conclusion**

In this part of comprehension assessment, what to test and how to test was briefly discussed. It was found that skills are useful tools for the development of reading tests, and that reading taxonomies can be used as one of the guidelines for what to test. Texts selected to include in the test should be at certain degree of familiarity to students so that they can activate their background knowledge to assist their comprehension of the text. Despite the drawbacks of the format, multiple-choice questions are well recognized and can be useful tool to elicit readers' comprehension.

Thus, in this study, the multiple-choice test format was used to measure the participants' reading comprehension ability. It was assumed that this type of reading test would enable to differentiate readers with different reading ability: high, average, and low.

## 2.3 Cloze tests

### 2.3.1 Cloze Procedure

The cloze testing procedure was originally developed by Taylor in 1953 to assess text readability. The term ‘cloze’ was coined to link the test to “the Gestalt psychological concept of ‘closure’, that is, the ability to fill gaps in an incomplete image (visual, auditory, or cognitive) and supply (from background schemata) omitted details” (Brown, 2004: 201). The underlying assumption of cloze tests is that knowing a language involves the ability to understand a distorted message, and to be able to make correct guesses to certain extent about omitted elements (Spolsky, 1973, cited in Klein-Braley, 1997: 47). In a written language, if a word is taken out from a sentence, that sentence should still have enough context that a reader can use to indicate the word to fill the gap. The context enables readers to make guess, using “linguistic expectancies (formal schemata), background experience (content schemata), and some strategic competence” (Brown, 2004: 201).

Cloze tests correlated highly with other measures of overall language proficiency, as well as with other tests of reading comprehension (Bachman, 1985). Many studies on the concurrent validity of cloze procedures (e.g. Oller, 1972; Irvine et al., 1974; Stubbs and Tucker, 1974; Alderson, 1979; Mullen, 1979; Brown, 1980; Hinofotis, 1980) show high correlations between cloze tests and standardized tests and with their sub-tests. This has led to the assumption that the cloze test can be used as a measure of overall proficiency in English as a second language (Saito, 2003) as well as a measure of reading comprehension (Alavi, 2005).

### 2.3.2 Types of Cloze Tests

Typically, the term ‘cloze tests’ are referred to classical cloze tests whose passages have between 30 and 50 blanks to fill, and the word deletion is at every  $n^{\text{th}}$  word. This type of cloze procedure is also known as a fixed-ratio cloze test. This procedure is intended to sample regularly various types of words, “some of which are governed by local grammatical constraints, others of which are governed by long-range textual constraints” (Chapelle and Abraham, 1990: 122).

Fixed ratio cloze tests have been attacked for they have been regarded as a measure of localized connections in the text (Alderson, 1979 and 1980). Brown’s

(1984) study revealed that a cloze test was not always a sound overall measure of English as second or foreign language. Besides, there have always been some doubts concerning cloze as a test of reading (Urquhart and Weir, 1998: 157). Another criticism on fixed-ratio cloze tests was the inconsistencies of research findings when different deletion ratios were used in the same text (Alderson, 1979, 1980 and 1983). This may be because “not all the deletions in a given cloze passage measure exactly the same abilities” (Bachman, 1985: 535).

In Bachman’s (1985) study, he compared both native and non-native English speaking students’ performances on cloze tests with fixed-ratio and rational deletions. The tests were prepared from the same text. It was found that the fixed-ratio cloze test was significantly more difficult. The analyses of responses to different types of deletion suggested that the difficulty of cloze items was due to the range of syntactic and discourse context required for closing gaps, and that the ability of cloze tests to measure language proficiency was not confined to the local or microlinguistic skills.

From the studies above, it is evident that cloze items are at the root of cloze performance. Chapelle and Abraham (1990) suggest that cloze procedure can be improved by selecting explicitly the words to be deleted.

### **2.3.3 Rational deletion cloze tests**

The rational cloze test or gap filling, in Alderson’s (2000) term, is a selective approach to the deletion of words from the text. This approach, according to Alderson (1979, 2000) and Read (2000), allows for measuring both lower-level reading skills (e.g., choice of words and their interaction with other words in context) and higher-level reading skills (e.g., the functions of sentences and the whole text structure and pragmatic levels). The underlying assumption of rational deletion cloze procedure is that different cloze items can be explicitly chosen to measure “different language traits” (Chapelle and Abraham, 1990: 124).

In his 1982 study, Bachman examined the trait structure of cloze tests using confirmatory factor analysis. He constructed a cloze passage with rationally selected deletions of syntactic and cohesive items. The trait structure with three uncorrelated specific traits and one general trait were resulted. The three highest general factor loadings were on a syntactic, a strategic, and a cohesive composite. The results of the

study supported the claim that rational deletion cloze tests could be used to measure higher order skills—cohesion and coherence. Bachman continues with the trait structure of cloze tests in his 1985 study. Based on the 1982 study, he defined four levels of textual relationships for restoring the items, based on Halliday and Hasan's (1976) framework of cohesion in English. Halliday and Hassan (1976 cited in Shanahan et al., 1982: 231, and in Bachman, 1985: 538) have suggested in their framework that sentences must be related or integrated for meaningful. “[S]entences of text are related to each other both substantively and by cohesion” (Halliday and Hassan, 1976: 28, cited in Shanahan et al., 1982: 231). This text theory implies the importance of the combination of information across sentence boundaries. Information usage across sentence boundaries enhances reader's comprehension (Carpenter & Just, 1977 cited in Shanahan et al., 1982: 232).

Bachman (1985) has proposed the following classification of cloze items:

- (1) Within clause,
- (2) Across clause, Within sentence,
- (3) Across sentence, and
- (4) Extra-textual.

The first item type, “Within Clause”, is what Bachman referred to as a syntactic item. Restoring this type of cloze gaps needs information at the clause level. The “Across clause, Within sentence”, and “Across sentence” item types are the cohesive items. Restoring the former type of cloze gaps needs information at the interclausal level. Restoring the latter type of cloze gaps needs the information at the intersentential cohesive structure. The fourth item type was referred by Bachman as a strategic item type. Filling this type of cloze gaps needs “long-range” patterns of cohesion and test takers' background knowledge.

Bachman suggested that item types 2 and 3 should outnumber the other two types in any rational deletion cloze tests if researchers wanted to assess readers' various abilities. This is because these two item types are related to higher-level (e.g. intersentential) reading abilities.

There have been other suggestions on the rationale for item deletion such as Bensoussan and Ramraz's (1984) and Levenston, Nir and Blum-Kulka (1984, cited in Storey, 1997). Bensoussan and Ramraz (1984: 231) used the modified cloze test in

their study. They selected items based on three levels of meaning in the text. Their logic of selective deletion of words are:

- (1) the micro-level: focusing on the choice of words and their interaction with other words in the contexts;
- (2) the pragmatic level: which is extra-textual and draws upon the reader's general knowledge of the world; and
- (3) the macro-level: dealing with the functions of the sentences and the structure of the text as a whole.

They also provided the basic criteria for selecting blank spaces as follows (p. 232)

- (1) Redundancy: enough redundancy in the text should be given so that a high-skilled reader can use the clues to restore the gap with an appropriate word.
- (2) Key words: key words in a logical argument should be chosen for deletion to see whether a student can follow the thought sequence.
- (3) Function words: function words and cohesive markers should be selected for deletion since they are the words that can indicate a students' knowledge of the whole text.
- (4) Content words: content words which carry the weight of an argument should be selected for deletion.

They found that the rational cloze test could be a measure of global comprehension.

In their study of rational deletion cloze as a measure of reading comprehension to discriminate good and poor readers, Levenston, Nir and Blum-Kulka (1984, cited in Storey, 1997: 216) found that poor readers used only the local context in restoring gaps, whereas good readers were able to use both local context and macro-level information. Thus, they suggested that only items marking relationships between propositions, especially markers of coreference and connectives between propositions, should be selected for deletion in order to increase the test's ability to identify good readers. They also suggested that cloze can be used as a measure of intersentential comprehension.

Chapelle and Abraham (1990: 124) note that while researchers continue to seek theoretical base for cloze item performance, item selected by experienced test writers may produce more reliable tests, which are more highly correlated with other



language tests, especially with tests measuring similar traits to those cloze items that were chosen to measure. Chapelle and Abraham (1990: 125) continued that despite the inconsistency of rational deletion cloze tests in terms of the characteristics of responses, this type of cloze “should have the advantage of allowing more consistent and controllable results to the extent that distinct item types can be understood and identified”. This remark accorded with Sasaki’s (2000) observation. Sasaki’s (2000: 86) extensive review of empirical research on cloze procedure suggested that with appropriate research designs, depending on the particular word deleted, and the use of coherent texts cloze tests can measure “both lower- (clause level) and higher-level (intersentential) reading abilities.

Storey (1997) used a 13-item multiple-choice rational deletion cloze, which he referred to as a discourse cloze test, to examine the test-taking process of the first-year Hong Kong Chinese students. Storey’s cloze text is a summary paragraph in paraphrase form of the cause-effect original text on which the subjects had answered a number of comprehension questions. Two main categories of cloze deletion were used: discourse markers and cohesive ties. The latter category were then subdivided into three types resulted in the following four categories: discourse markers (6 items), anaphoric pronoun or noun phrase (1 item), lexical substitutes (5 items), and lexical items (1 item). It was hypothesized that subjects’ ability to recognize the propositional content of the original text and to select items which hold the paraphrased ideas together in a summary represents their ability to use a structure strategy in discourse processing. It was found that the deleted discourse markers encouraged the subjects to analyze the rhetorical structure of the text in some depth.

Yamashita (2003) turned a modified text passage from an ESL textbook into a 16-item rational cloze test. The word deletion was based on words that require text-level information for closure, such as cohesive markers and key content words. Yamashita, however, did not provide the details in constructing the test. The findings revealed that the rational deletion cloze test could generate text-level processing and could differentiate between skilled and less skilled subjects. Thus, she concluded that a rational cloze test, or what she referred to as a gap-filling test, can be used as a test to measure higher order processing ability.



From the research studies mentioned above, Bachman's (1985) categories of cloze items seem to be interesting in that each type of cloze item could be designed to measure different type of contextual information which could result in a measure of local and global comprehension.

### **2.3.3 Scoring Methods**

There are two common approaches to the scoring of fixed-ratio and rational deletion cloze tests. They are the exact-word and the acceptable-word methods. The exact-word method gives score to test takers only if they can fill the blank with the exact-word that was originally deleted. The acceptable-word method gives scores to test takers if they can fill the blank with appropriate word that make good senses in the context and is grammatically correct. Oller (1972), based on his study, reported that the acceptable-answer cloze test scoring method is better than the exact-answer method in the contexts of English as a second language. Brown (1980) compared four methods for scoring cloze tests: they were the exact-answer, acceptable-answer, clozentropy, and multiple-choice scoring methods. The results of the study indicated that the best overall scoring method was the acceptable answer. Brown also pointed out that the acceptable-answer scoring method appeared much fairer than the exact-word method to the students themselves. Alderson, Clapham and Wall (1995: 56) commented on the exact-word and acceptable-word scoring approaches that it "makes more sense to accept appropriate answer", especially when scoring second language learners' performances. Besides, research has consistently demonstrated that an acceptable-word scoring procedure is more reliable than an exact-word scoring procedure (Koda, 1992: 504).

### **2.3.4 Conclusion**

From the above review of related literature on cloze tests, it can be assumed that rational deletion cloze tests can be used as a measure of reading comprehension as Stanovich (1982: 551) has posited that cloze was sensitive to the integration of textual information across sentences, and as Carroll's (1972, cited in Shanahan et al., 1982: 233) study showed that cloze was able to extract test takers' integration of information across sentence boundaries.

Bachman's (1982, 1985) suggested classification of cloze items seems to yield justified criteria for constructing a cloze test that is aimed to be a measure of intersentential comprehension. And, according to Levenston, Nir and Blum-Kulka (1984) and Yamashita (2003) cloze can differentiate good from poor readers, and is a reliable and valid measure of reading comprehension.

Constructed responses has been shown to be a reliable test format as judged from the findings from the studies of Bensoussan and Ramraz (1984), Chapelle and Abraham (1990), and Abraham and Chapelle (1992). The acceptable scoring method is found to be suitable in the context of assessing second language learners' reading ability.

From the above review of related literature on cloze tests, this study was designed to employ the rational-deletion cloze test as a measure of reading comprehension. Bachman's (1985) classification of cloze item types was adopted as the rational for item deletion. It was assumed that the cloze tests constructed in this manner would reveal the comprehension ability of the participants, and would be used as the tests that could measure both clausal and text level comprehension.

## **2.4 Reading comprehension ability and cloze testing**

There are a number of studies investigating the relationships between reading comprehension ability and cloze test performance. However, only two studies, mentioned below, clearly specify what have been tested in the reading comprehension test.

Bormuth (1969) analyzed the principle components of the correlations between cloze tests and reading comprehension tests. The cloze tests were used as the measure of reading comprehension ability. Each test was made by deleting every fifth word. Nine cloze passages of approximately 250 words each were also made into multiple choice reading comprehension tests. The multiple-choice tests measured students' comprehension of vocabulary, of explicitly stated facts, of sequences of events, of stated causal relationships, of the main ideas of the passages, of inferences, and of the author's purpose. The cloze tests and the reading comprehension test were administered to the fourth-, fifth-, and sixth- grade native speakers of English students. The correlations among those two forms of tests were high. Bormuth

concluded that cloze tests made by deleting every fifth word measure skills “closely related or identical to those measured by conventional multiple-choice reading comprehension tests” (p. 365).

Another study in L1 setting was conducted by Cohen (1975). Cohen investigated the effect of content area material on cloze test performance. The passages chosen for testing were drawn from three content areas—science, literature, and social sciences. A multiple-choice reading test and a fixed-ratio cloze test were constructed for each of the passages. The multiple-choice test measured the reading skills of choosing the main idea, remembering facts, understanding vocabulary, noting sequence, seeing causal relationships, making inferences, and perceiving author’s purpose. Sixty-three seventh-grade native speaker of English students participated in the study. Students with good reading ability found that, in the cloze testing situation, the social studies material the easiest, and the literature material the most difficult. Besides, many students felt that cloze test was a stimulating task, which activated high motivation and interest. On the contrary, the taking of multiple-choice tests was treated in a routine and shallow manner by these students.

Accordingly, this study adopted the elements of reading comprehension ability suggested in the studies above to incorporate into the reading test that would be constructed by the researcher. And for the rational deletion cloze test, the construct response method would be used so as to make them the stimulating tasks in which the participants would be highly motivated in attempting at filling the cloze gaps. This method of test response “may promote positive washback since it could encourage learners to use their pragmatic expectancy grammar creatively” (Bailey, 1998).

## **2. 5 Text types**

### **2.5.1 Definitions of “text type”**

The term “text type” generally refers to structure or pattern of text organization that is presented in the text and can be recognized directly (Brantmeier, 2005: 38). The term, according to Brantmeier, is also related to how paragraphs in a given text relate to each other and how the connections among ideas in the text are signaled.

### 2.5.1.1 Narrative and Expository Texts

There are two major text types: narrative and expository texts (Carnine et al., 2004: 336). These two text types are generally found in English language textbooks written for general purposes. These text types have been found to have differential effects on readers, with narrative appear to be easier to understand and monitor than expository text (Alderson, 2000: 64; Lipson and Wixson, 2003: 181; Zabrocky and Ratner, 1992, cited in Carnine et al, 2004: 336) this is because “narrative discourse appeals to readers’ shared knowledge of the world” (Koda, 2005: 155). Empirical studies showed that school children had little difficulty following event sequences narrated in stories and folktales (Stein & Glenn, 1979, cited in Koda, 2005) and that adult readers’ recall capability of narrative text was greater than that of expository text (Graesser, 1981, cited in Koda, 2005: 155).

There are some major differences between narrative and expository texts. According to Alderson (2000: 64), the text structure and organization between narrative and expository texts are different. Narrative text is often characterized by specific elements of information such as problem, conflict and resolution whereas expository text is usually described in terms of organizational structures such as cause/effect, compare/contrast, or descriptive (Lipson and Wixson, 2003: 181). Narrative text type, according to Carnine 2004: 325, is the most familiar text structure. It tells a story about human events and actions. Common features of narrative include characters, setting or time placement, complications and major goals of main characters, plots and resolutions of complications, emotional patterns and points, morals, and themes (Lipson and Wixson (2003: 181).

Different types of text are expected to have different rhetorical structures. While narrative text tends to have a fairly consistent and predictable structure, there is a large variety of discourse structures of expository text (Horiba, 2000: 228). The top-level expository text structures are description, compare and contrast, cause and effect, and problem and solution (Meyer and Freedle, 1984). Despite lack of conclusive results, research seems to suggest that learners at different levels seem to be more sensitive to compare/contrast text structure (Meyer and Freedle, 1984; Ghaith and Harkouss, 2003). Moreover, compare/contrast text structure is a common pattern

of academic discourse and presents a distinct rhetorical organization (Carson et al. 1990).

Text difficulty in expository text type may emerge from different factors. Text organization is one of them. Physically, text must be well presented to enable readers to identify the relevant information in text including main ideas and relations between ideas which are central to comprehension (Dickson, Simmons, and Kameenui, n.d.: 8). The components of well-presented physical text are “the visual cues that highlight or emphasize main ideas and relations between ideas”. The examples of the visual cues are location of main idea sentences, author’s direct statements of importance, signal words, headings and subheadings, and spacing that divide sentences into “chunks” or meaningful thought units (Dickson, Simmons, and Kameenui, n.d.: 8). Research evidence suggests that knowledge of text organization or of the visual cues is necessary, particularly of those discourse signaling cues (Tyler, 1994: 244). Texts that have numerous signaling systems can help a reader to interpret the information being presented (Grabe and Stoller, 2002: 82). Those signalling cues are “pronominal systems, other antecedent referencing, given before new information, thematic signaling, transition words and structures, and syntactic mechanisms for foregrounding and backgrounding” (Grabe and Stoller, 2002: 82). These cues function as “directional guides” to signal how readers should interpret the incoming information. The differences in physical patterns of text organization or discourse structures are generally recognized by good readers (Grabe, 2004: 52).

Background knowledge is essential in making inferences and constructing mental representation of text during comprehension (Grabe, 2004: 50). It is also important for “disambiguating lexical meanings and syntactic ambiguities”, according to Grabe. Background knowledge, according to McCormick (1992, cited in Urquhart and Weir, 1998: 84), is more important in the understanding of expository texts than in the narrative texts. However, Grabe (2004: 50) makes some cautions on selecting texts concerning the issue of background knowledge that although background knowledge appears to provide strong support for comprehension in many contexts, the texts selected should be taken from general knowledge to avoid bias against certain groups of students.



Deciding what are appropriate text types for the test population is a crucial step in test development (Grabe & Stoller, 2002). Urquhart and Weir (1998: 141) suggest that the careful examination of the teaching materials can inform the test writers of the text types to be included in a given test. Urquhart and Weir continue that the texts used in the test needs not always be authentic texts but they should be selected based on the features that are closely related to “the target situation texts for the population as is possible” (Urquhart and Weir, 1998: 141).

The skills and strategies that the test is designed to measure will also influence the selection of text type. Urquhart and Weir have cited the work of Carrell (1984) to suggest that problem/solution, causative or comparison texts from textbooks would be good for testing reading since problem and solution, causative and comparison texts may have clearest, tightly organized structures. Carrell (1984) has investigated the effects of different text organization of expository prose on intermediate ESL readers of different native languages. His research findings revealed that causation, problem/solution, and comparison texts present tightly organized structure. In his study, these texts tended to be more helpful in the recall of specific ideas from a text than the more loosely organized text type, description. However, Carrell found that most of the ESL students in the study failed to successfully identify the rhetorical organization of the text they read. This may be because they, according to Carrell, may not possess “the appropriate formal schema”, particularly if they come from a non-European background. Carrell concluded that devoting reading instruction to the identification of different discourse structures may be effective in facilitating ESL reading comprehension, retention and recall. Grabe (2004) also calls for explicit teaching of expository text structures.

There appears to be little work done on the possible differential effects of text types on readers (Urquhart and Weir, 1998: 84). Kobayashi (1995 cited in Urquhart, 1998, 84) encourages the study that would have a combination of different text types on reading tasks. According to Kobayashi, this seems to be a rewarding area of research since narrative texts seem to invoke a different set of responses from expository texts.

### **2.5.2 Text Types and Cloze testing**

A cloze test that consists of different text types should be an interesting area of investigation as Oller (1988, cited in Fotos, 1991:319) has pointed out that cloze procedure, in general, is more sensitive to language constraints when the text is organized sequentially as a narrative, and less sensitivity when the text is composed of factual sentences “not organized by temporality.”

There were vast amount of research on cloze tests on different variables—deletion ratio, scoring systems, passage difficulty, method of student response. However, text type was the variable that did not receive much attention in cloze test research. This may result from the standard practice of cloze testing which employed only one passage of certain length. This traditional practice has been much attacked since the text itself cannot be a representative sample of the language (Klein-Braley, 1997: 59).

Research on reading assessment has studied the relationships of text types to reading comprehension (Brantmeier, 2005), but only few studies to date concentrate on the effects of text types on a cloze task. Wu’s (1994) work seems to be among the few that compared students’ performances on narrative and expository fixed-deletion cloze tests. Three-hundred and sixteen Taiwanese post secondary students participated in his study in which each of them had to complete four fixed-deletion cloze tasks: two narrative and two cloze texts. It was found that the students performed better on the narrative cloze. Wu concluded that the text type may have effects on the students’ cloze test performance, that narrative texts were more sensitive to the intersentential comprehension, and that the narrative text was more suitable to measure students’ overall reading comprehension.

### **2.5.3 Conclusion**

Narrative and expository are two main text types. Research has found that different text types have different effects on learners. Narrative discourse can attract readers’ shared knowledge of the world, it thus tends to be easier to understand and monitor than expository text.

Narrative text tends to have a consistent and predictable structure, while expository text has a variety of discourse structures, namely description, compare and

contrast, cause and effect, and problem and solution. Among these text structures, learners at different levels seem to be more sensitive to compare/contrast since there are often the physical cues used in this pattern of organization

Generally, one passage is used in cloze testing. This practice has been under criticisms since the text cannot be a representative sample of the language. Wu's (1994) work is among few studies that incorporate narrative and expository texts in cloze testing. Narrative text was found to be more sensitive to the text level comprehension.

From the above review of related literature concerning text types, this study was designed to employ the two different text types—narrative and expository texts—in the cloze testing. It was assumed that these two types of text would yield different results on the participants' rational-deletion cloze test performances.

## **2.6 Reading Strategies**

### **2.6.1 General Reading Strategies**

In most definitions, “strategies” refer to actions selected deliberately to achieve particular goals (Carrell et al, 1998: 98), and “reading strategies” refer to cognitive steps that readers apply and employ to assist them in acquiring, storing, and retrieving new information and in constructing the meaning of the text (Anderson, 1991; Garner, 1987).

According to Block (1986), when exploring the reading process, attention should be paid to “comprehension strategies.” These strategies refer to how readers conceive a task, what textual cues they attend to, how they make sense of what they read, and what they do when they do not understand (Block, 1986: 465). Strategies, therefore, reveal a reader's resources for understanding (Langer, 1982 cited in Block, 1986: 465).

Studies suggested that good readers adjust their strategies to the type of text they are reading (Strang & Rogers, 1965 cited in Block, 1986: 465-466). Furthermore, Beach and Appleman (1984) pointed out that readers, usually good readers, used their knowledge of text structure to recall the most relevant information from a text, and that readers also use their knowledge of text structure to predict subsequent developments in a text. Once readers have found that the text is structured

in a certain manner, they can predict the text's logical development. Taylor (1992, cited in Wirotanan, 2002: 37) examined reading strategies use when reading expository and narrative texts. According to Taylor, reading strategies used in reading expository text include inferring, searching for logical structure, looking for the main point, and looking for author intention. These reading strategies used when reading narrative include entering the world of the text, searching, reviewing the story, connecting acts, beliefs, goals, and traits in the story, inferring theme and intention, and assessing the quality of characterization and story development.

Most studies on general reading strategies are based on expository text. These reading strategies are classified into four groups (Anderson, 1991; Beach & Appleman 1984; O' Malley & Chamot, 1990; Oxford, 1990). They are cognitive strategies, compensation strategies, metacognitive strategies, and memory strategies. The following examples of different groups of reading strategies are taken from Oxford (1990). Among cognitive strategies are making an inference and draw conclusion, looking for main idea, skimming and scanning, referring to previous passages, and applying grammar rules to understand the language. Examples of compensation strategies are using punctuation, using context, and skipping unknown words. Using prior knowledge is put under the group of metacognitive strategies. And, looking for key words or phrases and using the structure of a sentence are the examples of memory strategies

### **2.6.2 Reading strategies in the cloze procedure**

Cloze procedure is a cognitive task (Ryn, 1982, cited in Lu, 2006: 15) in which readers have to go beyond normal reading (Ryn, 1982: 7, cited in Raymond, 1988: 91) to build text representation. Readers not only read the text but must also produce a word to fit a given context. To do so, readers are required to search for "a distribution of elements" for the missing element and this search for the missing words is "neither logical nor exhaustive because of imposed time constraints (Weaver, 1965: 127, cited in Raymond, 1988: 91). In addition, readers must infer and supply the missing words from surrounding words and context (Paris & Jacob, 1984: 2087). The use of information at intersentential level, across sentence boundaries, is an important aspect of reading comprehension (Raymond, 1988: 91) since it helps

readers to recognize the interrelationships of language and to develop an awareness of sequence, both of which could help prediction. Bortnick and Kopardo (1973, cited in Raymond, 1988: 91) stated that cloze task forced readers to reconstruct on the basis of a wider range of context cues because they have to read beyond the unknown words for additional cues. According to Bortnick and Kopardo, this reconstruction was at a more conscious level than in normal reading which could help create awareness of syntax and meaning. Cloze also helped readers to predict meaning from context; guessing meaning from context was an important reading strategy (Raymond, 1988: 92).

### **2.6.3 Reading strategies in cloze testing**

In a normal reading situation, a reader only concentrates on reading strategies that enable him or her to interpret the text, whereas in the testing situation, not only does a test taker have to be concerned with the interpreting of the text, but h/she also needs to develop different strategies to interpret the test as well as to complete the task....[t]he strategies applied in the testing situation vary with test tasks (Francis, 1999: 6).

There are few studies investigating reading strategies in cloze testing, among those are the work of Kletzien (1991) and Lu (2006). Kletzien (1991) studied the strategy used by good and poor comprehenders on reading expository texts of different difficulty levels. The modified cloze task, with 12 context-dependent content words deletion, was administered to the participants who were 48 tenth- and eleventh-grade native speakers of English. The retrospective self-report data on reading strategies used by the participants were coded using the following classification scheme: “rereading preceding text”, “reading subsequent text”, “recognizing structure”, “using prior knowledge”, “using main idea”, “making inferences, and focusing on vocabulary”. It was found that good comprehenders used significantly more types of strategies than did the poor comprehenders. “Rereading preceding paragraphs”, “using prior knowledge”, “making inferences”, and “focusing on vocabulary” were reported the most popular strategies used by good comprehenders.



Lu (2006) explores the reading strategies used in attempting solving a cloze task by twenty Chinese university students at the University of the Western Cape, both undergraduate and post graduate. A 209-word multiple-choice cloze, adapted from the Chinese College English Test Band 4, and with a twenty-word deletion, was administered to the subjects. After the completion of the cloze task, a questionnaire comprising of reading strategies checklist were administered to the subjects in order for them to recall what they have been doing during the cloze test taking process. Lu (2006: 46-47) used a checklist questionnaire to explore the use of reading strategies. The questionnaire used in Lu's study was adapted from Kilfoli & Van der Walt (1997) and Gunning (1998). Examples of Lu's checklist were as follows.

- Did you work on the blanks directly before reading the whole text?
- Did you read fast for the gist of the text by skipping the blanks before focusing on them?
- Did you compare the content of the text with what you already knew?
- Did you work out the main idea of the passage?
- Did you skip the unknown words while you were reading the text?
- Did you use context to try to figure out an unfamiliar word?
- Did you try to use semantic or phonic analysis to figure out an unfamiliar word?

(Lu, 2006: 46-47)

The most popular reading strategies use among the subjects were “stop and reread the confusing sections”, “find out the main idea of the passage”, “skip unknown words when reading the text”, and “use context to figure out an unfamiliar word.”

#### **2.6.4 Conclusion**

The review of related literature concerning reading strategies and the cloze testing resulted in the definition of “reading strategies” used in this study. Reading strategies in this study referred to cognitive activities that occurred during the participants working on the cloze tests, and which could be reflected in their responding to the questionnaire. Investigating of the strategy use in this study did not include all the reading strategies as used in normal reading.

From the review of related literature concerning reading strategies and the cloze testing, it led to the following reading strategies to be explored in this study:

reading the whole cloze passage before working on the blanks,  
skipping unknown words while reading the cloze passage,  
using sentence structures,  
using rhetorical pattern of organization,  
focusing on vocabulary,  
using context to restore the cloze blanks,  
looking for key words and phrases,  
using punctuation,  
making inferences,  
using main idea, and  
using prior or world knowledge.

## **2.7 Verbal reports**

Recent thinking in language testing recognizes the importance of the investigation of construct validity which is the information about how test takers process test tasks and which is used to related to information on test content and test performance (Anderson et al, 1991: 42). Exploring the reading and test taking process thus enables researchers to identify the construct of reading comprehension (Hughes, 1982, cited in Anderson et al, 1991: 42).

There has been increasing calls for qualitative evidence from test takers. Many researchers (Sasaki, 2000; Storey, 1997; Yamashita, 2003) tended to agree that cloze test items did not necessarily test what the constructor claimed or what the expert-judge thought. Individuals could show comprehension in various unexpected ways (Storey, 1997). Bachman (1995: 269) pointed out that while the quantitative analyses of test performance and of relationships between test performance “constitute powerful methods for investigating specific hypotheses in the process of construct validation”, these approaches are limited to the examination of the products of the test taking process—the test scores. Bachman encouraged the investigation

into the processes of test taking by referring to Messick's (1989, cited in Bachman, 1995: 269) statement as follows:

different individuals performed the same task in different ways and that even the same individual might perform in a different manner across items.... That is, individuals differ consistently in their strategies and styles of task performance.

The cloze test, according to Bachman (1995: 68), seemed to have a great potential in the investigation of how individual process information in a reading passage. Through careful observation and analysis of subjects' response patterns, such as the order in which they completed the blanks and the changes they made in their answers as they worked through the text, we may gain some insights which may help us to improve our assessment instrument and to improve the ability that learners have in responding to the instrument (Cohen, 1998a: 215).

### **2.7.1 Verbal report analysis**

Since there are different terms used when discussing qualitative evidence, the term mostly used when referred to verbal reports is "verbal protocol." Verbal protocol used in this study was discussed under the concept defined by Green (1998). Verbal protocol, as defined by Green (1998:1), is "the data gathered from an individual under special conditions, where the person is asked to either 'talk aloud' or to 'think aloud'." Verbal protocol analysis is "a qualitative methodology which is based on the assertion that an individual's verbalizations may be seen to be an accurate record of information that is (or has been) attended to as a particular task is (or has been) carried out" (Green, 1998: 15). According to Green, verbal protocol is not "a direct source of data on individuals' cognitive processes and attended information" since individuals cannot directly report their own cognitive processes. It is the researcher who has to draw inference on cognitive processes from the subjects' verbal reports.

Green (1998) has stated that there are two forms of verbal protocols, or verbal reports: talk-aloud and think-aloud. Both forms can be generated either concurrently

or retrospectively. Concurrent verbal reports are produced at the same time as the individual is working on the task while retrospective verbal reports are produced after the individual has finished working on the task. Verbalizations can be either non-intrusive or intrusive. In the former situation, the individual is asked to think aloud and is prompted only when he or she pauses for a long period of time. In the latter, the individual is asked questions about the task and this can be done while the task is being carried out or afterwards.

Verbal reports can include different types of data. According to Cohen (1987, 1996, and 1998a), there are three different types of verbal report data. They are self-report, self-observation, and self-revelation. The verbal reports that include self-report data reflect learners' descriptions of what they do about their general learning behaviour. The self-observation data is the data gained, by the use of prompts, from specific language behaviour, either introspectively or retrospectively. The self-revelation data or the concurrent think-aloud verbal protocols are the data gained while the subjects is working on a given task. This type of data is "unanalyzed and unedited."

Afflerbach (2002: 97) made some remarks on the quality of verbal reports in that it depended on subjects' ability to verbalize what they were thinking, and that the verbalization could be influenced by the relationship between the subject and the researcher, gender differences between the subject and the researcher, or cultural differences in reporting and using language. He continued that researchers must account for how individual language differences might influence the eliciting, giving, and subsequent analysis of verbal reports.

Apart from these influences, providing verbal reports while working on the given task can be a problem for subjects. Feldmann and Stemmer (1987) pointed out how verbal reports could cause subjects some difficulty in carrying out the C-test, which is one form of cloze tasks. In general, "two simultaneously competing activities" occur when reading, that is, the subject tries both to understand the unfamiliar words or sentences and to grasp the meaning of the whole text (Feldmann and Stemmer, 1987: 254). The subject, according to Feldmann and Stemmer, can manage these activities as long as there is no comprehension problem. However, if a problem arises, the amount of attention may be paid to one activity over the other.

Feldmann and Stemmer posited that when a test taker focused on the completion of a particular test item, he or she may not pay attention to the context. Therefore, having to think aloud while working on the test can add another burden to the test taker.

In Alavi's (2005) case study examining an underlying construct of a cloze test, he employed the concurrent think aloud technique to collect data. He found the inadequacies of this technique since all the four native English participants in his study did not say much about the inter- and intra-sentential relationships in the cloze text while they were doing the tests. According to Alavi, this might lead to misinterpretation of the protocols in that the subjects completed the gaps without relating the units of text to each other. Accordingly, he employed a retrospective interview in which each subject was asked to talk about their choices for the cloze gaps. It was found that the subjects used different sources of information in various units of the text for their understanding of the text and their completion of the cloze blanks.

Cohen (1996: 15) agreed that insights from retrospective verbal reports, or self-observation, offer a rich source of information that is not available through concurrent think-aloud protocols, but he pointed out that researchers may risk threats to the reliability of the verbal report tasks in order to obtain the data.

### **2.7.2 Retrospective verbal reports**

To obtain the reliability of retrospective, Ericsson and Simon's (1984, cited in Poulisse et al., 1987: 217) suggested the following.

- (1) The data should be collected immediately after task performance, when memory is still fresh.
- (2) The subjects should be provided with contextual information to activate their memories.
- (3) All the information asked for must be directly retrievable, that is, it must be attended during task performance, so that the subjects are not induced to generate responses based on interfering and generalizations.



- (4) The information asked should be related to specific problems.
- (5) No leading questions should be asked to minimize the effects of “researcher bias”.
- (6) The subjects should not be informed that they will be asked for retrospective comments until after task performance, so as not to affect their performance on the task.

Haastrup (1987: 204) made some cautions concerning elicitation techniques to obtain retrospective data. While agreeing that interviewing with subjects ensured a fair amount of desirable information, Haastrup pointed out that interviewer’s questions usually reflected the categories that they had established and “there is a risk of pressing the (subjects) into the mould of a previously established framework.” He, then, suggested an approach where a researcher could control the subject’s input and where the subject was not left passive and insecure of what to verbalize. According to Haastrup, for each test item, the researcher could start by saying: “What came into your mind first when you saw this blank?” After this, the subject would be left to provide the information. If there was a long pause, the subject should be encouraged to provide contribution by saying: “You made a long pause at this point. Do you remember what you were thinking of?”

Jonz (1990: 72) has made some cautions upon the possibility of subjective analysis of the above categories. According to Jonz, it was possible that different researchers may vary in their analyses of types of text information; this may be due to human “various mental routes to comprehension.” Thus, he called for careful investigation upon this type of analysis. Jonz, however, also pointed out the positive side on the possible discrepancies among researchers’ opinions in that “the responses to cloze test (probably) reflected a principled variation in the application of communicative rules”.

### **2.7.3 Verbal reports and cloze testing**

Since Bachman (1985) and Jonz (1990) proposed the system to estimate the quantity of text required to complete any cloze blank, there have been only a few studies that adopted the system to investigate the cloze test performance. Mauranen

(1988, cited in Storey, 1997: 216) analyzed cloze items using the system similar to those used by Bachman (1985) and Jonz (1990) and found that the amount of context required to complete a blank was an important factor in the difficulty of the item. The items that required the information above sentence level were significantly more difficult than those that required the information at the clause or sentence levels.

Levenston, Nir and Blum-Kulka (1984, cited in Sotrey, 1997: 216) made an investigation into the rational cloze test-taking strategies and found that poor readers used only the local context in completing the cloze blanks while good readers were able to use both the local context and macro-level information.

Mangubhai (1990, cited in Cohen, 1996: 141) had eleven EFL Fijian sixth graders at three proficiency levels provided verbal reports as they took three cloze passages representing different text types and found that less skillful cloze takers did not check the appropriateness of the word in the passage, while the more skillful cloze takers looked at both the local context and the macro-level information. Mangubhai's findings were consistent with those of Kesar (1990, cited in Cohen, 1996: 142). Kesar had EFL fifth graders at three levels of reading (high, intermediate, and low) provided think aloud protocols while taking the rational deletion cloze test. It was found that better high-ability readers tended to use macro-level schemata and strategies in completing the cloze.

In using the think-aloud verbal reports to examine the multiple-choice rational deletion cloze test-taking process, Story (1997) observed that an easy item in which the subjects were able to select the correct option instantly was not verbalized, hence inaccessible to introspection. This is because, according to Storey, the subjects used the automatic answering strategy and thus not accessible to introspection. Protocols produced for such automatic strategy do not probe the cognitive processes underlying the subject's behavior. However, the problem in Storey's study is that the subjects who were ESL Hong Kong Chinese had to think aloud in English.

Only Sasaki (2000) and Yamashita (2003) have been found to employ Bachman's (1985) system to examine cloze test taking processes by examining the test takers' verbal reports. In the study investigating how schemata activated by culturally familiar words influenced students' cloze test-taking processes, Sasaki (2000) had her sixty Japanese EFL students give immediate retrospective verbal

reports of their test-taking processes to investigate their item performance and the amount of text information they used to complete the item. Sasaki had each subject provide verbal report immediately in either Japanese or English after he/she solved each item in the 56-item cloze test. After having completed the test, the subjects were also asked to tell the researcher everything they could remember from the cloze text. Sasaki coded the test-taking protocols, by basing on Bachman's (1985) four categories of cloze item types as a basic framework: Within clause; Across clause, Within sentence; Across sentences, Within text; and Extratextual. However, she has made some modification to it as follows:

- (1) Within clause: The subject uses information provided only by the clause in which an item appears.
- (2) Across clause, Within sentence: The subject uses information provided
- (3) by a larger context than the clause in which an item appears, but within the sentence.
- (4) Across sentences, Within Paragraph: The subject uses information provided by a broader context than the sentence, but within the paragraph.
- (5) Across paragraphs, Within text: the subject uses information provided by the context of the entire text.
- (6) Extratextual: the subject uses information that is not provided by the text, but is assumed to include the subject's world knowledge.
- (7) Guessing: The subject guesses at the answer.
- (8) Missing: The subject cannot say anything about his/her test-taking processes or does not answer the item.

(Sasaki, 2000:95)

Categories 6 and 7 were added for the use in collecting verbal protocol data. The findings revealed that the subjects sometime used information beyond the sentence level which confirmed the claim that cloze tests could measure higher-order processing skills. The results also suggest that the subjects' overall comprehension processes are similar to conventional L1/L2 reading processes.

Yamashita (2003) has modified Sasaki's coding scheme to examine the skilled and less skilled subjects' performance of the 16-item rational deletion cloze in which

each subject provided think-aloud verbal protocol in Japanese while taking the test. The categories that were referred to text-level information (across sentence, and within text) were subcategorized into two types: Adjacent context and Wider context. The former subtype refers to the information provided by a sentence that immediately precedes or follows the sentence in which an item appears. The latter refers to the information provided by a context which is more than the preceding and following sentences. There were two interesting things in Yamashita's study. The first thing was that she gave importance to multiple sources of information. According to Yamashita, there were cases where the subjects used two or three sources of information to answer an item. These cases were considered separately. Yamashita explained that such cases "reflect the interactive nature of reading processes in which various information sources interact with each other to help readers construct a meaning representation" (p. 280). The second thing was that both the skilled and less skilled subjects tended to use text-level information more frequently than other information sources. And that the skilled subjects were able to give different weight to different types of information based on their understanding of the text. The clause-level information was only used as a source of confirming their answers.

#### **2.7.4 Conclusion**

The verbal report is an appropriate technique to gather qualitative data on cognitive processes in general, and specifically in test-taking process. The data gained from this method can be used to examine the construct validity of a test, and specifically of a cloze test as a test of reading comprehension. The data can also be used to examine the test takers' reading processes, from which cognitive processes can be inferred. In order to obtain precise information from verbal protocols, it is suggested that subjects are allowed to use their native language. Coding scheme is essential to make protocol data reliable and valid.

Accordingly, this study employed the participants' verbal reports as a tool to understand their test taking process and their use of reading strategy while working on the rational deletion cloze test. This study employed the retrospective interviews to gather data with the assumption that the questions in the interviews would prompt the

participants to provide information about of what they have been thinking while working on the rational deletion cloze tests.

The coding criteria of Sasaki was adopted but the item “missing” was excluded, following the results of the pretest conducted by the researcher in 2008 (more details in Chapter 3), and Bachman’s classification of cloze items would be maintained since his suggestions on cloze item types was adopted in this study.

## **2.8 The present study**

This chapter presents the review of related literature in the areas of (1) the nature of Reading, (2) comprehension assessment, (3) cloze tests, (4) reading comprehension ability and cloze testing, (5) text types, (6) reading strategies, and (7) verbal reports. The information gathered from all sources mentioned in the chapter helped shape the design of the study that would investigate the effects of reading ability levels and text types on rational cloze test performance.

The studies on effects of reading ability levels on cloze test performances were rare because cloze tests, themselves, have been conventionally regarded as measures of reading comprehension of native speakers of English, as have been reviewed in the previous sections. However, in the context of the present study in which the participants were EFL learners who regarded the cloze test as an unfamiliar test format, it was interesting to see whether the English reading ability levels had certain effects on the participants’ cloze test performance.

To construct a reading test to measure reading ability, this study followed the line of Bormuth (1969) and Cohen (1975) to capture the students’ ability in understanding vocabulary, pronoun reference, directly stated factual information, making inferences, locating main idea, and understanding the author’s purpose. Most of these elements are regarded as the essential element in successful reading comprehension.

To avoid criticisms on the traditional cloze test that has made use of one single text, this study included two texts in the test. The two cloze texts were different in that each of them was in different text types. One was constructed on the narrative text, the other on the expository text with the compare/ contrast rhetorical pattern of organization. These two text types were chosen because research has shown that



different text types tend to have different effects on learners. Bachman's (1985) classification of item types was adopted as a rationale for item deletion because he has clearly defined each item type and the results from his studies tended to confirm the differences among each item type.

The reading strategies used by the participants on their filling the cloze gaps would be explored. The list of reading strategies used in this study was adapted from the work of Kletzien (1991) and Lu (2006) whose studies are among the few that have investigated the use of reading strategies in cloze testing. Since the rationale for deletion used in this study was deemed as a measure of reading comprehension, it was noteworthy to explore the use of reading strategies in the rationale deletion cloze test performance.

The verbal reports would be gathered via the retrospective interviews. This type of interview was used in this study because research has shown that it is an instrument that can directly elicit learners' cognitive processes (Alavi, 2005; Cohen, 1996). The data would be used to triangulate the information gained from the cloze scores and from the responses to the reading strategy use questionnaire. It is hoped that in this light the verbal reports would provide not only the data on strategies used by the participants, but would also validate the construct validity of the cloze tests.

# CHAPTER III

## RESEARCH METHODOLOGY

The purpose of this study was to investigate the effects of reading ability levels and two different text types on rational deletion cloze test performance and explore the use of reading strategies during cloze test performance so as to understand the study participants' cloze testing behavior. The information on cloze test performance and the use of reading strategies was verified by the data from retrospective interviews.

This chapter presents (1) research design, (2) the description of the population and sample, (3) the development and validation of the research instruments, (4) the data collection procedures, and (5) the data analysis.

### 3. 1 Research design

This study was aimed at examining the main and interaction effects of the two categorical independent variables (factors), i.e. reading ability levels with three levels—high, average, and low, and text types with two levels—narrative and expository, on the interval dependent variable, i.e. scores on rational cloze test.

This study employed a 2x3 within-subjects design. In this study, reading ability was the within-subject variable in which each subject was assessed in two conditions. The conditions were the narrative cloze and the expository cloze. The within-subject model for this study can be represented in Figure 1 below

<b>Within-subjects variable</b>	<b>Between-subjects variable</b>	
	Text types (Factor B)	
Reading ability levels (Factor A)	Narrative (B1)	Expository (B2)
High (A1)	A1 B1	A1 B2
Average (A2)	A2 B1	A2 B2
Low (A3)	A3 B1	A3 B2

**Figure 1: Research design of the study**

The study also employed qualitative data on rational deletion cloze test performance. The questionnaires were used to elicit reading strategies used by cloze test takers on their cloze test performance. Retrospective interviews were employed to investigate the types of context used by the cloze test takers on their solving each cloze items. Information from retrospective interviews has two folds: to triangulate the information obtained from the cloze test on two different text types and to validate the cloze test per se.

### **3. 2 Population and sample**

#### **3.2.1 Population**

At Khon Kaen University, there are more than fifteen faculties that offer programs of study to the undergraduates. The first-year students are from different tracks of studies in their secondary education. These tracks are Science and Math, Foreign Languages, and Vocational studies. The Faculty of Law was of interest to this study because it tends to be the only faculty on campus that has always had similar proportions of the students from the Science and the Language tracks of upper-secondary education. Another interesting thing of this faculty is that there has always been the similar number of male and female students.

#### **3.2.2 Sample**

The samples of this study were the first year Law students at Khon Kaen University in the 2010 academic year. They were 280 students, 143 male and 147 female which only one hundred and eighty-two law students were randomly selected to take the reading test, based on their achievement test scores in the first semester Foundation English Language course in order to divide the samples into three different reading ability groups. The Kolmogorov-Smirnov test and Shapiro-Wilk test were used to test the normal distribution of the achievement test scores. Table 3.1 provided the descriptive statistics for the achievement test scores. The positive value of skewness indicates many low scores in the distribution, and the negative value of kurtosis indicates a light-tailed distribution (Field, 2009: 139). Thus, the distribution of the scores was expected to be not normal.

**Table 3.1 Descriptive statistics of the achievement scores**

		Statistics	Std. Error
<i>N</i>		182	
<i>k</i>		200	
Mean		110.6429	2.48392
95% Confidence Interval for Mean	Lower Bound	105.7417	
	Upper Bound	115.5440	
5% Trimmed Mean		110.5073	
Median		114.2500	
Variance		1122.919	
Std. Deviation		33.50998	
Minimum		38.00	
Maximum		178.50	
Range		140.50	
Interquartile Range		57.13	
Skewness		.009	.180
Kurtosis		-1.112	.358

The results from the Kolmogorov-Smirnov test and Shapiro-Wilk test, as shown in Table 3.2, confirmed that the distribution of the scores was significantly non-normal,  $D(182) = .08, p < .05$ . In this case with quite a large sample size, the results from the Kolmogorov-Smirnov test and Shapiro-Wilk test should be interpreted in conjunction with the values of skewness and kurtosis (Field, 2009: 148).

**Table 3.2 Test of normal distribution on the achievement test scores**

	Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Achievement scores	.080*	182	.006	.964*	182	.000

$p < .05$

a Lilliefors Significance Correction

According to Field (2009: 138-139), before the interpretation, both values of skewness and kurtosis should first be converted to  $z$ -scores by dividing them with their respective standard errors. Thus, the  $z$ -score of skewness was  $.009/.180 = 0.05$ , and the kurtosis  $z$ -score was  $-1.112/.358 = -3.10$ . If the resulting score is greater than 1.96, then it is significant ( $p < .05$ ) (Field, 2009: 139). It was clear that the achievement scores were not skewed whereas the kurtosis score was significant. However, in the case of a large sample as used here, the kurtosis value can be compared with the upper threshold of 3.92 (Field, 2009: 139). This suggested that the kurtosis was not too different from normal. *Accordingly, it could be assumed that the sampling distribution was normally distributed.*

There were four administrations of the reading test. The test was administered outside the class time, but under controlled classroom conditions. The reading test in the main study was the same as the test that has been developed and tried out in the fourth trial. It contained 5 passages and 40 questions.

Table 3.3 provided the statistics summary of the reading test which was analyzed with the Classical Test Item Analysis Program, Version 9 (Sukamolson, 2004). สุพรรณ สุกมลสันต์ (2542) suggested that the delta value of a good test item should fall between 9.5 and 16.5. Thus, this test was not too easy or difficult judged by the delta value (13.931). The statistical details of the reading test in the main study were provided in Appendix J.

**Table 3.3 Mean, minimum and maximum scores and standard deviation of the reading test**

	Mean	Min	Max	Std Devn
Test scores	16.566	4.000	39.000	7.182
Diff. Index	0.414	0.514	0.588	0.506
Delta	13.931	12.071	17.120	1.163
Disc. Index	0.434	0.102	0.837	0.161
Biserial (RBIS)	0.467	0.135	0.830	0.148
Point-Biserial (RPB)	0.370	0.108	0.665	0.119
Skewness:	0.54			
Kurtosis:	-0.22			
KR20 = 0.841   KR21 = 0.833				



The results of the reading test were found to be significant correlated with the subjects' achievement in the General English course ( $r = .766$ ,  $p < .05$ ), as shown in Table 3.4.

**Table 3.4 Correlations between the reading test scores and the achievement test scores**

		Correlations	
		achievement	readingtest
achievement	Pearson Correlation	1	.766**
	Sig. (2-tailed)		.000
	N	182	182
readingtest	Pearson Correlation	.766**	1
	Sig. (2-tailed)	.000	
	N	182	182

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The high correlation suggested that the higher the achievement test scores, the higher the reading test scores for the samples.

The results from the reading test were then used as a basis to divide the participants into three different reading ability groups. When there are many low scores in the distribution as indicated by the positive value of skewness (0.54) and the light-tailed distribution as indicated by the negative value of kurtosis (-0.22), it is suggested that the percentile ranks be used in grouping the participants (สุวิมล ตีร กานันท์, 2546: 63). สุวิมล has suggested the use of the 30<sup>th</sup> and 70<sup>th</sup> percentile ranks as the cut-off points. In this study, the participants above the 70<sup>th</sup> percentile were assigned into a high reading ability group. Those between the 69<sup>th</sup> percentile and the 35<sup>th</sup> percentile were assigned into an average reading ability group. The participants below the 35<sup>th</sup> percentile were randomly assigned into a low reading ability group. This resulted in to 60 subjects in the first group, 59 in the second group, and 63 in the third group. To ensure that each ability group has equal number of participants, 58 participants were randomly selected for each ability group, resulting in 174 as a whole, as shown in Table 3.5.

**Table 3.5 Means, standard deviation of the three reading ability groups in the reading test**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	58	9.4310	1.63420	.21458	9.0013	9.8607	6.00	12.00
2.00	58	16.1207	2.34766	.30826	15.5034	16.7380	13.00	20.00
3.00	58	25.0345	4.28365	.56247	23.9082	26.1608	21.00	39.00
Total	174	16.8621	7.05908	.53515	15.8058	17.9183	6.00	39.00

1 = low reading ability group, 2 = average reading ability group, 3 = high reading ability group

An ANOVA test was conducted to compare means to ascertain the differences among the groups. It was found that there was a significant difference in scores gained in the reading test across the three ability groups ( $F = 401.789$ ,  $p < .01$ ), as shown in Table 3.6.

**Table 3.6 Comparison of the reading test scores**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7108.379	2	3554.190	401.879	.000
Within Groups	1512.310	171	8.844		
Total	8620.690	173			

The sample size of 174 was regarded as appropriate because the number was greater than the sample size required for being representative of the 280 students in the population. According to the table for determining a sample size from a given population (Krejcie and Morgan, 1970: 608), the sample size required to be representative of the 280 students was 162, with the reliability of 95% and error rate of 5%.

### **3.3 Developing and validating research instruments**

In this study, there were four types of instruments. They were (1) a reading test, (2) a rational deletion cloze test, (3) a reading strategies questionnaire and (4) a retrospective interview. The presentation under this subhead will provide detailed information on the development and the validation of each instrument respectively.

#### **3.3.1 The Reading Test**

The reading test used in this study was constructed by the researcher. Its main purpose was to determine the participants' reading ability in order to put the participants into groups based on their reading ability which was the scores gained from the reading test. The participants were then divided into three different groups: high-, average-, and low-reading ability.

##### **3.3.1.1 Defining the construct definition**

The term "reading ability" used in this study was relative to specific criteria which were drawn from Bormuth's (1969) and Cohen's (1975) studies, from the criteria set by the National Institute of Educational Testing Service (NIETS), and from the TOEFL® iBT reading section (Cohen and Upton, 2007). Bormuth and Cohen measured students' reading ability in comprehending vocabulary, explicitly stated facts, sequences of events, stated causal relationships, main ideas of the passages, inferences, and the author's purpose.

The following are the abilities aimed at measuring Thai high school students' English reading proficiency in the examinations for university admissions (The Quality Criteria of NIETS, n.d.):

- Able to read, understand and interpret reading passages taken from different types of text (with interesting topics of the past and the present.)
- Able to understand the passages' main ideas, details, pronoun reference, attitudes and styles of writing, patterns of text organization.
- Able to interpret the text meaning from the simple to complicated levels.
- Able to conclude, analyze, infer and evaluate the text meanings.

Cohen and Upton (2007) have analyzed the reading section of the TOEFL® iBT reading section, and indicated that there are three main reading skills measured. They are basic comprehension, inferencing, and reading to learn. Basic comprehension comprises of the comprehending skills in vocabulary, pronoun reference, and factual information. Inference refers to basic inferencing and the rhetorical purposes.

From the reviews of all the literature aforementioned, the construct of reading ability for the reading test used in this study was derived.

### **Construct definition**

The construct of reading ability in this study was defined as students' ability in comprehending vocabulary, pronoun reference, details both explicitly and implicitly stated in reading passages, in understanding the key concept of the passage and the author's purpose.

Accordingly, the reading test constructed was aimed to measure students' reading ability in the following six skills:

1. **Vocabulary:** Ability to understand the meanings of individual words or phrases as used in the context.
2. **Factual information:** Ability to identify factual information that is explicitly stated in the passage, and ability to identify negative factual information.
3. **Pronoun Reference:** Ability to identify relationships between pronouns and words or phrases in the passage.
4. **Inference:** Ability to draw a conclusion based on information not explicitly stated in the passage.
5. **Purpose:** Ability to understand why the author explains a concept in a specific way.
6. **Main idea:** Ability to recognize the topic and main idea which characterize the most important information in the passage.

### 3.3.1.2 Developing the reading test

#### 1. Constructing the reading test specifications

The first step in the process was the construction of the reading test specifications (see Appendix A). The purpose of the test specifications was to operationalize the construct of the reading test.

#### 2. Text selection

Seven texts were selected from different sources, and were turned into 56 multiple-choice questions measuring six reading comprehension ability (see Appendix B). Table 3.7 provided details of the test items.

**Table 3.7 Details of the test items to the first draft of the reading test**

Text	Vocabulary	Factual information	Pronoun reference	Inference	Purpose	Main idea
I. Dear Abby	1	3		3		
II Keeping the Future Bright and Green	1	1	1	4	1	
III South Korea	1	2	2		1	2
IV Imperial College		3		2	1	
V Protect the Dugongs	2	4	1		1	1
VI Bear country	3	1		2	1	1
VII Puppies' diseases	3	3	1		1	2

To ascertain that there were a range of different levels of text difficulty used in the reading test, text readability indices were used to determine the level of readability scores. In this study, Child's (2004) tool for calculating readability scores was employed. The report from this tool consists of two type of scores: the Flesch-Kincaid Reading Ease and the grade level scores. Child provides a brief explanation on different types of readability scores as follows. On the Flesch-Kincaid Reading Ease scale, scores go from 0 to 100. A higher score indicates easier readability. On the grade level scale, a grade level is equivalent to the number of years of US education a person has had. Scores over 22 should generally be taken to mean graduate level text. The calculation tool in Child's (2004) program also provides the average grade level based on the readability formula of Flesch-Kincaid Grade Level, Gunning-Fog Score, Coleman-Liau Index, SMOG Index, and Automated Readability Index.



Table 3.8 provided the text readability indices of all passages in the first draft of the reading test.

**Table 3.8 Readability scores of passages in the first draft**

<b>Passages</b>	<b>Number of words</b>	<b>Flesch-Kincaid Reading Ease</b>	<b>Average Grade Level</b>
I. Dear Abby	273	80.2	6.36
II Keeping the Future Bright and Green	245	46.5	13.16
III South Korea	217	42.5	14.06
IV Imperial College	47	36.10	9.06
V Protect the Dugongs	207	57.1	9.34
VI Bear country	159	75.2	6.34
VII Puppies' diseases	302	45.6	11.86

From the table, it can be seen that the first draft of the reading test comprised of the reading texts with a wide range of text difficulty. All the passages were kept for the first try out of the reading test in order to find out which passages were appropriate for the participants.

### **3. Validating the construct and content validity**

Five experts in the field were consulted. Three of them were the Thai teachers with more than 20 year-experience in English teaching at the university level. All hold a Ph.D. The other two are the native speakers of English. One of them is a lecturer who was experienced in test editing. The other was a lecturer at the community college in Seattle, USA. These two native speakers of English hold a master's degree in TESOL. The experts were asked to assess the test items using the judgment questionnaire (see Appendix C).

There were certain items that some experts did not agree. Items 4, 6, 16, 27, and 35 were rated "not sure" by some experts. However, for each item, only one out of five expressed uncertainty, so all items were kept for the first try out.

#### 4. Trying out the first draft of the reading test

The first try out of the reading test was conducted in the first semester of the 2008 academic year and 38 first year Law students volunteered to sit in the test. The levels of English language proficiency of the participants varied from A – D course grades. The Classical Test Item Analysis Program, Version 9 (Sukamolson, 2004) was employed to analyze the test. According to สุวัฒน์ สุขมงคลสันต์ (2542) the suggested delta value of a good test item should fall between 9.5 and 16.5. The higher the delta value, the more difficult the test is. Despite the satisfactory delta value of 14.884, the reliability value of the test was not desirable ( $KR20 = 0.606$ ), as shown in Table 3.9. This resulted from the low values in difficulty index and discrimination of those items for the first passage, Dear Abby, were very low. Thus, this passage was deleted from the second draft of the reading test.

**Table 3.9 Statistics summary of the first draft of the reading test**

No. of tryouts	No. of cases	No. of passages	No. of test items	Mean s of test scores	Difficulty index	Delta	Disc. Index	Point-Biserial I (RPB)	KR20
1 <sup>st</sup>	38	7	56	18.71	0.334	14.88	0.230	0.198	0.606

Interviews with the students were conducted to obtain information in order to revise the test. It was found that the participants were familiar with the contents in the reading texts to a certain degree, but the main problems were (1) the test was too long, and (2) there were many items with ambiguous options. Thus, for this group of participants, the test was boring because of its length so they were not that motivated to complete the task.

#### 5. Trying out the second, third and fourth drafts of the reading test

The reading test undertook two more tryouts in the 2008 academic year, and the fourth tryout was conducted with the first-year students of the 2009 academic year. Information was gathered from the participants for each tryout to use as the data for improving the test. Consultations with the expert were frequent so as to maximize the

quality of the test items. Table 3.10 revealed statistics summary of other three tryouts of the reading test before it yielded satisfactory results.

**Table 3.10 Statistics summary of four tryouts of the reading test**

No. of tryouts	No. of cases	No. of passages	No. of test items	Means of test scores	Difficulty index	Delta	Disc. Index	Point-Biserial (RPB)	KR20
2 <sup>nd</sup>	109	6	48	17.064	0.356	14.573	0.277	0.249	0.693
3 <sup>rd</sup>	119	5	40	17.277	0.432	13.717	0.405	0.341	0.810
4 <sup>th</sup>	423	5	40	15.255	0.381	14.268	0.394	0.340	0.804

In the third and fourth drafts, the number of passages was reduced to five. The “Imperial College” text was excluded due to the low values in difficulty index and discrimination of its items. Furthermore, the passages, “Keeping the Future Bright and Green” and “Protecting Dugongs” were modified to lessen the frustration among students. The meanings in Thai for certain words in “Protecting Dugongs” were provided to facilitate text comprehension. The final draft of the reading test was the same as that use in the fourth try out. It was provided in Appendix D.

The experts’ agreement on the final draft of the reading test was 100%. One surprising thing found throughout the tryouts of the reading test was that the South Korea passage which was regarded as a difficult text, as judged by the readability indices, was outperformed the other passages which had lower grade levels.

Table 3.11 illustrated the details of the test items to the final draft of the reading test.

**Table 3.11 The test items to the final draft of the reading test**

Text	Vocabulary	Factual information	Pronoun reference	Inference	Purpose	Main idea
I Bear country	2 (1,2)	1 (4)		2 (3,5)	1(7)	1(6)
II Keeping the Future Bright and Green	1(9)	1(11)	1(12)	3(10,13,14)	1(15)	1(8)
III South Korea	1(20)	2(17,19)	2(18,21)		1(23)	2(16,22)
IV Protect the Dugongs	2(25,27)	2(24,28)	1(26)	1(29)	1(31)	1(30)
V Puppies’ diseases	3(34,36,37)	2(33,38)	1(35)		1(40)	2(32,39)

Note: Numbers in brackets refer to the item numbers

The first three types of the test items—vocabulary, factual information, pronoun reference—which are regarded as those that measure basic comprehension (Cohen and Upton, 2007) consist of 55% of the total items. The other three types of items—inference, purpose, main idea—which are regarded as those that measure higher level of comprehension (Jamieson et al., 2000) consist of 45 %. This ratio of items types were regarded as appropriate by the experts.

### **3.3.2 The rational deletion cloze test**

The rational deletion cloze test used in this study was constructed by the researcher. It comprised of two cloze texts: narrative cloze and expository cloze. The compare/contrast text structure was used to represent the expository text. The cloze test was employed in this study to prove the theory that rational deletion cloze tests could measure both the local and global text comprehension. Two text types were used to test the assumption that narrative text was easier than expository text.

There were five main steps in the process of constructing and validating the cloze test.

#### **Step One: Selecting text**

The process of text selection was carried out in the 2007 academic year. Five texts representing narrative text, and the other five representing expository text had been selected. They were turned into cloze passages. Fixed-ratio of every 7<sup>th</sup>, 9<sup>th</sup>, and 11<sup>th</sup> word deletion was employed in order to find out which ratio would be appropriate for assessing the cloze text difficulty. It was found that the every 11<sup>th</sup> word deletion ratio was appropriate.

Out of the five texts of each text types, three of each type were chosen to turned into the fixed-ratio cloze every 11<sup>th</sup> word deletion in order to find out the text with appropriate level of difficulty (see Appendix E). The six texts were as follows:

Narrative text	Expository text
1. The Ant and The Grasshopper	1. Old Age in Present Society
2. Getting Ready for a New Life	2. Differences between College and High School
3. Prince Naresuan	3. Where should One Study?

These six texts were chosen because the content in each text was familiar to the students' life. It was expected that these texts would activate the students' world knowledge.

The cloze texts were then simplified to obtain the texts of similar in lengths and readability levels. Research has indicated that L2 learners benefit from input modifications (Berman, 1984, and Long, 1985, cited in Koda, 2005: 118). Moreover, Urquhart and Weir (1998: 141), as mentioned in Chapter 2, have pointed out that the texts used in the test don't need to be authentic; instead, they should have the features that are closely related to "the target situation texts for the population as is possible." Accordingly, it was assumed that the simplified cloze texts were appropriate for most first-year Law students at Khon Kaen University who were not familiar with the construct-responded cloze task. It was hoped that the simplified cloze texts would stimulate the students in their cloze test performance to a certain degree.

Two groups of students were randomly selected to participate in the study at this stage. The criteria for sample selection were the mid-term test results of the first semester in the 2007 academic year. Group One took the narrative cloze test, and Group Two took the expository cloze test. One-Sample Kolmogorov-Smirnov Test was employed to test whether it was reasonable to assume that the sample distribution reflected an underlying normal distribution. The Kolmogorov-Smirnov test is a goodness-of-fit test which tests "whether a given distribution is not significantly different from one hypothesized on the basis of the assumption of a normal distribution" (Garson, 2008). The Kolmogorov-Smirnov value of Group One was .611, and the two-tailed significance of the test statistic was .85, which meant it was not significant. The Kolmogorov-Smirnov value of Group Two was .533, and the two-tailed significance of the test statistic was .939, which was not significant, as



well. These findings meant that each group could be assumed to come from a normal distribution with the given mean and standard deviation.

There were three different texts to the narrative cloze and other three different texts to the expository cloze. The cloze texts were given to the participants in a counterbalancing design so as to minimize the practice effect and the boredom effect (Field, 2009) (see Appendix E).

For the narrative text type, “The Ant and the Grasshopper” was scored the highest, with the average mean score of 14. For the expository text type, “Old Age in Present Society” was scored the highest, with the average mean score of 12.

### **Step 2 Constructing the rational deletion cloze test**

“The Ant and the Grasshopper” was then used as a representative of a narrative text and “Old Age in Present Society” as a representative of an expository text. Since cloze items are assumed at the root of cloze performance (see Chapter 2), Bachman’s (1985) classification of cloze items (see Chapter 2) were employed to obtain the rational deletion cloze test that can measure both local and global text comprehension.

Examples are provided here to clarify Bachman’s types of text information, which are (1) Within clause, (2) Across clause, Within sentence, (3) Across sentence, and (4) Extra-textual.

The first type of cloze item requires the information at clausal level to fill the cloze gaps.

*Examples:* ...old people often need (someone) to take care of them.

Grasshopper saw Ant’s hard work (and) said, ....

The second type of cloze item requires the information larger than the clausal level but lower than text level. Complex sentence structures have this type of information.

*Examples:* Ant (said), “I am working to gather and save food for the winter.”

Retired business people can give advice to young people (who) are starting new businesses....

The third type of cloze item requires the information larger than the sentential level. In order to successfully restore the cloze gaps, test takers are required to read beyond the sentence boundary.

*Examples:* Grasshopper asked Ant for some food. He said that he was cold and (hungry)  
(However), older people help society in many ways.

The fourth type of cloze item requires the information outside the text. In order to successfully restore this type of cloze gap, test takers need to relate the information in the passage to their prior or world knowledge.

*Examples:* Old people also have free time for community work. They can (teach) children to read.  
It was best to (work) for the days of necessity.

Furthermore, from the analysis of the two selected texts, “The Ant and the Grasshopper” and “Old Age in Present Society”, it turned out that these two simplified texts had similar ratios of different types of text information. Both consisted of approximately 30% of the clause text information, 90% of the intersentential text information, and 10% of extratextual information. These ratios were maintained in the two cloze texts, and thus resulted in the following numbers of cloze items for each level of text information:

- 6 Within Clause items,
- 3 Across Clause Within Sentence items,
- 9 Across Sentence items, and
- 2 Extra Textual items.

Table 3.12 below provided details of each type of text information in the narrative and expository cloze texts

**Table 3.12 Classification of the cloze items**

<b>The narrative cloze text</b>	<b>The expository cloze text</b>
<u>Within Clause items</u>	<u>Within Clause items</u>
Item 1 “and” (conjunction under clause)	Item 1 “someone” (pronoun)
Item 2 “working” (Noun-object)	Item 2 “or” (conjunction under clause)
Item 3 “together” (adverb)	Item 3 “not” (negation)
Item 5 “the” (article)	Item 7 “The” (article)
Item 6 “about” (preposition)	Item 8 “more” (adverb)
Item 10 “looked” (collocation)	Item 19 “care” (collocation)
<u>Across Clause, Within Sentence</u>	<u>Across Clause, Within Sentence</u>
Item 4 “answered” (verb)	Item 12 “ who” (relative pronoun)
Item 12 “not” (negation)	Item 13 “ business” (noun, functioning as an adjective)
Item 19 “next” (adjective)	Item 16 “trouble” (noun)
<u>Across sentence</u>	<u>Across sentence</u>
Item 8 “But” (conjunction above clause)	Item 5 “people” (noun)
Item 9 “Grasshopper” (proper noun)	Item 6 “government” (noun, functioning as an adjective)
Item 11 “rice” (noun)	Item 9 “They” (pronoun)
Item 13 “food” (noun)	Item 10 “However” (conjunction above clause)
Item 14 “Ant” (proper noun)	Item 11 “give” (verb)
Item 15 “hungry” (adjective)	Item 14 “Old” (adjective)
Item 16 “You” (pronoun)	Item 17 “free” (adjective)
Item 17 “call” (verb)	Item 18 “experience” (noun)
Item 18 “hard” (adverb)	Item 20 “old” (adjective)
<u>Extra textual</u>	<u>Extra textual</u>
Item 7 “fun” (noun)	Item 4 “money” (noun)
Item 20 “prepare” (verb)	Item 15 “teach” (verb)

The average deletion ratio for each cloze text was 1:9; the average deletion rate for the narrative cloze text was every 9.65 word. The average deletion rate for the expository cloze text was every 9.1 word.

### **Step 3: Validating the rational deletion cloze test**

Eight lecturers in English were asked to provide retrospective data upon their completing two cloze texts: narrative and expository texts. Among these lecturers, four of them have more than 20 years of English language teaching experience, the other four with more than 10 years of teaching experience. Three of them hold a Ph.D. and the rest hold a master's degree. The reason for not including native speakers of English in this task was based on the researcher's assumption that the way in which Thai teachers form their ideas on the cloze tasks would be similar to that of the students' due to similar background in education.

All eight lecturers used the same types of information as what had been designed for the test to restore cloze gaps in both the narrative and expository texts. The agreement ratio was 100%.

### **Step 4 Establishing scoring key**

An acceptable alternative scoring procedure was used in this study. The answers from the lecturers were used as alternatives in the scoring key for acceptable responds. In addition to the alternatives raised by the Thai teachers, a native speaker of English who is a lecturer at the community college in Auburn, USA, was asked to provide a set of alternatives for each cloze gap and to check the possibilities of the alternatives raised by the Thai teachers. The key was presented in Appendix F.

### **Step 5 Pretesting the rational deletion cloze test**

Thirty-three Law students who did not take part in the text selection process were randomly selected to participate in the pretesting of the cloze test, based on their English test results of the first semester in the 2007 academic year. Their English proficiency varied from the A-D course grades. The purpose of the pretest was to find out whether the two cloze texts were significantly different at this initial stage. Table 3.13 revealed the results of the pretest. It showed that the students' performance on the two cloze texts was not significantly different ( $p > .05$ ). The expository cloze ( $M = 26.8788$ ) tended to be easier than the narrative cloze ( $M = 26.2727$ ).

**Table 3.13 Comparisons of the two cloze texts at the initial stage**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	99% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Narrative - Expository	-.60606	4.89859	.85274	-2.94126	1.72914	-.711	32	.482

### Step 6 The tryouts of the cloze test

Since the number of participants in the pretest was quite small, it was decided that there were to be more tryouts on the performance of the rational deletion cloze. The first and the second tryouts of the cloze test were conducted during the 2008 academic year. In the first try out, 110 Law students were randomly selected to participate, based on their English achievement test scores of the second semester of the 2007 academic year. It was found that their performance on the narrative and expository cloze texts was significantly different,  $t = 7.596$ ,  $p < .05$  (see Appendix G). On average, the performance on the narrative text ( $M = 25.40$ ) was significantly higher than the expository text ( $M = 18.21$ ). The Cronbach's alpha reliability value was .838 for the narrative text, and .779 for the expository text, as shown in Table 3.13.

In the second try out, 197 students from the faculty of Law, Humanities and Social Sciences, and Management Sciences were randomly selected to participate in this tryout. The criteria on the selection was their English achievement scores in the first semester of the 2008 academic year. It was found that their performance on the narrative and expository cloze texts was significantly different,  $t = 17.211$ ,  $p < .05$  (see Appendix G). On average, the performance on the narrative text ( $M = 25.37$ ) was significantly higher than the expository text ( $M = 17.80$ ). The Cronbach's alpha reliability value was .814 for the narrative text, and .802 for the expository text, as shown in Table 3.14.

Overall, the narrative text was found easier than the expository text. The reliability values of both texts in the two try outs were satisfactory.



**Table 3.14 Means, standard deviations, and KR-20 of the two try outs of the cloze test**

No. of the tryouts	Types of cloze text	No. of cases	No. of items	Mean	Std derivation	Cronbach's Alpha
1	Narrative	110	20	25.40	7.64336	.838
	Expository	110	20	18.21	6.74330	.779
2	Narrative	197	20	25.37	7.74200	.814
	Expository	197	20	17.80	6.89597	.802

It was interesting to see that the patterns of mistakes made by the students in the first and second tryouts were similar (see Appendix G). In the two tryouts of the narrative cloze text, it was found that values of items 4, 7, 8 and 20 were quite low (lower than 0.3) on the “Corrected Item-Total Correlation” scale. Item 4 was categorized as the “Across Clause, Within Sentence” item type. Item 8 was the “Across Sentence” item type, whereas items 7 and 20 were categorized as the “Extra Textual” item type.

In the two tryouts of the expository cloze text, it was founded that items 7, 10, 11 and 18 were low (lower than 0.3) on the “Corrected Item-Total Correlation” scale. Item 7 was categorized as the “Within Clause” item type, while items 10, 11 and 18 were categorized as the “Across Sentence” item type.

Since the reliability values of the two texts were high in both try outs, it was decided to keep those items in order to see if this pattern of mistakes would be repeated in the main study. Investigation would be done on those items to see whether those mistakes resulted from item difficulty or from students’ lack of certain knowledge.

### 3.3.3 Reading strategies questionnaire

A reading strategies questionnaire was employed in this study to capture the participants’ use of reading strategies while they were working on the cloze test for the test was assumed as a tool that could measure comprehension at both the local and global levels. This survey was aimed at getting information concerning the participants’ perception of their strategy use during the cloze test taking process. The

investigation was limited to the use of reading strategies, the types of strategies enabling test takers to correctly solve cloze problems was not the focus of this survey.

The questionnaire was in a form of a checklist. The categories of reading strategies serving as the basis for constructing the questionnaire were based on the studies of Kletzien (1991) and Lu (2006) (see Chapter 2, p. 43).

Data on the participants' use of text information to restore cloze gaps were elicited for rational deletion cloze tests have been recommended as measures of text level comprehension.

Information about the participants' perception of the rational deletion cloze test cloze test was also gathered in order to understand their cloze performance.

### **Pretesting the reading strategies questionnaire**

The first draft of the strategies (see Appendix H) was employed with the first tryout of the cloze test in which 110 students participated in the trial. The results (see Appendix H) showed that 99 (90%) thought that the constructed-response format of the cloze test was unfamiliar. And they perceived that the cloze test measured vocabulary and reading comprehension. "Reading the whole cloze passage before working on the blanks" and "using context to restore the cloze blanks" were reported by all participants. "Focusing on vocabulary" and "looking for key words and phrases" were reported by 95% of the participants. The strategies least used were "making inferences" (44.2%) and "using main ideas" (40.9%).

Concerning the information used to restore the cloze gaps, about 80% of the participants perceived that they used the information in the sentence where the gap appears and that in the preceding sentences. More than 85% of the participants felt that if they were trained to do this type of test, their English language ability would improve.

The overall results from the first trial of the questionnaire were satisfying.

### **The second tryout of the reading strategies questionnaire**

The second tryout of the reading strategies questionnaire was conducted at the same time as the second tryout of the cloze test. 197 participants responded to the questionnaires. In the second tryout, it was decided to collect data separately on both

cloze texts concerning the use of reading strategies and the use of contextual information so as to get separate data on the reading strategies use on each cloze text.

The differences found in the use of reading strategies in terms of different text types were not much, except “using main idea” in answering narrative cloze text which was not reported by any participants. Table 3.15 provided data on the use of reading strategies. Table 3.16 showed the results on the use of contextual information to restore the cloze gaps.

**Table 3.15 Percentage of the use of reading strategies based on the two text types**

<b>Strategies</b>	<b>Narrative Text</b>	<b>Expository Text</b>
reading the whole cloze passage before working on the blanks	100%	100%
skipping unknown words while reading the cloze passage	77.7%	60.9%
using sentence structures	87.8%	88.8%
using rhetorical pattern of organization	47.2%	58.9%
focusing on vocabulary	97.9%	97.9%
using context to restore the cloze blanks	100%	100%
looking for key words and phrases	97.9%	97.9%
using punctuation	90.3%	90.3%
making inferences	44.2%	44.2%
using main idea	-	38.1%
using prior or world knowledge	90.9%	83.6%

**Table 3.16 Percentage of the use of contextual information based on the two text types**

<b>Types of information used in restoring cloze gaps</b>	<b>Narrative Text</b>	<b>Expository Text</b>
information in the clause where the gap appears	70.6%	71.1%
information in the sentence where the gap appears	81.2%	81.2%
information in the preceding sentences	78.4%	81.2%
information in the following sentences	61.9%	61.4%
information from your world knowledge	50.7%	50.7%

The split-half reliability estimation was conducted to measure internal consistency of the questionnaire. The Spearman-Brown coefficient was .788, and the Guttman Split-Half coefficient was .785. It could be concluded that the reliability of this questionnaire was quite high.

Results from the two tryouts of the questionnaire on the students' perception of cloze test format and the students' perception of the impact of the cloze test were slightly different. One interesting thing found in the second tryout was that there were 102 participants (51.8%) indicated that they used "translating" as another strategy that assisted them in interpreting the cloze texts. According to Oxford (1990) "translating" is regarded as a cognitive strategy (see Chapter 2). Thus, it was decided that "translating" be added to the list of reading strategies, that would be used in the main study.

### **3.3.4 Retrospective interviews**

The retrospective interview was employed in this study to obtain qualitative data on the participants' use of contextual information while solving each cloze problem. The data from the retrospective interviews was critical in that it could be used to triangulate the information obtained from the cloze test performance on two different text types and to validate the cloze test per se.

The guidelines for retrospective interviews were developed (see Appendix I). The instructions provided in the guidelines were based on the Sasaki's (2000) criteria in rating the verbal protocols, and on the guidelines provided by Ericsson and Simon (1984, cited in Poulisse et al., 1987) and by Haastrup (1987) (see Chapter 2).

There were two raters to code the participants' verbal reports: one was the researcher and the other was the research assistant who had experience in coding the verbal reports provided by the lecturers during the validation process of the cloze test.

#### **The trial on the retrospective interviews**

In the second tryout of the cloze test in which 197 participants sat for the test, 15 participants were randomly selected based on their English course grades—five high proficiency students, five average- and five low proficiency students—to provide verbal reports on their solving cloze problems.

Immediate retrospective interviews could not be conducted as having been suggested by Ericsson and Simon (1984, cited in Poulisse et al., 1987: 217) because of the limitation of time. However, the delayed retrospective interviews were conducted on the next day and was completed in one day. It was found that the delay

of this type did not negatively affect the memory of the participants. After the verbal reports were rated, the inter-rater agreement ratio (Yamashita, 2003) was estimated, and it was 100%, since both raters had experience with rating the verbal reports provided by the lecturers.

During the process of conducting the retrospective interviews, the raters, who were the researcher and the research assistant, found that “guessing” and “missing” did not work for this study. It was decided that the two types of category could be merged together and referred to as “guessing.” Table 3.17 and 3.18 provided the averaged frequency counts on the use of information on restoring the cloze gaps. It was evident from the two tables below that all groups of student made use of the “across sentence” type of information. As it was expected, the low ability groups used “guessing” most.

**Table 3.17 The averaged frequency counts of contextual information used on the narrative cloze**

<b>Types of information used in restoring cloze gaps</b>	<b>High ability group</b>	<b>Average ability group</b>	<b>Low ability group</b>
1. Within Clause (6 items)	30	23	7
2. Across Clause, Within Sentence (3 items)	14	11	10
3. Across sentence (9 items)	37	35	25
4. Extra textual (2 items)	8	4	2
5. Guessing	11	27	56
Total	100	100	100



**Table 3.18 The averaged frequency counts of contextual information used on the expository cloze**

Types of information used in restoring cloze gaps	High ability group	Average ability group	Low ability group
1. Within Clause (6 items)	23	23	10
2. Across Clause, Within Sentence (3 items)	15	5	3
3. Across sentence (9 items)	36	27	23
4. Extra textual (2 items)	9	9	5
5. Guessing	17	64	59
Total	100	100	100

### 3.4 Data collection

As mentioned earlier, there were 174 participants who were randomly select to participate in the main study were put into three reading ability groups: high, average and low reading ability groups. They took the rational deletion cloze test which consisted of two different text types: narrative and expository cloze texts. These two cloze texts were followed by the reading strategies questionnaires. Then fifteen subjects, each five were randomly selected from each ability group, participated in the retrospective interviews on the following day.

### 3.5 Data analysis

#### 3.5.1 Data analysis for the first three research questions

A two-way ANOVA analysis with replication was carried out to portray the overall answer the first three research questions, which are:

- (1) Do students' different reading ability levels have a significant effect on their rational deletion cloze test performance?
- (2) Do different text types have different effects on students' rational deletion cloze test performance?

- (3) Is there a significant interaction effect between reading ability levels and text types on students' rational deletion cloze test performance?

The two-way ANOVA analysis with replication was used when the same subjects were in two or more conditions (Arther, 2009). In this study, reading ability was the within-subject variable in which each subject was assessed in two conditions. The conditions were the narrative cloze and the expository cloze. The two-way ANOVA with replication was done in Excel.

For the effect of the reading ability levels on students' rational cloze test performance, a one way independent ANOVA and the post hoc tests were used.

The one way independent ANOVA analysis was conducted two times to find out the differences between the ability groups on their performance of each cloze text: narrative and expository cloze texts.

The post hoc tests were subsequently used to compare all different combinations of the reading ability groups on their performance on different text types of the rational deletion cloze test.

The effect sizes of the two ANOVA analyses, on narrative and cloze text performance, were calculated. An effect size is "an objective and standardized measure of the magnitude of an observed effect...Effect sizes are important in that they can be compared across different studies that have measured different variables, or have used different scales of measurement" (Field, 2009: 56). There are many measures of effect sizes. The most common of them are Cohen's *d*, Pearson correlation coefficients *r* and the omega squared ( $\omega^2$ ) (Field, 2009: 57). Cohen (1988, 1992, cited in Field, 2009: 57) has made some widely used suggestions on the benchmarks of the Pearson correlation coefficients effect size:  $r = .10$  (small effect),  $r = .30$  (medium effect), and  $r = .50$  (large effect). For the measure of omega squared ( $\omega^2$ ), a more accurate measure, it has been suggested that the values of .01, .06 and .14 represent small, medium and large effect sizes respectively (Kirk, 1996, cited in Field, 2009: 390).

The measure of omega squared ( $\omega^2$ ) was used to estimate the effect sizes for the one way single factor ANOVA analyses for the comparisons of the performance of the three reading ability groups on the two cloze texts: narrative and expository. The omega squared equation can be found in Appendix L.

For the effect of text types on the rational cloze test performance, a dependent *t*-test was used to compare the differences between the scores gained from the narrative and the expository cloze texts. The dependent *t*-test or paired samples *t*-test was used because the scores obtained from the narrative and expository cloze test were the repeated-measures data in which all reading ability groups worked on both two text types of the cloze test.

The measure of Pearson correlation coefficients effect size *r* was used to estimate the effect size for the dependent *t*-test analysis of the difference between the two text types since this estimate is widely used for the *t*-statistic (Field, 2009: 332). The Pearson correlation coefficients effect size equation can be found in Appendix L.

### **3.5.2 Data analysis for the fourth research question**

The Kruskal-Wallis tests were used to answer the fourth research question, which is:

- (4) Are there differences in the use of reading strategies by students with different reading ability levels in doing the rational deletion cloze test comprising two different text types?

The Mann-Whitney tests, which are the post hoc procedures for the Kruskal Wallis tests, were then used to test differences in the use of reading strategies in all different combinations of the reading ability groups.

The Kruskal Wallis test and the Mann-Whitney test are non-parametric techniques. The former is an analog to a one way independent ANOVA, the latter is an analog to the independent *t*-test (Field, 2009: 540, 559). These two non-parametric techniques were used to statistically analyze the answers to the fourth question because the data collected from the questionnaires on the use of reading strategies were assessed on a nominal scale, frequency counts.

The next step was the estimation of the effect sizes. According to Field (2009: 570), there is no need to estimate the effect size for the Kruskal Wallis test since the valued obtained from the estimation is only a summary of a general effect. Instead, Field has suggested the estimation of the effect size for a focused comparison.

The effect sizes for the differences among all pairs compared were calculated by converting  $z$ -scores into the effect size estimate,  $r$ . The equation to convert a  $z$ -score into the effect size estimate,  $r$ , can be found in Appendix L.

### **3.5.3 Data analysis for the fifth research question**

There were mainly two parts of data analysis to answer the fifth research question, which is:

- (5) Are there differences in the use of contextual information by students with different reading ability levels in their filling the cloze gaps?

The first part is the statistical analysis of the data obtained from the questionnaire concerning the use of contextual information for filling the cloze gaps. . The Kruskal-Wallis tests and the Mann-Whitney tests, the post hoc procedures, were used to test differences in the use of contextual information in all different combinations of the reading ability groups. These two tests were used for the data obtained on the use of contextual information was on a nominal scale, frequency counts.

The equation to convert a  $z$ -score into the effect size estimate,  $r$ , was employed to estimate the effect sizes for the paired comparisons.

The second part is the statistical analysis of the data obtained from the delay retrospective interviews. Friedman's ANOVA was used to find the differences in the use of contextual information when filling each cloze gap. The information was reported by the participants who took part in the interviews.

The Friedman's ANOVA is a non-parametric test used for "testing differences between conditions when there are more than two related conditions and the same participants have been used in all conditions" (Field, 2009: 573). Here, there were five categories of the information to be analyzed: (1) Within clause, (2) Across clause, within sentence, (3) Across sentence, (4) Extra textual, and (5) Guessing. Each of these categories was regarded as one condition which was related to the others. Thus, the data obtained from the five conditions were the repeated-measures data, given by all the interviewees.

The Wilcoxon signed-ranks tests were used in the post hoc procedures to test differences in all different paired comparisons of the information used by the three reading ability groups who took part in the interviews. The Wilcoxon signed-ranks test is a test of difference between two categories of repeated measures. It is the non-parametric equivalent of the dependent *t*-test (Field, 2009: 552).

There was no calculation of the effect sizes for the paired comparisons since the number of the participants for each group was very small, that is five participants in each group of reading ability levels. Such small a sample size can cause problems in interpreting effect sizes (Coe, 2002).



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## CHAPTER IV

### RESULTS

The purpose of this study was to investigate the effects of reading ability levels and two different text types on rational deletion cloze test performance and explore the use of reading strategies during cloze test performance so as to understand the study participants' cloze testing behavior. The information on cloze test performance and the use of reading strategies was confirmed by the data from retrospective interviews.

This chapter presents the findings of the study in accord with the research questions.

#### 4.1 Descriptive statistics of the cloze test

Descriptive statistics of the two cloze texts obtained from the main study were shown in Table 4.1. The mean scores of the two cloze texts in the main study were similar to the results of the try outs, in which the mean scores of the narrative cloze was higher than the mean scores of the expository text.

**Table 4.1 Mean, variance and standard deviation of the cloze texts**

	Mean	Variance	Std D	No. of items
Narrative cloze	22.776	71.817	8.474	20
Expository cloze	19.419	54.106	7.356	20

#### 4.2 The effects of reading ability levels and text types on rational deletion cloze test performance

To find out the effects of reading ability levels and text types on rational deletion cloze test performance which were the answers to the first three research questions, a two-way ANOVA analysis with replication was employed. Tables 4.2 showed the statistics summary and the results from the two-way ANOVA with replication ( $\alpha = 0.05$  for a 95% confidence). Here the  $p$ -values for the three

reading ability groups and the two text types were less than alpha ( $0.00 < .05$ ). These signified that the performances of the three reading ability groups on the rational deletion cloze test were significantly different, and that the two text types (narrative and expository) had significant effects on the cloze test performances of the three reading ability groups. The  $p$ -value for the interaction effect between reading ability levels and text types on the rational deletion cloze test performance was greater than alpha ( $0.48 > .05$ ), which could be interpreted that there was no significant interaction effect between reading ability levels and text types on the rational deletion cloze test performance.

**Table 4.2 The main effects and the interaction effect of reading ability levels and text types**

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p-value</i>	<i>F crit</i>
Reading ability levels	5371.195	2	2685.598	55.51134*	<b>0.001</b>	3.022127
Text types	1051.796	1	1051.796	21.74064*	<b>0.001</b>	3.868792
Interaction	72.16092	2	36.08046	0.745784	<b>0.48</b>	3.022127
Within	16545.71	342	48.37926			
Total	23040.86	347				

\*  $p < .05$

#### **4.2.1 Effects of reading ability levels on rational deletion cloze test performance**

Since the performances of the three reading ability groups on the rational cloze test were significantly different, a ANOVA single factor was employed on the three ability groups to find out which groups differ on their performance on each cloze text: narrative and expository cloze texts. The ANOVA single factor was performed twice, one on the performance of the three reading ability groups on the narrative cloze text, and the other on their performance of the expository cloze text.

Table 4.3 showed the descriptive statistics of the narrative cloze text. It was evident from the table that each ability group had quite a different mean score. One interesting thing found here was that the maximum and minimum scores of the average and the low reading ability groups were almost the same, 36/5 and 35/5 respectively.

**Table 4.3 Mean, Std Deviation and Std Error of the three reading ability groups on the narrative cloze performance**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	58	28.2069	5.65611	.74268	26.7197	29.6941	17.00	40.00
2.00	58	22.3448	8.36985	1.09902	20.1441	24.5456	5.00	36.00
3.00	58	17.7241	7.65207	1.00477	15.7121	19.7361	5.00	35.00
Total	174	22.7586	8.45110	.64068	21.4941	24.0232	5.00	40.00

1 = high reading ability group, 2 = average reading ability group, 3 = low reading ability group

Leven's test for homogeneity of variances, as shown in Table 4.4, showed that the variances of the three ability groups were not the same,  $F = 5.314$ ,  $p < .05$ . However, ANOVA "is fairly robust in terms of the error rate when sample sizes are equal" (Field, 2009: 360). In this case where the sample size is equal in each cell, the problem resulting from the violation of homogeneity of variance assumption was thus rectified. For the overall effect of the three reading ability groups on the narrative cloze text, it was significant,  $F = 29.903$ ,  $p < .05$ , as shown in Table 4.5.

**Table 4.4 Test of equal variances of the three ability groups on the narrative cloze performance**

Levene Statistic	df1	df2	Sig.
5.314*	2	171	.006

\*  $p < .05$

**Table 4.5 The main effect of the reading ability levels on the narrative cloze performance**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3201.655	2	1600.828	29.903*	.001
Within Groups	9154.207	171	53.533		
Total	12355.86	173			

\*  $p < .05$

The post hoc tests were then carried out to compare all different combinations of the reading ability groups on their performance on the narrative cloze text. The

results from the post hoc tests were shown in Table 4.6. The Dunnett T3 was chosen for the tests since this procedure has been designed for situations of unequal group variances and it “keep(s) very tight I error control” (Field, 2009: 374-375). It is clear from the table that when each group of the reading ability level was compared to the remaining groups, a significant difference was revealed. Thus, in terms of the narrative cloze text performance, each group of reading ability level differed significantly and the high reading ability group outperformed the average and the low ability groups ( $p < .05$ ).

**Table 4.6 Paired comparisons of the reading ability levels on the narrative cloze performance**

(I) ReadingAbilitylevels (J) ReadingAbilitylevels			Mean	Std. Error	Sig.	95% Confidence	
	I	J	Difference (I- J)			Interval	
Dunnett T3	1.00	2.00	5.86207(*)	1.32643	.000	2.6430	9.0812
		3.00	10.48276(*)	1.24945	.000	7.4528	13.5127
	2.00	1.00	-5.86207(*)	1.32643	.000	-9.0812	-2.6430
		3.00	4.62069(*)	1.48909	.007	1.0136	8.2277
	3.00	1.00	-10.48276(*)	1.24945	.000	-13.5127	-7.4528
		2.00	-4.62069(*)	1.48909	.007	-8.2277	-1.0136

\* The mean difference is significant at the .05 level.

Dependent Variable: NarrativeCloze

An effect size for the one-way single factor ANOVA analysis of the narrative cloze text performance was calculated, using the omega squared ( $\omega^2$ ) (see Appendix L for the equation). This resulted in a large effect size,  $\omega^2 = .26$ .

To find out which groups differ on their performance on the expository cloze text, the ANOVA single factor was performed one more time. Table 4.7 showed the descriptive statistics for the expository cloze text. It was evident from the table that the performance of the high reading ability group on the expository cloze text was greater than the average and the low reading ability groups. The average and the low reading ability groups had the same range of score, with 5 as the minimum score and 30 as the maximum score.

**Table 4.7 Mean, Std Deviation and Std Error of the three reading ability groups on the expository cloze performance**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	58	24.1207	5.17781	.67988	22.7593	25.4821	15.00	34.00
2.00	58	18.1897	6.51707	.85573	16.4761	19.9032	5.00	30.00
3.00	58	15.5345	7.77133	1.02043	13.4911	17.5778	5.00	30.00
Total	174	19.2816	7.46212	.56570	18.1650	20.3982	5.00	34.00

1 = high reading ability group, 2 = average reading ability group, 3 = low reading ability group

Similar to what have been found in the narrative cloze scores, here the assumption of homogeneity of variances was violated, as shown in Levene's test of homogeneity of variances in Table 4.8,  $F = 4.942$ ,  $p < .05$ . And as mentioned earlier that ANOVA is quite robust in terms of error when sample sizes are equal, in this case of which the sample size is equal in each cell, it was thus assumed that the violation of the assumption of homogeneity of variances has been rectified. For the overall effect of the three reading ability levels on their performance on the expository cloze text was found significant,  $F = 25.932$ ,  $p < .05$ , as shown in Table 4.9.

**Table 4.8 Test of equal variances of the three ability groups on the expository cloze performance**

Levene Statistic	df1	df2	Sig.
4.942*	2	171	.008

\*  $p < .05$

**Table 4.9 The main effect of the reading ability levels on the expository cloze performance**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2241.701	2	1120.851	25.931*	.000
Within Groups	7391.500	171	43.225		
Total	9633.201	173			

\*  $p < .05$



The post hoc tests were then carried out to compare all different combinations of the reading ability groups on their performance on the expository cloze text. The results from the post hoc tests were shown in Table 4.10. It is clear from the table that the high reading ability group had significantly better performance than the average and the low reading ability groups ( $p < .05$ ). The performance of the average and low ability groups on the expository cloze text was not significantly different ( $p > .05$ ).

**Table 4.10 Paired comparisons of the effects of reading ability levels on the expository cloze performance**

(I) ReadingAbilitylevels (J) ReadingAbilitylevels			Mean	Std. Error	Sig.	95% Confidence	
	I	J	Difference (I-J)			Interval	
Dunnett T3	1.00	2.00	5.93103(*)	1.09294	.000	3.2819	8.5801
		3.00	8.58621(*)	1.22617	.000	5.6100	11.5624
	2.00	1.00	-5.93103(*)	1.09294	.000	-8.5801	-3.2819
		3.00	2.65517	1.33175	.138	-.5718	5.8821
	3.00	1.00	-8.58621(*)	1.22617	.000	-11.5624	-5.6100
		2.00	-2.65517	1.33175	.138	-5.8821	.5718

\* The mean difference is significant at the .05 level.

Dependent Variable: ExpositoryCloze

An effect size for the one-way single factor ANOVA analysis of the expository cloze text performance was calculated, using the omega squared ( $\omega^2$ ) (see Appendix L for the equation). This resulted in a large effect size,  $\omega^2 = .22$ .

#### 4.2.2 Effects of text types on rational deletion cloze test performance

As shown earlier, the initial results from the two-way ANOVA analysis with replication indicated that the two text types, namely narrative and expository, had significant effects on the cloze test performances of the three reading ability groups. At this stage, the dependent  $t$ -test, or paired samples  $t$ -test was used to compare the differences between the scores gained from the narrative and the expository cloze texts. Table 4.11 and Table 4.12 showed the details of the standard deviations and the standard error means of the two cloze texts. On average, the participants had a better performance on the narrative cloze text ( $M = 22.76$ ,  $SE = .64$ ) than on the expository cloze text ( $M = 19.28$ ,  $SE = .57$ ). It was noted that the Pearson correlation between

the two cloze texts was large and significant correlated,  $r = .977, p < .05$ . According to Field (2009, 330), it is possible that the two conditions will correlate when the repeated measures are used. Here, the ability groups are the repeated measures in that they performed on both the narrative and the expository cloze texts. Another factor may arise from the pattern of item deletion, in which there are the same amounts of each text items on both cloze texts. From Table 4.13, it was found that two text types were significantly different,  $t = 23.46, p < .05$ .

**Table 4.11 Means, Standard deviations of the narrative and expository cloze text types**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Narrativecloze	22.7586	174	8.45110	.64068
	Expositorycloze	19.2816	174	7.46212	.56570

**Table 4.12 The correlations between the narrative and expository cloze texts**

		N	Correlation	Sig.
Pair 1	Narrativecloze & Expositorycloze	174	.977	.000

**Table 4.13 The comparison of the narrative and expository cloze test performance**

		Mean	Std. Deviation	Paired Differences		t	df	Sig. (2-tailed)
				Std. Error Mean	95% Confidence Interval of the Difference			
				Lower	Upper			
Pair 1	Narrativecloze - Expositorycloze	3.477	1.955	.1482	3.184 3.769	23.46*	173	.000

\*  $p < .05$

An effect size was then calculated for the effect of text types on the rational deletion cloze test performance, using the estimation of Pearson correlation coefficients ( $r$ ) (see Appendix L for the equation). This resulted in a large effect size,  $r = 0.46$ .

### 4.2.3 Answers to First Three Research Questions in the Main Study

*Research questions 1: Do students' different reading ability levels have a significant effect on their rational deletion cloze test performance?*

*Hypothesis 1: There is a significant difference in the average scores gained from the rational deletion cloze test*

There was a significant effect of students' reading ability levels on their rational deletion cloze test performance. That is, there was a significant difference in the average scores of students with different reading ability levels gained from the rational deletion cloze test ( $p < .05$ ).

The effect of the three reading ability groups on their performance on the narrative cloze text was significant,  $F = 29.903$ ,  $p < .05$ . The effect was large,  $\omega^2 = .26$ , which represents a substantial finding. The paired comparisons revealed that each group of reading ability levels differed significantly in their performance on the narrative cloze text ( $p < .05$ ), and the high reading ability group outperformed the average and the low ability groups ( $p < .05$ ).

The effect of the three reading ability groups on their performance on the expository cloze text was significant,  $F = 25.932$ ,  $p < .05$ . The effect was substantial,  $\omega^2 = .22$ , which represents a large effect size. The paired comparisons revealed that the high reading ability group had significantly had better performance than the average and the low reading ability groups ( $p < .05$ ). The performance of the average and low ability groups on the expository cloze text was found not significantly different ( $p > .05$ ).

*Research question 2: Do different text types have different effects on students' rational deletion cloze test performance?*

*Hypothesis 2: There is a significant difference in students' average scores gained from the narrative cloze and the expository cloze test performance.*

There was a significant effect of the two text types on the participants' cloze test performance ( $p < .05$ ). That is, there was a significant difference in the average scores gained from the narrative and the expository cloze texts,  $t = 23.46, p < .05$ .

On average, the participants had higher scores on the performance of the narrative cloze text ( $M = 22.76, SE = .64$ ) than on the performance of the expository cloze text ( $M = 19.28, SE = .57$ ). The effect of the two text types on the performance of the participants was quite large,  $r = 0.46$  and so represents a substantial finding.

*Research questions 3: Is there a significant interaction effect between reading ability levels and text types on students' rational deletion cloze test performance?*

*Hypothesis 3: There is a significant interaction effect between the reading ability levels and the text types on students' average rational deletion cloze scores.*

There was no significant interaction effect of the reading ability levels and text types on students' rational deletion cloze test performance ( $p > .05$ ).

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### **4.3 The use of reading strategies on performing the rational deletion cloze test**

The answers to the fourth research question were presented in two different aspects. The first aspect was the answer to the question concerning the use of reading strategies on performing the narrative cloze test. The second aspect was concerning the use of reading strategies on performing the expository cloze test.

#### **4.3.1. The use of reading strategies on performing the narrative cloze test**

To answer the fourth research question, the Kruskal Wallis  $H$  tests were used. Table 4.14 showed the results of the use of reading strategies on the narrative cloze text by the participants of different reading levels. It was found that all participants (100%) in each ability group used the strategies of “reading the whole cloze passage before working on the blanks” and “using context to restore the cloze blanks.” The second and the third most use reading strategies were “translating” and “using prior or world knowledge” respectively. “Skipping unknown words while reading the cloze passage” and “looking for key words and phrases” were equally used. While the strategy of “making inferences” was used the least, none of the participants employed the strategy of “using main idea” upon their working on the narrative cloze text. Overall, the use of each reading strategy by the three reading ability groups was found significantly different ( $p < .05$ ).



**Table 4.14** The percentages and the *H* values of reading strategies use on the narrative cloze

Strategies	High-reading ability group	Average-reading ability group	Low-reading ability group	$\chi^2$
1. reading the whole cloze passage before working on the blanks	58 (100%)	58 (100%)	58 (100%)	.00
2. skipping unknown words while reading the cloze passage	30 (51.7%)	50 (86.2%)	52 (89.7%)	131.00*
3. using sentence structures	51 (87.9%)	32 (55.2%)	28 (48.3%)	110.00*
4. using rhetorical patterns of organization	40 (69%)	32 (55.2%)	28 (48.3%)	99.00*
5. focusing on vocabulary	55 (94.8%)	33 (56.9%)	33 (56.9%)	120.00*
6. using context to restore the cloze blanks	58 (100%)	58 (100%)	58 (100%)	.000
7. looking for key words and phrases	58 (100%)	42 (72.4%)	32 (55.2%)	131.00*
8. using punctuation	58 (100%)	31 (51.7%)	28 (48.3%)	109.00*
9. making inferences	33 (56.9)	31 (53.4%)	21 (36.2%)	84.00*
10. using main idea	-	-	-	-
11. using prior or world knowledge	54 (93.1%)	55 (94.8%)	46 (79.3%)	154.00*
12. translating	50 (86.2%)	58 (100%)	58 (100%)	165.00*
Total	545 (78.30%)	480 (68.97%)	442 (63.51%)	1466.00*

\**p* < .05

The total number of reading strategies use on the narrative cloze test performance among the three groups was found significantly different,  $H(2) = 50.52$ ,

$p < .05$ . The Monte Carlo estimate of significance (.000) indicated that the significant was genuine (Field, 2009: 564), as shown in Table 4.15

**Table 4.15 Test of significance of differences in the strategy use on the narrative cloze**

			<b>Strategy</b>
Chi-Square			50.520*
Df			2
Asymp. Sig.			.000
Monte Carlo Sig.			.000(a)
Sig.	99% Confidence Interval	Lower Bound	.000
		Upper Bound	.000

\*  $p < .001$

a Based on 10000 sampled tables with starting seed 2000000.

b Kruskal Wallis Test

c Grouping Variable: AbilityLevels

In order to test the hypothesis whether the high reading ability group used more reading strategies than the other two groups on their narrative cloze test performance, the Mann-Whitney  $U$  tests were used to make the comparisons. Here, there were three Mann-Whitney tests:

Test 1: The use of reading strategies by the high ability group compared to that of the average ability group

Test 2: The use of reading strategies by the high ability group compared to that of the low ability group

Test 3: The use of reading strategies by the average group compared to that of the low ability group

To ensure that the Type I errors did not build up to more than .05 due to the three tests, a Bonferroni correction was applied by having the critical value of .05 divided by the number of tests being conducted (Field, 2009: 565). In this case, there were three tests as shown above, *the critical value would thus fall to  $.05/3 = 0.0167$* .

Table 4.16 showed the results of the three Mann-Whitney tests. The Mann-Whitney test 1 showed that the high reading ability group used more reading strategies than the average reading ability group ( $z = -5.339$ ,  $p < 0.0167$ ). The results from Test 2 showed that the high reading ability group used more reading strategies

than the low reading ability group ( $z = -6.515$ ,  $p < 0.0167$ ). The Mann-Whitney test 3 revealed that there was no significant difference in the use of reading strategies between the average and the low reading ability groups ( $z = -1.960$ ,  $p > 0.0167$ ).

**Table 4.16 Paired comparison of reading strategies use on the narrative cloze**

	Test 1 Strategy Use	Test 2 Strategy Use	Test 3 Strategy Use
Mann-Whitney U	106389.000	92486.500	98390.500
Wilcoxon W	221829.000	190389.500	196293.500
Z	-5.339*	-6.515*	-1.960
Asymp. Sig. (2-tailed)	.000	.000	.050

\*  $p < 0.0167$

Grouping Variable: Ability levels

The next step was to estimate the effect sizes of the differences in the use of reading strategies across the three reading ability groups. The  $z$ -scores were then converted into the effect size estimate,  $r$ . The equation for converting  $z$ -scores into the Pearson correlation coefficients,  $r$ , was provided in Appendix L. For Test 1 and Test 2, being statistically significant, the large effect sizes,  $r$ , of -0.50 and -0.60 were obtained. These were the substantial findings. For Test 3, being non statistically significant, the effect size was small,  $r = -0.18$ .

Thus, it can be concluded that in terms of reading strategies use on narrative cloze test performance, the high reading ability group used more reading strategies than the average- and the low reading ability groups.

#### 4.3.2 The use of reading strategies on performing the expository cloze test

Table 4.17 showed the results from the Kruskal-Wallis  $H$  tests on the use of reading strategies on performing the expository cloze test. The similar results to the use of reading strategies on performing narrative cloze test were found in that all participants (100%) reported the use of “reading the whole cloze passage before working on the blanks” and “using context to restore the cloze blanks.,” and that “translating” and “using prior or world knowledge” were the second and the third most used strategies with the same number of use by each group of reading ability ( 50, 58 and 58 for the former and 54, 55 and 46 for the latter). The strategies of

“skipping unknown words while reading the cloze passage” and “looking for key words and phrases” were the fourth and the fifth used. It was interesting to note that the total number of strategy use for “looking for key words and phrases”, “focusing on vocabulary” and “making inferences” upon working on *both cloze texts* was the same, and that the high- and the average reading ability groups reported the strategy of “using main idea” while working on the expository cloze text.

**Table 4.17 The percentages and the *H* values of reading strategies use on the expository cloze**

Strategies	High-reading ability group	Average-reading ability group	Low-reading ability group	$\chi^2$
1. reading the whole cloze passage before working on the blanks	58 (100%)	58 (100%)	58 (100%)	.00
2. skipping unknown words while reading the cloze passage	41 (70.6%)	50 (86.2%)	52 (89.7%)	142.00*
3. using sentence structures	51 (87.9%)	32 (55.2%)	28 (48.3%)	110.00*
4. using rhetorical pattern of organization	51 (87.9%)	32 (55.2%)	28 (48.3%)	110.00*
5. focusing on vocabulary	55 (94.8%)	33 (56.9%)	33 (56.9%)	120.00*
6. using context to restore the cloze blanks	58 (100%)	58 (100%)	58 (100%)	.00
7. looking for key words and phrases	58 (100%)	42 (72.4%)	32 (55.2%)	131.00*
8. using punctuation	58 (100%)	31 (51.7%)	28 (48.3%)	116.00*
9. making inferences	33 (56.9)	31 (53.4%)	21 (36.2%)	84.00*
10. using main idea	38 (65.5%)	18 (31%)	-	55.00*
11. using prior or world knowledge	54 (93.1%)	55 (94.8%)	46 (79.3%)	154.00*

Strategies	High-reading ability group	Average-reading ability group	Low-reading ability group	$\chi^2$
12. translating	50 (86.2%)	58 (100%)	58 (100%)	165.00*
Total	605 (86.93%)	498 (71.55%)	442 (63.51%)	1544.00*

\* $p < .05$

The total number of reading strategies used on the expository cloze test performance among the three groups was also found significantly different,  $H(2) = 58.70$ ,  $p < .05$ . The Monte Carlo estimate of significance (.000) indicated that the significant was genuine (Field, 2009: 564), as shown in Table 4.18.

**Table 4.18 Test of significance of differences in the strategy use on the expository cloze**

			Strategy
Chi-Square			58.701*
Df			2
Asymp. Sig.			.000
Monte Carlo Sig.			.000(a)
Sig.	99% Confidence Interval	Lower Bound	.000
		Upper Bound	.000

\*  $p < .001$

a Based on 10000 sampled tables with starting seed 299883525.

b Kruskal Wallis Test

c Grouping Variable: AbilityLevels

The Mann-Whitney  $U$  tests were then used to make the comparisons to find out which pair(s) of ability groups were significantly different in the strategy use. Here, there were three Mann-Whitney tests:

Test 1: The use of reading strategies by the high ability group compared to that of the average ability group

Test 2: The use of reading strategies by the high ability group compared to that of the low ability group



Test 3: The use of reading strategies by the average group compared to that of the low ability group

As mentioned earlier, to ensure that the Type I errors did not build up to more than .05 due to the three tests, the Bonferroni correction was applied by dividing the critical value of .05 with the number of tests, and *the critical value fell to .05/3 = 0.0167*.

Table 4.19 showed the results of the three Mann-Whitney tests. The Mann-Whitney test 1 showed that the high reading ability group used more reading strategies than the average reading ability group ( $z = -6.726, p < 0.0167$ ). The results from Test 2 showed that the high reading ability group used more reading strategies than the low reading ability group ( $z = -6.233, p < 0.0167$ ). The Mann-Whitney test 3 revealed that there was no significant difference in the use of reading strategies between the average and the low reading ability groups ( $z = -.918, p > 0.0167$ ).

**Table 4.19 Paired comparison of reading strategies used on the expository cloze**

	<b>Test 1</b>	<b>Test 2</b>	<b>Test 3</b>
	<b>Strategy Use</b>	<b>Strategy Use</b>	<b>Strategy Use</b>
Mann-Whitney U	116187.000	104510.500	106346.500
Wilcoxon W	240438.000	202413.500	204249.500
Z	-6.726*	-6.233*	-.918
Asymp. Sig. (2-tailed)	.000	.000	.358

\*  $p < 0.0167$

Grouping Variable: Ability levels

The effect sizes of the differences in the use of reading strategies across the three reading ability groups were then calculated. The equation for converting  $z$ -scores into the Pearson correlation coefficients,  $r$ , was provided in Appendix L. For Test 1 and Test 2, being statistically significant, the large effect sizes,  $r$ , of -0.62 and -0.58 were obtained. These were the substantial findings. For Test 3, being non statistically significant, the effect size was small,  $r = -0.09$ .

Thus, it can be concluded that in terms of reading strategies use on expository cloze test performance, the high reading ability group used more reading strategies than the average- and the low reading ability groups.

### 4.3.3 Answer to the fourth research question in the main study

*Research question: Are there differences in the use of reading strategies by students with different reading ability levels in doing the rational deletion cloze test comprising two different text types?*

*Hypothesis 4: High-reading ability group use more reading strategies than the average- and low- reading ability groups.*

The use of each reading strategy by the three reading ability groups on their performing the narrative cloze test was found significantly different ( $p < .05$ ). Totally, the number of reading strategies use on the narrative cloze test performance among the three groups was significantly different,  $H(2) = 50.52, p < .05$ . Mann-Whitney tests were used to follow up this finding. A Bonferroni correction was applied and so all effects are reported at a 0.0167 level of significance. It appeared that the use of reading strategies by the high reading ability group was significantly different when it was compared to that of the average reading ability group ( $U = 106389, r = -.50$ ) and that of the low reading ability group ( $U = 92486.5, r = -.60$ ). However, the use of reading strategies by the average and the low reading ability groups was not significantly different ( $U = 98390.5, r = -.18$ ).

The use of each reading strategy by the three reading ability groups on their performing the expository cloze test was also found significantly different ( $p < .05$ ). Totally, the number of reading strategies use on the expository cloze test performance among the three groups was significantly different,  $H(2) = 58.70, p < .05$ . Mann-Whitney tests were used to follow up this finding. A Bonferroni correction was applied and so all effects are reported at a 0.0167 level of significance. It appeared that the use of reading strategies by the high reading ability group was significantly different when it was compared to that of the average reading ability group ( $U = 116187, r = -.62$ ) and that of the low reading ability group ( $U = 104510.5, r = -.58$ ). However, the use of reading strategies by the average and the low reading ability groups was not significantly different ( $U = 106346.5, r = -.09$ ).

The hypothesis was confirmed that the high reading ability groups use more reading strategies than the average reading ability group and the low reading ability

groups on their performance of the rational deletion cloze test comprising two different text types.

In terms of the reading strategies used by the three reading ability groups on performing the narrative and expository cloze test, all participants (100%) reported the use of “reading the whole cloze passage before working on the blanks” and “using context to restore the cloze blanks.” The second and the third most use reading strategies were “translating” and “using prior or world knowledge.” The use of “skipping unknown words while reading the cloze passage” and “looking for key words and phrases” were approximately the same. The strategies of “making inferences” and “using main idea” were the least used, and none of the participants reported the “using main idea” strategy on their narrative cloze test performance.

#### **4.4 The use of contextual information on performing the rational deletion cloze test**

There are two main parts of the statistical analyses to obtain the answers to the fifth and last research question. The first part was a statistical analysis on the participants’ reports of their use of contextual information on the questionnaires. This was to find out whether there was any difference in the use of information sources of the three reading ability groups on their restoring the cloze gaps. The second part was a statistical analysis of the verbal reports given by the fifteen participants who participated in the retrospective interviews. These participants were asked to report on the types or sources of contextual information they used to solve each cloze gap.

##### **4.4.1 The use of contextual information as reported on the questionnaires**

The Kruskal Wallis  $H$  test was firstly used to compare the general differences in the use of different types of contextual information by the three reading ability groups upon their filling the cloze gaps. The Mann-Whitney tests were then used in the post hoc procedures to find the differences in all combinations of the paired comparisons.

#### 4.4.1.1 The use of contextual information on the narrative cloze

The Kruskal Wallis  $H$  test was firstly used to compare the general differences in the use of different types of contextual information by the three reading ability groups upon their filling the cloze gaps. Table 4.20 showed that there was a significant difference in the use of each type of information by the three reading ability groups on their restoring the narrative cloze gaps. The “information from your world knowledge” type was mostly used by all the three groups. The “information in the following sentences” type was used the least.

**Table 4.20** The percentages and  $H$  values of contextual information used on the narrative cloze

Types of contextual information used in restoring the cloze gaps	High-reading ability group	Average reading ability group	Low-reading ability group	$\chi^2$
information in the clause where the gap appears	47 (81%)	50 (86.21%)	50 (86.21%)	146.00*
information in the sentence where the gap appears	47 (81%)	50 (86.21%)	50 (86.21%)	146.00*
information in the preceding sentences	52 (89.7%)	49 (84.5%)	45 (77.6%)	145.00*
information in the following sentences	28 (48.3%)	15 (25.9%)	7 (12.1%)	49.00*
information from your world knowledge	53 (91.37)	55 (94.8%)	50 (86.2%)	157.00*
Total	227 (78.28%)	219 (75.52%)	202 (69.66%)	647.00*

$p < .05$

The total use of contextual information by the three reading ability groups on their filling the narrative cloze gaps was found significantly different,  $H(2) = 24.089$ ,  $p < .05$ . The Monte Carlo estimate of significance (.000) indicated that the significant was genuine (Field, 2009: 564), as shown in Table 4.21.

**Table 4.21 Test of significance of differences in the use of contextual information on the narrative cloze**

		Use of contextual information	
Chi-Square			24.089*
Df			2
Asymp. Sig.			.000
Monte Carlo Sig.			.000(a)
	99% Confidence Interval	Lower Bound	.000
		Upper Bound	.000

\*  $p < .001$

a Based on 10000 sampled tables with starting seed 299883525.

b Kruskal Wallis Test

c Grouping Variable: Ability levels

Then the paired comparisons were conducted using the Mann-Whitney  $U$  tests to test differences in the use of contextual information in all different combinations of the reading ability groups. There were three Mann-Whitney tests:

Test 1: The use of contextual information by the high reading ability group compared to that of the average ability group

Test 2: The use of contextual information by the high reading ability group compared to that of the low reading ability group

Test 3: The use of contextual information by the average reading ability group compared to that of the low ability group

A Bonferroni correction was applied to ensure that Type I error did not build up to more than .05 due to the three tests, resulting in the critical value of 0.0167. The results of the Mann-Whitney tests were provided in Table 4.22. It was found that the high reading ability group used more contextual information than the average group ( $z = -4.327$ ,  $p < .0167$ ) and than the low reading ability group ( $z = -2.707$ ,  $p < .0167$ ). Test 3 revealed there was a difference in the use of contextual information between the average and the low reading ability groups ( $z = 3.930$ ,  $p < .0167$ ).



**Table 4.22 Paired comparisons of contextual information use on the narrative cloze**

	<b>Test 1 Use of contextual information</b>	<b>Test 2 Use of contextual information</b>	<b>Test 3 Use of contextual information</b>
Mann-Whitney U	19050.000	19560.000	17775.000
Wilcoxon W	44928.000	40063.000	38278.000
Z	-4.327*	-2.707*	-3.930*
Asymp. Sig. (2-tailed)	.000	.007	.000

\*  $p < 0.0167$ 

Grouping Variable: Ability levels

The effect sizes for the Mann-Whitney tests were estimated, using the equation for converting  $z$ -scores into the Pearson correlation coefficients,  $r$  (see Appendix L). Overall, the effect sizes,  $r$ , for Test 1-3 were medium, -0.40, -0.25, and -0.36 respectively.

Here, it can be concluded that in terms of the use of contextual information as the sources for filling the narrative cloze gaps, the high reading ability group used more sources of information than the average and the low reading ability groups.

#### **4.4.1.2 The use of contextual information on the expository cloze**

The Kruskal Wallis  $H$  test was applied once again to compare the differences in the use of contextual information by the three reading ability groups upon their filling the expository cloze gaps. Table 4.23 showed that there was a significant difference in the use of each type of information by the three reading ability groups on their restoring the expository cloze gaps. The similar results to those found in the narrative cloze was found in that the “information from your world knowledge” type was mostly used by all the three groups, and that the “information in the following sentences” type was used the least. There were some slight differences from what have been found in the narrative cloze in that the sources of information in the sentence where the gap appears and in the preceding sentences were slightly more used.

**Table 4.23** The percentages and *H* values of contextual information used on the expository cloze

Types of information used in restoring cloze gaps	High-reading ability group	Average-reading ability group	Low-reading ability group	$\chi^2$
information in the clause where the gap appears	47 (81%)	48 (82.7%)	50 (86.21%)	144.00*
information in the sentence where the gap appears	48 (82.7%)	50 (86.21%)	50 (86.21%)	147.00*
information in the preceding sentences	53 (91.4%)	50 (86.21%)	45 (77.6%)	147.00*
information in the following sentences	25 (43.1%)	15 (22.4%)	7 (12.1%)	46.00*
information from your world knowledge	53 (91.37)	52 (89.6%)	46 (79.3%)	150.00*
Total	226 (77.93%)	215 (74.14%)	198 (68.28%)	638.00*

$p < .05$

The total use of contextual information by the three reading ability groups on their filling the expository cloze gaps was found significantly different,  $H(2) = 62.812$ ,  $p < .05$ . The Monte Carlo estimate of significance (.000) indicated that the significant was genuine (Field, 2009: 564), as shown in Table 4.24.

**Table 4.24** Test of significance of differences in the use of contextual information on the expository cloze

		Use of contextual information
Chi-Square		62.812*
Df		2
Asymp. Sig.		.000
Monte Carlo Sig.		.000(a)
	99% Confidence Interval	
	Lower Bound	.000
	Upper Bound	.000

\*  $p < .001$

- a Based on 10000 sampled tables with starting seed 926214481.
- b Kruskal Wallis Test
- c Grouping Variable: Ability levels

The post hoc procedures were then carried out, using the Mann-Whitney tests, to test differences in the use of contextual information in all different combinations of the reading ability groups. There were three Mann-Whitney tests:

Test 1: The use of contextual information by the high reading ability group compared to that of the average ability group

Test 2: The use of contextual information by the high reading ability group compared to that of the low reading ability group

Test 3: The use of contextual information by the average reading ability group compared to that of the low ability group

A Bonferroni correction was applied to ensure that Type I error did not build up to more than .05 due to the three tests, resulting in the critical value of 0.0167. The results of the Mann-Whitney tests were provided in Table 4.25. There was no significant difference in the use of contextual information as sources to solve the expository cloze gaps between the high and the average reading ability groups ( $z = -1.103$ ,  $p > .0167$ ). However, there were significant differences in the use of contextual information between the high and the low ability groups ( $z = -6.546$ ,  $p < .0167$ ), and between the average and the low ability groups ( $z = -7.582$ ,  $p < .0167$ ).

**Table 4.25 Paired comparisons of contextual information use on the expository cloze**

	<b>Test 1 Use of contextual information</b>	<b>Test 2 Use of contextual information</b>	<b>Test 3 Use of contextual information</b>
Mann-Whitney U	22848.000	14275.000	12665.000
Wilcoxon W	46068.000	33976.000	32366.000
Z	-1.103	-6.546*	-7.582*
Asymp. Sig. (2-tailed)	.270	.000	.000

\*  $p < 0.0167$

Grouping Variable: Ability levels

The estimation of the effect sizes for the Mann-Whitney tests revealed that the effect sizes for the differences in the use of contextual information between the high and the low ability groups and between the average and the low groups were quite large,  $r = 0.60$ , and  $r = 0.70$  while the effect size for the non-significant difference between the high and the average ability groups was small,  $r = 0.10$ .

In conclusion, on solving the expository cloze gaps, there were significant differences in the use of contextual information between the high and the low reading ability groups, and between the average and the low ability groups. The use of contextual information between the high and the average ability groups was not significantly different.

#### **4.4.2 The use of contextual information as reported on the retrospective interviews**

Fifteen participants were randomly selected to participate in the retrospective interviews. Five of them were randomly selected from the high reading ability groups, another five from the average ability group, and the other five from the low ability group. They were first asked to report on their performance on the narrative and expository cloze test. Their verbal reports were then rated by the two raters on their use of contextual information to solve each cloze gap, using the guidelines provided in Appendix I. The inter-rater agreement ratio (Yamashita, 2003) was 100 %.

##### **4.4.2.1 Examples taken from the verbal reports**

The following are the examples taken from the verbal reports to illustrate how the participants use the contextual information to fill the cloze gaps. The verbal reports had been given in Thai and they were translated into English by the researcher. It should be noted that the answers to each item could be either correct or incorrect since the focus of this study was restricted to the use of contextual information. All in all, these data reflected the participant perspectives and the researcher's interpretation (Bogdan & Biklen, 1998, cited in Yamashita, 2003: 276).

The details of each cloze item concerning the required information can be found on page 65 of Chapter Two.

### **The “Within Clause” type of information**

This is the source of information in which the participants looked for the cue in the clause where the gap appeared in order to answer the item. From the observations all reading ability groups did not have much trouble using this type of information as sources in restoring the gaps.

Example 1 (a high ability participant, working on item 3 of the narrative cloze):  
For item 3, I used “together” because the phrase “dance and play” should be followed by the adverb “together.” The phrase is quite familiar to me. I have often seen the phrase like “do something together” or “do this and that together.” That’s why I filled this blank with the word “together.”

Example 2 (an average ability group, working on item 5 of the expository cloze)  
For this item, I thought an article “the” was the correct answer since the phrase “the same” is so familiar to me, and I have been taught to use “the same” too.

Example 3 (a low reading ability group, working on item 6 of the narrative cloze)  
For this item, I guess “about” was the answer for this blank because the phrase “worry about” is somehow familiar to me.” Therefore, I was sure that “about” was the correct answer for this blank.

### **The “Across Clause, Within Sentence” type of information**

This is the source of information in which the participants looked for the cue in the sentence where the gap appears to answer the item. In this case, the sentence consists of more than one clause. From the observations, the participants in all three ability groups did not have much trouble in answering these types of items on the narrative cloze.

Example 4 (a high ability participant, working on item 4 of the narrative cloze):  
For item 4, the answer that came up to my mind when I saw it were “said”, “answered” and “replied” but I chose “said” because it was followed by the quotation marks which signify the statement of what has been said, and I saw the word “said” used in the first paragraph, too.

Example 5 (an average ability participant, working on item 12 of the narrative cloze):  
For this item, I used the word “not” for ‘not hungry’ because the blank was followed by the reason that made him not hungry. You see, the phrase ‘enough food’ in the following clause gave the reason for not being hungry.



Example 6 (a low ability student working on item 19 of the narrative text):  
 For item 19, I wrote down “next” because I saw this word in the preceding phrase, “when the next summer came.” And I was quite sure that it would be the correct answer since the summer must be followed by the winter. And the Grasshopper should have a lesson. If he doesn’t work in the summer, he won’t have anything to eat in the next winter.

However, the items that required this type of information on the expository cloze caused great trouble to the average and the low reading ability groups. They seemed to know the sources of the information as the cues, but they could not restore the blanks with the correct answers.

Example 7 (an average ability participant, working on item 12 of the expository cloze):

I chose to fill the blank with the word “they” because I thought the sentence was about retired business people. And this blank, which occurs in the same sentence and follows the comma, should need the same subject as mentioned in the first part. Hence, the pronoun used at the beginning of the second clause would be “they.” I was not sure of the answer, though. I just guessed  
 [The semantically acceptable word for this item is “who.”]

Example 8 (a low ability participant, working on item 16 of the expository cloze):

I chose the word “homeless” for this blank because I saw in the preceding clause that old people help other people. And, in the following clause are the examples of the people who are helped. So I guess the “homeless” are the people who have problem too.  
 [The semantically acceptable words for this item are “trouble”, “troubles”, and “problems.”]

### **The “Across Sentence” type of information**

This is the text-level source of information in which the participants look for the cues outside the sentential level. In order to successfully restore the cloze blank, the participants were required to read beyond the sentence boundary. It seemed that all the three reading ability groups attempted to use this source of information in their restoring the cloze blanks required the text level information.

Example 9 (a high ability participant, working on item 8 of the narrative cloze):  
For this item, I used the word “then” because in the preceding sentences Grasshopper asked Ant to stop working and have some fun, but Ant did not agree with him. So, the next step was that Ant walked away. “Then” should be used to introduce the next step.

[The semantically acceptable words for this item are “But”, “However”, and “Nevertheless.”]

Example 10 (an average ability participant, working on item 11 of the narrative cloze):

I decided to use the word “rice” for this blank because in the preceding sentence, it said “... Ant eating some rice.” And in the first paragraph, it said, “Ant passed by, carrying along a stalk of rice....” From the beginning of the story, Ant was seen as working hard to collect rice, so I was sure that “rice” would be the correct answer for this blank.

Example 11 (a low ability participant, working on item 15 of the narrative cloze):

I wrote “hungry” for this blank because I could guess from the story in the preceding paragraphs. Grasshopper did not work to collect food for the winter, so when the winter came he didn’t have food and he should be hungry. And I saw the word “hungry” in the preceding paragraph, too.

Example 12 (an average ability participant, working on item 5 of the expository cloze):

I put the word “people” in this blank because I thought the context was about the old people. You see, in the preceding sentence, the first clause mentioned “older people” as the subject, and it is said that “the government pays them ... to help them live” in the second clause. All these things made me sure that “people” was a suitable word for this blank.

Example 13 (a high ability participant, working on item 10 of the expository cloze):

For this item, I thought it must be a place for a conjunction. And, the words that came up to my mind were “Anyway” and “However” since this blank signals the contrast to what have been talked about in the first part of the passage. And, I could guess from the main idea sentence in the first paragraph, “Long life in rich countries is already causing both good and bad things.” The bad things have already been talked about. Now, it should be about “good things” and the clause right after this conjunction has the phrase “help society”, which is a good thing.

Example 14 (a low ability participant, working on item 17 of the expository cloze):

For item 17, I used the word “can” for “also can” because it was similar to what has been said in the first line of the preceding paragraph, “...people *also have* free time for community.” Yeah, this sentence has similar meaning to Thai that, “old people *can* look after children while parents are working.”

[The semantically acceptable words for this item are “free”, “able,” and “available.”]

### **The “Extra Textual” type of information**

The type of information is not provided in the text. The participants have to relate the information in the text to their prior or world knowledge. The high reading ability group did not have any problem with using this type of information to restore the cloze gaps. The average ability group tended to use this type of information more in their solving the expository cloze items than in the narrative cloze. Similarly, a few participants in the low reading ability group used this type of information in their solving the expository cloze items. None of them used this type of information as the sources of the answers in the narrative cloze.

Example 15 (a high ability participant, working on item 7 of the narrative cloze):

For item 7, I filled the blank with “fun.” The preceding sentence, which says something about plenty of food and no worry about winter, and the following sentence, which says something like no worry of working hard, made me think that they could have some fun. Another thing was that the expressions, “Have fun” and “Let’s have fun” sound familiar to me.

Example 16 (an average ability participant, working on item 20 of the narrative cloze):

I used the word “happy” for this blank because it should be a happy ending of the story. You see, the grasshopper starts to work hard because he has a lesson from the last winter. This is good for him, isn’t it? So, “happy” should be appropriate for this item.

[The semantically acceptable words for this item are “prepare”, “work” and “save.”]

Example 17 (an average participant, working on item 4 of the expository cloze):

I used the word “money” for this blank for two reasons. First, when I read the sentence in which this blank appears, it reminded me of what I have seen in our society. Old people are paid some money by the government. Second, the word “pays”, in my opinion, should be followed by “money.”

Example 18 (a low ability group, working on item 15 of the expository cloze):

For item 15, I chose the word “teach.” The context here is like what we have seen in our society that old people teach children to read. I could not think of any other word that could fill this blank better than this word.

### **Guessing**

This category refers to those items that (1) the participants mentioned the use of certain type of information as a cue for the answer but with uncertainty, or (2) the participant did not mention any use of information as a cue for the answer at all. The low reading ability participants used “guessing” most. The guess could lead to both correct and, usually, incorrect answers.

Example 19 (an average ability participant, working on item 6 of the expository cloze):

For this item, I was not sure at all. I guessed it should be “of.” When I translated the whole sentence into Thai, the word “of” sounded correct for this blank.

[The semantically acceptable words for this item can be “in” or “government.”]

Example 20 (a low ability participant, working on item 17 of the narrative cloze):

For item 17, I used the word “talk.” because it seemed to me that Ant talked to Grasshopper to make him realize that he was foolish. Well, I don’t know whether my guess was correct. It seemed that I understood the context but I could not think of any appropriate word to fill the blank.

#### **4.4.2.2 Statistical analysis of the verbal reports**

After the verbal reports were rated, the frequencies were counted and averaged for the use of each type of contextual information. Table 4.26 and 4.27 showed the use of each type of contextual information by the three reading ability groups on their narrative and expository cloze test performance. In each cell, the number on the first line was the averaged frequency counts by the two raters; on the second line, the mean proportions and the standard deviations, which were in parentheses, were provided. Not surprisingly, the high reading ability group used more contextual information in all four categories. The low reading ability group used the least of all types of information. They were found solving the cloze gaps by guessing mostly. Moreover, the amount of guessing portrayed in the two tables below suggested that the expository cloze text was difficult than the narrative cloze text.

**Table 4.26 Averaged frequencies, mean proportions and standard deviation of contextual information use on the narrative cloze**

Types of information used in restoring cloze gaps	High reading ability group	Average reading ability group	Low reading ability group	The whole group
1. Within Clause (6 items)	30 6.00 (.00)	23 4.60 (.89)	8 1.60 (.55)	61 4.07 (1.98)
2. Across Clause, Within Sentence (3 items)	15 3.00 (.00)	11 2.20 (.45)	11 2.20 (.45)	37 2.47 (0.52)
3. Across sentence (9 items)	39 7.80 (.55)	39 7.80 (.55)	25 5.00 (.00)	103 6.07 (0.88)
4. Extra textual (2 items)	9 1.80 (.45)	4 0.80 (.45)	- .00 (.00)	13 0.87 (0.83)
5. Guessing	7 1.40 (.55)	23 4.60 (.55)	56 11.20 (.45)	86 5.73 (4.25)
Total	100	100	100	300

**Table 4.27 Averaged frequencies, mean proportions and standard deviation of contextual information use on the expository cloze**

Types of information used in restoring cloze gaps	High reading ability group	Average reading ability group	Low reading ability group	The whole group
1. Within Clause (6 items)	25 5.00 (.71)	23 4.60 (1.14)	10 2.00 (.00)	58 3.87 (1.55)
2. Across Clause, Within Sentence (3 items)	14 2.80 (.45)	3 0.60 (.55)	3 0.60 (.55)	20 1.33 (1.18)
3. Across sentence (9 items)	37 7.40 (.55)	26 5.20 (1.79)	23 4.60 (.55)	86 5.73 (1.62)
4. Extra textual (2 items)	10 2.00 (.00)	9 1.80 (.45)	6 1.20 (.45)	25 1.67 (.49)
5. Guessing	14 2.80 (.45)	39 7.80 (.45)	58 11.60 (1.14)	111 7.40 (3.79)
Total	100	100	100	300



To examine whether there was a significant difference in the proportion of each five categories, the Friedman tests ( $X^2$ ) were applied. For the narrative cloze test, the results showed that there were significant differences for all groups, as shown in Table 4.28.

**Table 4.28 Paired comparisons of contextual information use on the narrative cloze**

	High reading ability group	Average reading ability group	Low reading ability group	The whole group
N	5	5	5	15
Chi-Square	19.093*	19.429*	19.755*	36.901*
df	4	4	4	4
Asymp. Sig.	.001	.001	.001	.000
Exact Sig.	.000	.000	.000	.000
Point Probability	.000	.000	.000	.000

$p < .05$

a Friedman Test

Multiple comparisons were then performed using the Wilcoxon signed-ranks tests. For each reading ability group, the information categories, excluding the guessing category, were first rank-ordered, and then the difference in the use of two consecutive categories was tested. Since the comparisons were repeated five times, a Bonferroni correction was used to ensure that the Type I error did not build up to more than .05, resulting in the critical value of  $.05/5 = 0.01$ . And, the five tests were as follows.

Test 1 The use of “across sentence” information compared to that of “within clause” information

Test 2 The use of “within clause” information compared to that of “within sentence” information

Test 3 The use of “within sentence” information compared to that of “extra textual” information

Test 4 The use of “across sentence” information” compared to that of “extra textual” information

Test 5 The use of “across sentence” information compared to that of “within sentence” information

The results showed that there were no significant differences for each ability group (see Appendix K), only the whole group reached the significance level as shown in Table 4.29. Since the “across sentence” type of information was mostly used and ranked first in the order, this result indicated that the rational deletion narrative cloze used in this study could provoked “cognitive processes requiring text-level information more than any other type of information” (Yamashita, 2003: 278).

**Table 4.29 Comparisons of contextual information use by the whole group on the narrative cloze**

The whole group	Test 1	Test 2	Test 3	Test 4	Test 5
Z	-3.443*(a)	-2.816*(a)	-3.487*(a)	-3.449*(a)	-3.427*(a)
Asymp. Sig. (2-tailed)	.001	.005	.000	.001	.001
Exact Sig. (2-tailed)	.000	.003	.000	.000	.000
Exact Sig. (1-tailed)	.000	.001	.000	.000	.000
Point Probability	.000	.000	.000	.000	.000

$p < .001$

a Based on positive ranks.

b Wilcoxon Signed Ranks Test

The whole process to test differences in the proportion of the five categories, using the Friedman tests, as shown in Table 4.30, and the process of multiple comparisons were repeated again for the expository cloze. And, the results showed that there were no significant differences for each ability group (see Appendix K), only the whole group reached the significance level as shown in Table 4.31.

**Table 4.30 Differences in the use of all categories of the contextual information on performing the expository cloze**

	High reading ability group	Average reading ability group	Low reading ability group	The whole group
N	5	5	5	15
Chi-Square	18.863*	19.458*	19.51*	42.597*
df	4	4	4	4
Asymp. Sig.	.001	.001	.001	.000
Exact Sig.	.000	.000	.000	.000
Point Probability	.000	.000	.000	.000

$p < .05$

a Friedman Test

**Table 4.31 Comparisons of contextual information use by the whole group on the expository cloze**

The Whole group	Test 1	Test 2	Test 3	Test 4	Test 5
Z	-3.223*(a)	-3.438*(a)	-1.291(a)	-3.437*(a)	-3.482*(a)
Asymp. Sig. (2-tailed)	.001	.001	.197	.001	.000
Exact Sig. (2-tailed)	.000	.000	.307	.000	.000
Exact Sig. (1-tailed)	.000	.000	.154	.000	.000
Point Probability	.000	.000	.094	.000	.000

$p < .001$

a Based on positive ranks.

b Wilcoxon Signed Ranks Test

This again indicated that the rational deletion expository cloze used in this study could provoked “cognitive processes requiring text-level information more than any other type of information.”

To test the hypothesis whether the high reading ability groups used more text-level information than the other two groups, the Kruskal-Wallis and the Mann-Whitney tests were then applied. The results of the Kruskal-Wallis tests showed that there were significant differences in the use of text-level information by the three reading ability groups on their performance of both the narrative,  $H(2) = 10.116$ ,  $p < .05$ , and the expository cloze,  $H(2) = 9.249$ ,  $p < .05$ . Although the alpha level

obtained from the Monte Carlo estimate of significance (.000) was higher than the critical value of .000, as shown in Table 4.32, the significance found on the use of contextual information on two different text types was very close the critical value.

**Table 4.32 Test of significance of differences in the use of contextual information provided on the verbal reports**

	Narrative	Expository
Chi-Square	10.116*	9.249*
df	2	2
Asymp. Sig.	.006	.010
Monte Carlo Sig.	.001(a)	.002(a)
99% Confidence Bound		
Lower	.000	.001
Upper	.002	.003

$p < .001$

a Based on 10000 sampled tables with starting seed 1314643744 and 926214481.

b Kruskal Wallis Test

c Grouping Variable: Types

The Mann-Whitney tests were then applied for the paired comparisons. Since the comparisons were repeated three times for each cloze text, a Bonferroni correction was used. Thus, the alpha level was adjusted to 0.0167.

The results showed that for solving the narrative cloze gaps, the high reading ability group was not significantly different in the use of text level information from the average reading ability group,  $z = .000$ ,  $p > .0167$ . However, there were significant differences in the use of text level information between the high and the low ability groups,  $z = -2.455$ ,  $p < .0167$ , and between the average and the low ability groups,  $z = -2.455$ ,  $p < .0167$ , as shown in Table 4.33.

**Table 4.33 Paired comparisons on the use of contextual information on narrative cloze provided on the verbal reports**

<b>Narrative Cloze</b>	<b>High/Average</b>	<b>High/low</b>	<b>Average/Low</b>
Mann-Whitney U	12.500	1.000	1.000
Wilcoxon W	27.500	16.000	16.000
Z	.000	-2.455*	-2.455*
Asymp. Sig. (2-tailed)	1.000	.014	.014
Exact Sig. [2*(1-tailed Sig.)]	1.000(a)	.016(a)	.016(a)
Exact Sig. (2-tailed)	1.000	.024	.024
Exact Sig. (1-tailed)	.643	.012	.012
Point Probability	.286	.012	.012

$p > .0167$

a Not corrected for ties.

b Grouping Variable: Types

In solving the expository cloze text, the results showed that there were significant differences in the use of text-level information between the high and the average reading ability groups,  $z = -2.447$ ,  $p < .0167$ , and between the high and the low ability groups,  $z = -2.668$ ,  $p < .0167$ . However, there was no significant difference in the use of text-level information between the average and the low ability groups,  $z = -.669$ ,  $p > .0167$ , as shown in table 4.34.

**Table 4.34 Paired comparisons on the use of contextual information on expository cloze provided on the verbal reports**

<b>Expository</b>	<b>High/Average</b>	<b>High/Low</b>	<b>Average/low</b>
Mann-Whitney U	1.000	.000	9.500
Wilcoxon W	16.000	15.000	24.500
Z	-2.447*	-2.668*	-.669
Asymp. Sig. (2-tailed)	.014	.008	.504
Exact Sig. [2*(1-tailed Sig.)]	.016(a)	.008(a)	.548(a)
Exact Sig. (2-tailed)	.024	.008	.683
Exact Sig. (1-tailed)	.012	.004	.341
Point Probability	.012	.004	.095

$p > .0167$

a Not corrected for ties.

b Grouping Variable: Types



#### 4.4.3 Answer to the fifth research question in the main study

*Research question: Are there differences in the use of contextual information by students with different reading ability levels in their filling the cloze gaps?*

*Hypothesis 5: High reading ability students use more text level information than the average and the low reading ability students.*

There are differences in the use of contextual information by students with different reading ability levels in their filling the cloze gaps. The use of contextual information among the three reading ability groups on their narrative cloze test performance was significantly different,  $H(2) = 24.089, p < .05$ . Mann-Whitney tests were used to follow up this finding. A Bonferroni correction was applied and so all effects are reported at a 0.0167 level of significance. It appeared that the high reading ability group significantly used more contextual information than the average reading ability group ( $U = 19050.00, r = -0.40$ ) and than the low reading ability group ( $U = 19560.00, r = -0.25$ ). The average reading ability group also significantly used more contextual information than the low ability group,  $U = 17775.00, r = -0.36$ .

The use of contextual information among the three reading ability groups on their expository cloze test performance was significantly different,  $H(2) = 62.812, p < .05$ . Mann-Whitney tests were used to follow up this finding. A Bonferroni correction was applied and so all effects are reported at a 0.0167 level of significance. It appeared that there was no significant difference in the use of contextual information as sources to solve the expository cloze gaps between the high and the average reading ability groups ( $U = 22848.00, p > .0167$ ). However, there were significant differences in the use of contextual information between the high and the low ability groups ( $U = 14275.00, p < .0167$ ), and between the average and the low ability groups ( $U = 12665.00, p < .0167$ ).

From the observations on the verbal reports obtained via the retrospective interviews, it was found that the high and the average reading ability groups did not have much trouble using the “Within Clause” type of information as sources in restoring the gaps. For the use of the “Across Clause, Within Sentence” type of information, the participants in all three ability groups did not have much trouble using

this type of information to restore the narrative cloze gaps that required this type of information. However, the items that required this type of information on the expository cloze caused trouble to the average and the low reading ability participants. For the “Across Sentence” type of information, it seemed that all participants from the three reading ability groups attempted to use this source of information in their restoring the cloze blanks which required the text level information. For the “Extra Textual” type of information, the high reading ability participants did not have any problem with the items that required this source of information. The average ability group tended to use this type of information more in their solving the expository cloze items than in the narrative cloze. Similarly, a few participants in the low reading ability group used this type of information in their solving the expository cloze items. None of them used this type of information as the sources of the answers in the narrative cloze. The low reading ability participants used “guessing” most. The guess could lead to both correct and, usually, incorrect answers.

In comparing the use of each type of information, including guessing, the results from the Friedman tests showed that there were significant differences in the proportion of each contextual information used by all groups. Upon filling the narrative cloze blanks, there were significant differences in the proportion of the contextual information used: the high reading ability group,  $X^2(4) = 19.093, p < .05$ ; the average reading ability group,  $X^2(4) = 19.429, p < .05$ ; the low reading ability group,  $X^2(4) = 19.755, p < .05$ . Upon filling the expository blanks, there were also significant differences in the proportion of each contextual information used: the high reading ability group,  $X^2(4) = 18.863, p < .05$ ; the average reading ability group,  $X^2(4) = 19.458, p < .05$ ; the low reading ability group,  $X^2(4) = 19.51, p < .05$ . The paired comparisons of all combinations of contextual information, using Wilcoxon tests, revealed that only the results for the whole group reached the significant level.

Concerning the use of text-level information, the Kruskal-Wallis tests showed that there were significant differences in the use of text-level information by the three reading ability groups on their performance of both the narrative,  $H(2) = 10.116, p < .05$ , and the expository cloze,  $H(2) = 9.249, p < .05$ . Mann-Whitney tests were

used to follow up this finding. A Bonferroni correction was applied and so all the differences are reported at a 0.0167 level of significance. It appeared that for solving the narrative cloze gaps, the high reading ability group was not significantly different in the use of text level information from the average reading ability group,  $U = 12.5, p > .0167$ . However, there was significant differences in the use of text level information between the high and the low ability groups,  $U = 1.00, p < .0167$ . In solving the expository cloze text, the results showed that there were significant differences in the use of text-level information between the high and the average reading ability groups,  $U = 1.00, p < .0167$ , and between the high and the low ability groups,  $U = .000, p < .0167$ .

The hypothesis that the high reading ability participants used more text-level information than the other two ability groups in their solving the cloze gaps was confirmed.

#### **4.5 The perception of the cloze test**

The questions to elicit the participants' perception of the cloze test are in the last part of the questionnaire. Although this is not included in the research question, it is worth mentioning it. The information gathered was presented in Table 4.35 below. The participants' responses to this part of the questionnaire confirmed what have been found in the two try outs of the questionnaire in that the cloze test used in this study, which requires the constructed responses, was regarded as an unfamiliar test format. Less than a quarter of the participants (13.8%) said that they were familiar with this test format while the rest (86.2%) said they were unfamiliar with this test format. Furthermore, responses to the second question of this part of the questionnaire showed that the cloze test was perceived by most participants (93.1%) as a measure of vocabulary and reading comprehension. The responses to the last question of this part revealed that 88.5 % of the participants perceived that their English language ability would improve if they were trained to do this type of rational deletion cloze task. *It seemed that despite perceiving the cloze test as an unfamiliar test task, the participants felt the positive impact of the test on their language improvement.*

**Table 4.35 Students' perception of the cloze test**

Questions and answers	Frequencies	Percentage
1. Are you familiar with this test format?		
Yes	24	13.8%
No	150	86.2%
2. What language ability do you perceive this test measure?		
Vocabulary	162	93.1%
Grammar and structure	154	88.5%
Reading comprehension	162	93.1%
Writing	10	6.1%
3. If you were trained to do this type of cloze test, do you think this cloze procedure would help you improve your English language competence?		
Yes, very much.	154	88.5 %
Yes, but not much	10	5.7 %
No, it would not help	10	5.7 %

#### 4.6 Summary

This chapter reports the results of the findings. The two-way ANOVA analysis with replication was used to answer the first three research questions. For the first research question, it was found that reading ability levels had a significant effect on the rational cloze test performance, with the large effect sizes, which represents a substantial finding. The high reading ability group had significantly better performance than the average and the low reading ability groups. For the second research question, the two different text types, narrative and expository, had significant effects on the rational deletion cloze test performance. The effect of the two text types on the performance of the participants was quite large and so represents a substantial finding. On average, the participants had higher scores on the narrative cloze text than on the expository cloze text. For the third research question, there was no significant interaction effect of the reading ability levels and text types on the cloze test performance.

For the fourth research questions, qualitative data were obtained from the responses on the first part of the questionnaires. It was found that the high reading ability group significantly used more reading strategies than the average and the low reading ability groups upon their performing the rational deletion cloze test, consisting of the two text types.

For the fifth research question, qualitative data were obtained from the responses on the second part of the questionnaires and from the retrospective interviews. The data from the questionnaires revealed that the use of contextual information among the three reading ability groups were significantly different. The high reading ability group significantly used more contextual information than the other two groups. The data from the retrospective interviews revealed that the high reading ability groups used more text-level information than the other two ability groups.

The rational deletion cloze test was also found to have positive impact on the participants.





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## **CHAPTER V**

### **RESEARCH SUMMARY, DISCUSSIONS AND CONCLUSION**

Chapter Five presents the research summary, the summary of the findings, and the discussions of the findings. The conclusion including implications and recommendations for further studies are given in the last part of the chapter.

#### **5.1 Research Summary**

This study investigated the effects of the two independent variables, reading ability levels and text types, on the first-year Law students' rational cloze test performance. The reading test and the rational deletion cloze test were developed and tailored for the first year Law students at Khon Kaen University. Before the tests were developed, theoretical background and previous research in reading comprehension ability and cloze testing had been reviewed. The two tests went through a validation process before they were employed in the main study.

Two independent variables, reading ability levels and text types, were selected to study their effects on students' rational deletion cloze test performance. The reasons for selecting these independent variables were as follows. First, these variables could have an important influence on both text comprehension and test performance. Second, it was possible to design the tests in which these variables facilitated rather than impeded test takers' performance. Third, there were few studies focusing on the effects of reading ability levels on cloze performance. Fourth, there were also few studies in rational deletion cloze test, especially those tests that incorporate texts with different structure: narrative and expository text. It was considered worthwhile to investigate these issues. Therefore, the effects of reading ability levels and text types on students' rational deletion cloze test performance were investigated.

Investigation on the use of reading strategies of the participants on their cloze test performance was another focus of this study. These strategies were investigated to discover the types of reading strategies that were frequently used in cloze testing

situation. Retrospective interviews were conducted to explore the types of contextual information used on restoring the cloze gaps. Another purpose of the interviews was to validate the cloze test purpose. Consequently, there were five research questions in this study.

1. Do students' different reading ability levels have a significant effect on their rational deletion cloze test performance?
2. Do different text types have different effects on students' rational deletion cloze test performance?
3. Is there a significant interaction effect between reading ability levels and text types on students' rational deletion cloze test performance?
4. Are there differences in the use of reading strategies by students with different reading ability levels in doing the rational deletion cloze test comprising two different text types?
5. Are there differences in the use of contextual information by students with different reading ability levels in their filling the cloze gaps?

The population of the main study was the first-year Law students studying at Khon Kaen University. The sample was 174 students from the 2010 academic year. The sample first sat in the reading test. The scores gained from the test were then used to divide the students into three groups: high-, average and low reading ability groups.

Research instruments consisted of the reading test, the rational deletion cloze test, a retrospective interview and a questionnaire on reading strategies used in the cloze testing situation. The rational cloze test was used to investigate the effects of reading ability levels and two cloze text types on students' rational deletion cloze test performance. The questionnaire was used to explore the reading strategies used in the cloze testing context. The retrospective interviews were conducted to investigate the use of contextual information by the students on their solving each cloze item.

This study was a within-subject design. The Two-way ANOVA with replication was carried out to observe the effects of the two independent variables: reading ability levels and text types. The study of reading strategies use on cloze test performance were obtained from questionnaires, verbal reports from the retrospective

interviews were rated and statistically analyzed, using the Kruskal Wallis  $H$  tests, the Mann-Whitney  $U$  tests, and the Friedman tests.

## 5.2 Summary of the Findings

1. There was a significant effect of students' reading ability levels on their rational deletion cloze test performance. That is, there was a significant difference in the average scores gained from the rational deletion cloze test ( $p < .05$ ).

The effect of the three reading ability groups on their performance on the narrative cloze text was significant,  $F = 29.903$ ,  $p < .05$ . The effect was large,  $\omega^2 = .26$ , which represents a substantial finding. The paired comparisons revealed that each group of reading ability levels differed significantly in their performance on the narrative cloze text ( $p < .05$ ), and the high reading ability group outperformed the average and low ability groups ( $p < .05$ ).

The effect of the three reading ability groups on their performance on the expository cloze text was significant,  $F = 25.932$ ,  $p < .05$ . The effect was substantial,  $\omega^2 = .22$ , which represents a large effect size. The paired comparisons revealed that the high reading ability group had significantly higher scores than the average and low reading ability groups ( $p < .05$ ). The performance of the average and low ability groups on the expository cloze text was found not significantly different ( $p > .05$ ).

2. There was a significant effect of the two text types on the participants' cloze test performance ( $p < .05$ ). That is, there was a significant difference in the average scores gained from the narrative and the expository cloze texts,  $t = 23.46$ ,  $p < .05$ .

On average, the participants had higher scores on the narrative cloze performance ( $M = 22.76$ ,  $SE = .64$ ) than on the expository cloze performance ( $M = 19.28$ ,  $SE = .57$ ). The effect of the two text types on the performance of the participants was quite large,  $r = 0.46$  and so represents a substantial finding.

3. There was no significant interaction effect of the reading ability levels and text types on the cloze test performance ( $p > .05$ ).

4. The use of each reading strategy by the three reading ability groups on their performing the narrative cloze and expository cloze test was found significantly

different. Totally, the number of reading strategies use on the narrative cloze test performance among the three groups was significantly different,  $H(2) = 50.52, p < .05$ . The use of reading strategies by the high reading ability group was significantly different when it was compared to that of the average reading ability group ( $U = 106389, r = -.50$ ) and that of the low reading ability group ( $U = 92486.5, r = -.60$ ). However, the use of reading strategies by the average and low reading ability groups was not significantly different ( $U = 98390.5, r = -.18$ ).

The number of reading strategies use on the expository cloze test performance among the three groups was significantly different,  $H(2) = 58.70, p < .05$ . It appeared that the use of reading strategies by the high reading ability group was significantly different when it was compared to that of the average reading ability group ( $U = 116187, r = -.62$ ) and that of the low reading ability group ( $U = 104510.5, r = -.58$ ). However, the use of reading strategies by the average and low reading ability groups was not significantly different ( $U = 106346.5, r = -.09$ ).

In terms of the reading strategies used by the three reading ability groups on performing the narrative and expository cloze test, all participants (100%) reported the use of “reading the whole cloze passage before working on the blanks” and “using context to restore the cloze blanks.” The second and the third most use reading strategies were “translating” and “using prior or world knowledge.” The use of “skipping unknown words while reading the cloze passage” and “looking for key words and phrases” were approximately the same. The strategies of “making inferences” and “using main idea” were the least used, and none of the participants reported the “using main idea” strategy on their narrative cloze test performance.

5. There are differences in the use of contextual information by students with different reading ability levels in their filling the cloze gaps. The use of contextual information among the three reading ability groups on their narrative cloze test performance was significantly different,  $H(2) = 24.089, p < .05$ . It appeared that the high reading ability group significantly used more contextual information than the average reading ability group ( $U = 19050.00, r = -0.40$ ) and than the low reading ability group ( $U = 19560.00, r = -0.25$ ). The average reading ability group also significantly used more contextual information than the low ability group,  $U = 17775.00, r = -0.36$ .



The use of contextual information among the three reading ability groups on their expository cloze test performance was significantly different,  $H(2) = 62.812, p < .05$ . Mann-Whitney tests were used to follow up this finding. It appeared that there was no significant difference in the use of contextual information as sources to solve the expository cloze gaps between the high and the average reading ability groups ( $U = 22848.00, p > .0167$ ). However, there were significant differences in the use of contextual information between the high and low ability groups ( $U = 14275.00, p < .0167$ ), and between the average and low ability groups ( $U = 12665.00, p < .0167$ ).

From the observations on the verbal reports obtained via the retrospective interviews, it was found that the high and average reading ability groups did not have much trouble using the “Within Clause” type of information as sources in restoring the gaps. For the use of the “Across Clause, Within Sentence” type of information, the participants in all three ability groups did not have much trouble using this type of information to restore the narrative cloze gaps that required this type of information. However, the items that required this type of information on the expository cloze caused trouble to the average and the low reading ability participants. For the “Across Sentence” type of information, it seemed that all participants from the three reading ability groups attempted to use this source of information in their restoring the cloze blanks which required the text level information. For the “Extra Textual” type of information, the high reading ability participants did not have any problem with the items that required this source of information. The average ability group tended to use this type of information more in their solving the expository cloze items than in the narrative cloze. Similarly, a few participants in the low reading ability group used this type of information in their solving the expository cloze items. None of them used this type of information as the sources of the answers in the narrative cloze. The low reading ability participants used “guessing” most. The guess could lead to both correct and, usually, incorrect answers.

In comparing the use of each type of information, including guessing, the results from the Friedman tests showed that there were significant differences in *the proportion of each contextual information used by all groups*. Upon filling the narrative cloze blanks, there were significant differences in the proportion of the contextual information used: the high reading ability group,  $X^2(4) = 19.093, p < .05$ ;

the average reading ability group,  $X^2(4) = 19.429$ ,  $p < .05$ ; the low reading ability group,  $X^2(4) = 19.755$ ,  $p < .05$ . Upon filling the expository blanks, there were also significant differences in the proportion of each contextual information used: the high reading ability group,  $X^2(4) = 18.863$ ,  $p < .05$ ; the average reading ability group,  $X^2(4) = 19.458$ ,  $p < .05$ ; the low reading ability group,  $X^2(4) = 19.51$ ,  $p < .05$ . The paired comparisons of all combinations of contextual information revealed that only the results for the whole group reached the significant level.

Concerning the use of text-level information, the Kruskal-Wallis tests showed that there were significant differences in the use of text-level information by the three reading ability groups on their performance of both the narrative,  $H(2) = 10.116$ ,  $p < .05$ , and the expository cloze,  $H(2) = 9.249$ ,  $p < .05$ . Mann-Whitney tests were used to follow up this finding. It appeared that for solving the narrative cloze gaps, the high reading ability group was not significantly different in the use of text level information from the average reading ability group,  $U = 12.5$ ,  $p > .0167$ . However, there was significant differences in the use of text level information between the high and the low ability groups,  $U = 1.00$ ,  $p < .0167$ . In solving the expository cloze text, the results showed that there were significant differences in the use of text-level information between the high and the average reading ability groups,  $U = 1.00$ ,  $p < .0167$ , and between the high and the low ability groups,  $U = .000$ ,  $p < .0167$ .

### 5.3 Discussion of the findings

The purpose of the study was to investigate the effects of reading ability levels and text types on the rational cloze test performance, and also explore the use of reading strategies and contextual information in solving the cloze items. In order to achieve these purposes, five research questions (RQ) were posed. In the section that follows, each of these questions were discussed consecutively.

#### 5.3.1 RQ1: Do students' different reading ability levels have a significant effect on their rational deletion cloze test performance?

Regarding RQ1, the findings revealed that there was a significant effect of students' reading ability levels on their cloze test performance. Overall, there was a

significant differences in the average scores gained from the rational deletion cloze test ( $p < .05$ ). The effect of the three reading ability groups on their performance on the narrative cloze text was significant,  $F = 29.903$ ,  $p < .05$ . The effect was large,  $\omega^2 = .26$ , which represents a substantial finding. The effect of the three reading ability groups on their performance on the expository cloze text was significant,  $F = 25.932$ ,  $p < .05$ , and the effect was also substantial,  $\omega^2 = .22$ , which represents a large effect size. The cloze scores among the three reading ability groups: high, average and low were significantly different in both cloze texts. Thus, the findings confirm that “reading ability levels” has a strong effect on the participants’ cloze test scores.

The finding supports McKamey (2006) in that reading ability contributes to the rationally deleted cloze test. The work of Yamashita (2003) is also confirmed in that the rational deletion cloze test differentiates well between learners of different reading abilities.

The cloze item classification suggested by Bachman (1985) tends to be the appropriate criteria for item deletion since different types of items requires different type of information, and as Brown (2002) has pointed out that each cloze item may function differently for different language groups, depending on their proficiency level. Thus, it is worth discussing how the participants of different reading levels restored the cloze gaps since, in the cloze procedure, students have to go beyond normal reading. They do not only read the text but must also produce a word to fit a given context. To do so, students are required to search for “a distribution of elements” for the missing element and this search for the missing words is “neither logical nor exhaustive because of imposed time constraints” (Weaver, 1965, cited in Raymond, 1988: 91). In addition, students must infer and supply the missing words from surrounding words and context (Paris & Jacob, 1984: 2087).

In their solving the cloze blanks, the participants had great problems with items 5, 7, 8 for the narrative cloze and with 6, 7, 9, 10, 11 and 18 for the expository cloze (see Appendix K). Item 5 in the narrative cloze and item 7 in the expository cloze need an article “the.” The high and average reading ability groups did not have much problem using the article whereas the low ability group filled the blanks with some other words, relying on guessing. This may result from their inadequacy in the use of English articles. It is like what Rujikiatkamjorn (1987) has found in that low

language ability students are inadequate of the English articles usage and avoid using them.

Item 8 in the narrative cloze and items 9 and 10 in the expository cloze tend to be difficult for the average and low ability groups. This may be because each of these items appears at the beginning of a sentence. According to Ryn (1982, cited in Raymond, 1988), words that are deleted from the beginning of a sentence are harder to predict than those deleted from either the middle or the end. Other sources of difficulty may result from the morphosyntactic features required by those items. Items 8 and 10 require a conjunction above clause to signal the contrast to the story related in the preceding sentences and paragraphs. According to Berman (1984, cited in Koda, 2005: 110), this sort of problem has been identified as “lack of structural transparency,” which is regarded by Berman as one of the major sources of L2 comprehension difficulty. Koda (2005: 121) has pointed out that knowledge of morphosyntactic features is one of the factors to differentiate good from poor readers.

Item 9 requires a pronoun as a subject of a sentence. To be able to fill such type of cloze blank, students need to have knowledge of co-reference, a critical device for connecting text elements beyond sentence boundaries (Koda, 2005: 130). In this case, such a critical device disappears, leading to confusion among the average and low ability students. This finding concurs with Block’s (1992) study that less skilled L2 readers tend to have the referent problem due to their inadequacy in resources to attempt to solve the problem.

Item 7 in the narrative cloze and item 11 in the expository cloze pose another difficulty for they are the items that require the “extra textual” information as a source to restore the gaps. This means that the students have to relate what they have read to their world knowledge. According to Bachman (1985), this type of cloze item is the most difficult to restore. The high reading ability group did not have much problem with item 7. The surrounding context enabled them to recall the word “fun” for “Let’s have some \_\_\_\_.” However, this was not the case for the average and low reading ability groups who seemed to be lost in the confusion over the meaning of the context. For item 11, the level of difficulty is added by the structure of the clause, in which the blank appears, “They have knowledge and experience to \_\_\_\_ to younger

people.” The “*to verb to*” structure caused confusion among all groups, as one of the high reading participants pointed out in the retrospective interview:

This item gave me a headache. I was not sure at all of the word that I use to fill in the blank. I used “share” because, from my understanding from the preceding sentence, old people should share their knowledge and experience with young people. I don’t know. “share” didn’t sound right for it is followed by “to.” But I could not think of any other word that sounded better than this.

Items 6 and 18 in the expository cloze are another type of difficulty for the average and the low reading ability groups. These items need the “across sentence” information as a source to restore the blanks. For item 6, the cue is provided in the preceding sentence. However, the problem may arise from (1) having two blanks in this same sentence, which leads to the small amount of context for restoring the gap, and (2) the inadequacy of the vocabulary knowledge. Many of the students did not know the word “retired” and “expenses” which appear in the sentence, and they seemed to be defeated by the word problems. For item 18, the source of information is in another paragraph, requiring the participants to look back to the previous paragraph. It seems that most participants in the average and low reading ability groups were not able to identify the source. This result is similar to Block’s (1992) study that less proficient readers are not as adept at identifying the sources of information.

The examples discussed above seem to support the use of Bachman’s (1985) four categories of cloze items as the rationale for item deletion since each of these four categories requires different sources of information and different language skills. The finding also supports the theory that rational deletion cloze test can measure both sentential and text-level comprehension.

Finally, successful cloze test performance requires a number of different language skills, e.g. grammatical knowledge, vocabulary knowledge, and reading comprehension in which students are required to read across sentence boundary and, in certain way, they have to relate what they have read to the world knowledge. In this study, the high reading ability groups tended to possess more of these language skills than the average and low ability groups, which resulted in better cloze test performance.



### 5.3.2 RQ 2 Do different text types have different effects on the rational deletion cloze test performance?

There was a significant effect of the two text types on the participants' cloze test performance. There was a significant difference in the average scores gained from the narrative and the expository cloze texts,  $t = 23.46$ ,  $p < .05$ . On average, the participants had a better performance on the narrative cloze text ( $M = 22.76$ ,  $SE = .64$ ) than on the expository cloze text ( $M = 19.28$ ,  $SE = .57$ ). The effect of the two text types on the performance of the participants was quite large,  $r = 0.46$  and so represents a substantial finding.

The finding supports the work of Wu (1994) in that text types have effects on the students' cloze performance and that the narrative texts are more sensitive to the intersentential comprehension. The finding also confirms the theory that narrative text appears to be easier to understand and monitor than expository text (Alderson, 2000: 64; Lipson and Wixson, 2003: 181; Koda, 2005: 155; Zabrocky and Ratner, 1992, cited in Carnine et al, 2004: 336).

The data from retrospective interviews seem to support Koda (2005: 155) that "narrative discourse appeals to readers' shared knowledge of the world." Fourteen out of the fifteen students who participated in the retrospective interviews said that the story of "The Ant and the Grasshopper" (the narrative cloze text) was familiar to them. Only one participant said that he never heard of such story. Those who were familiar with the story agreed that the background knowledge of the story facilitated the text comprehension. They seemed to have little difficulty following event sequences narrated in the story. To illustrate the point, the Example 6 and 11 data from the retrospective interviews are reproduced below:

Example 6 (a low ability student working on item 19 of the narrative text):

For item 19, I wrote down "next" because I saw this word in the preceding phrase, "when the next summer came." And I was quite sure that it would be the correct answer since the summer must be followed by the winter. And *the Grasshopper should have a lesson. If he doesn't work in the summer, he won't have anything to eat in the next winter.*

Example 11 (a low ability participant, working on item 15 of the narrative cloze):  
 I wrote “hungry” for this blank because I could guess from the story in the preceding paragraphs. *Grasshopper did not work to collect food for the winter, so when the winter came he didn’t have food and he should be hungry.* And I saw the word “hungry” in the preceding paragraph, too.

As shown in the italicized parts of the examples, the low reading ability students could follow the story with correct understanding. Thus, this finding confirms the previous studies (Scollon & Scolon, 1981; Stein & Glenn, 1979, cited in Koda, 2005; 156) that less skilled readers have little difficulty following event sequences narrated in stories and folktales.

The difficulty of the expository text used in this study may emerge from certain factors. In normal reading, well presented text enables readers to identify the relevant textual information including main ideas and relations between ideas which are central to comprehension (Dickson, Simmons, and Kameenui, n.d.: 8). The components of well presented text are location of main idea sentences and signal words, for example. In cloze testing, however, text is presented in a different way with certain words deleted, some of which may be the signal words and the cues for the main idea. Good readers are generally aware of physical patterns of text organization even when the text is mutilated as in cloze text (Grabe, 2004: 52). In this study, the high reading ability group seemed to be able to follow the story related in the expository cloze text presented in the compare/contrast text structure, as evident in the Example 13 data from the retrospective interviews. To illustrate the point, the example is reproduced below:

Example 13 (a high ability participant, working on item 10 of the expository cloze):  
 For this item, I thought it must be a place for a conjunction. And, the words that came up to my mind were “Anyway” and “However” since *this blank signals the contrast to what have been talked about in the first part of the passage. And, I could guess from the main idea sentence in the first paragraph, “Long life in rich countries is already causing both good and bad things.”* The bad things have already been talked about. Now, it should be about “good things” and the clause right after this conjunction has the phrase “help society”, which is a good thing.

The italicized part of the example shows that even when a signal word is left out, the high reading ability student could restore the gap because she was well aware of the compare/contrast text structure. She was even able to refer to the main idea as

another source of information used in solving this cloze item. The evidence like that shown in the example was not found in the verbal reports provided by the average and low ability groups.

Another factor resulting in the difficulty of the expository cloze may be the vocabulary used in the text. And, the vocabulary problem may lie at the heart of text difficulty since the participants, especially the average and the low ability students, in the retrospective interviews agreed that the vocabulary used in the expository cloze made the text more difficult than the narrative cloze. For them, the expository text was perceived as a formal report on the life of old people. In their opinion, more difficult words were found in the expository text than those found in the narrative text, which is a fable. Research has shown that vocabulary knowledge plays the important role in L2 reading comprehension (Koda, 2005: 48; Zhang & Annual, 2008: 1), and that vocabulary knowledge correlates more highly with reading comprehension than other factors (Koda, 2005: 49). This is because in understanding text meaning, rapid and efficient word recognition with lexical access is necessary (Adams, 2004, cited in Zhang and Annual, 2008: 5). Less skilled readers are slower and less efficient in lexical access and semantic processing (Grabe, 1999; Grabe and Stoller, 2002; Nassaji, 2003), and this kind of processing was evident in this study. The data from the retrospective interviews revealed that when the low reading students encountered difficult vocabulary, they were defeated by word problems due to their slow and less efficient in lexical access and semantic processing. To illustrate the point, the Example 14 data from the retrospective interviews is reproduced below:

Example 14 (a low ability participant, working on item 17 of the expository cloze):  
 For item 17, *I used the word “can” for “also can” because it was similar to what has been said in the first line of the preceding paragraph, “...people also have free time for community.”* Yeah, this sentence has similar meaning to Thai that, “old people *can* look after children while parents are working.”  
 [The semantically acceptable words for this item are “free”, “able,” and “available.”]

The italicized part shows that the student could not think of a word or words that could fit the cloze blank so she used the grammatical knowledge in that “also” can cooccur with a verb. Moreover, she translated the sentence in which the cloze blank appears in Thai, instead of using other sources to facilitate the understanding of the paragraph and to derive at an appropriate word for the cloze gap. On the contrary, the

high reading ability students did not appear to worry so much if they did not understand a word or words. They could use different sources of information to facilitate their solving the cloze item. Example 4 from the retrospective interviews is reproduced here to illustrate the point.

Example 4 (a high ability participant, working on item 4 of the narrative cloze):  
 For item 4, *the answer that came up to my mind when I saw it were "said", "answered" and "replied" but I chose "said" because it was followed by the quotation marks which signify the statement of what has been said, and I saw the word "said" used in the first paragraph, too.*

The first italicized part shows that the student has knowledge of vocabulary for he could come up with the synonyms that could fit the cloze blank. The second italicized part shows that he used another source of information to confirm his answer. This finding supports the work of Levenston, Nir and Blum-Kulka(1984, cited in Storey, 1997: 216) that poor readers use only the local context in restoring gaps, whereas good readers are able to use both local context and macro-level information.

From the discussion above, it can be concluded that the students' shared world knowledge of the narrative text helps facilitate their text comprehension, resulting in better cloze test performance. While the formal genre of the expository text causes difficulty to text comprehension of the average and low reading ability students. The problem is added by their inadequacy of vocabulary knowledge which is a major obstacle in reading comprehension (Laufer, 1992). Accordingly, it resulted in poor performance on the expository cloze of the average and low reading ability students, which in turn leads to the lower average score gained on this type of text.

### **5.3.3 RQ3 Is there a significant interaction effect between reading ability levels and text types on the rational deletion cloze test performance?**

The finding relating to the third research question indicates that there was no significant interaction effect between reading ability levels and text types on the rational deletion cloze test performance. This may be because each of the two independent variables had large effects on the cloze test performance.

The high correlation between the scores gained on the reading test, which was used to form the reading ability levels, and the achievement scores gained in the foundation English course ( $r_{xy} = .766$ ,  $p < .05$ ) confirmed the differences in the ability levels. The high correlation between the two cloze texts ( $r_{xy} = .977$ ,  $p < .05$ ) confirmed the large effect of the text types on the cloze test performance. All these may result in the large effects of each variable, with no combination of them, on the cloze test performance.

#### **5.3.4 RQ4 Are there differences in the use of reading strategies by students with different reading ability levels in doing the rational deletion cloze test comprising two different text types?**

The use of each reading strategy by the three reading ability groups on their performing the narrative cloze and expository cloze test was found significantly different. The high reading ability group used more reading strategies than the average and low reading ability groups on their cloze test performance. This finding supports the work of Kletzien (1991) and Yamashita (2003).

In terms of the reading strategies used by the three reading ability groups on performing the narrative and expository cloze test, all participants (100%) reported the use of “reading the whole cloze passage before working on the blanks” and “using context to restore the cloze blanks.” The second and the third most use reading strategies were “translating” and “using prior or world knowledge.” The use of “skipping unknown words while reading the cloze passage” and “looking for key words and phrases” were approximately the same. The strategies of “making inferences” and “using main idea” were the least used, and none of the participants reported the “using main idea” strategy on their narrative cloze test performance.

This finding sheds some light on the issue of reading the text before completing a cloze test and seems to be in contrast to what have been found in the previous studies (Emanuel, 1982, and Hashkes & Koffman, 1982, cited in Cohen, 1998b: 104). It was found in those studies that only a quarter of nonnative respondents read the entire EFL cloze passage before responding. In this study, all reading ability groups reported the use of “reading the whole cloze passage before working on the blanks.” The evidence from the retrospective interviews supports the



results from the questionnaires. Below is the common answer provided to the question in the first part of the interviews:

Of course, I read the whole passage before starting working on the cloze items. This type of test is completely different from the reading test with multiple-choice questions. With the multiple-choice questions, if there were only short passages, I may read the whole passage before working on the questions. But, generally, I first looked at the questions and their options, then I started to scan the passage for the answers. But in this test, I could not. I had to concentrate on the passage in order to find out what it was about. It took me a long while to finish reading, especially that passage about old people. I had to read back and forth among the paragraphs, trying to understand the story. This type of test is difficult. It would be better if there were options provided for each item.

All students agreed that they had to read the whole of each cloze text to understand what it was about. As evident in the example above, they provided reasons for doing this by comparing to their general behaviors when working on the multiple-choice questions. However, the contrast to what have been found by Emanuel, 1982, and Hashkes & Koffman, 1982, as cited in Cohen (1998b) may lie in the difference of the sample used. The sample used in this study are the EFL university levels while the subjects used in those studies are the school children. Students in different levels of education may have different ways in approaching cloze tasks.

It was not surprising that “translating” and “using prior word knowledge” were reported as the second and third most use reading strategies. As evident from the verbal reports from the retrospective interviews, whenever the text comprehension was obstructed by language problems, the students, especially the average and low reading ability students, would resort to the “translating” strategy, to clarify the problem. Using the strategy of “translating” frequently led to the unsuccessful restoration of the cloze gaps. However, this was not the case of using prior world knowledge.” The prior world knowledge facilitated the students’ text comprehension. As mentioned under 5.3.2, the world knowledge facilitated the comprehension of the narrative text, which was the story that most students were familiar with. As for the expository cloze text, the world knowledge was also found to facilitate text comprehension, but to a lesser degree due to the difficulty of the text as perceived by the students.

Taylor (1992, cited in Wirotanan, 2002; 37) posited that the reading strategies used in reading narrative texts include entering the world of the text, searching, reviewing the story, inferring theme and intention. In this study, which is the EFL cloze testing situation, the students' responses on the questionnaires revealed that besides using the strategies of "reading the whole cloze passage before working on the blanks" and "using context to restore the cloze blanks", they used "prior or word knowledge" to enter into the world of the text, that is, to understand the motives of the actions of the Ant and the Grasshopper, as evident in Examples 6, 9, 10, 11, 15 and 16 from the verbal reports on the retrospective interviews (see Chapter Four). The students also "looked for key words and phrases" to restore the cloze gaps.

Inferencing skills have been suggested as one of the important factors for successful reading comprehension (Alderson, 2000: 164) and cloze test performance (Stansfield and Hansen, 1983, cited in Fotos, 1991: 319). However, in this study, only a few students reported using the strategy of "making inferences" which was quite a surprising finding. From the verbal reports provided in the retrospective interviews, the students of all ability groups inferred the missing words from surrounding words and context, and they seemed to make inferences about the characters in the story of the narrative text, as evident in the Example 6 data from the retrospective interviews.

Example 6 (a low ability student working on item 19 of the narrative text):

For item 19, I wrote down "next" because I saw this word in the preceding phrase, "when the next summer came." And I was quite sure that it would be the correct answer since the summer must be followed by the winter. And *the Grasshopper should have a lesson. If he doesn't work in the summer, he won't have anything to eat in the next winter.*

As mentioned under 5.3.2, the students could follow the narrated sequences in the narrative text. They could draw inferences from the story that at the end the Grasshopper had to work hard to survive the next winter. As in the expository text, it was evident from the verbal reports that they made inferences about how the government helped retired people, how old people helped community and families. And, it seemed that the high reading ability students were better at making inferences as has been suggested by Grabe (1999:21), which resulted in better cloze test performance. The reason that only a few of them reported using this strategy may lie

in the Thai language used in the questionnaire that might mislead them into thinking of making inference of something larger than inferring the missing words and small incidents throughout the story. This point is worth conducting more investigation.

It is noteworthy that the strategies of “using sentence structures,” “using rhetorical patterns of organization,” “focusing on vocabulary” and “using punctuation” are similar in the proportions of use across groups. It is unknown whether they truly used all these strategies. However, evidence from the verbal reports has shed some light on this issue. The high reading ability group tended to be aware of these physical visual cues in the text, as one of them pointed out in the Example 4 data on the verbal reports (it was reproduced under 5.3.2.). In the example, he said the quotation marks helped him restore the blank. And in the Example 13 data (it was reproduced under 5.3.2), the high reading ability student was aware of the compare/contrast rhetorical pattern of organization, by using the visual cue of the main idea sentence.

None of the students reported the strategy of “using main idea” on their working on the narrative cloze is regarded as a reflection on their comprehension of the narrative text, which, in general, does not require a main idea sentence. However, none of the low reading ability group reported using this same strategy on their working on the expository cloze text. This reflects their problems in reading comprehension. It seems that none of them was aware of the main idea sentence in the first paragraph. Not realizing the main idea led to the confusion in interpreting the text later on. This may be another factor why the average scores gained on the expository cloze was lower than those gained on the narrative cloze.

For the strategy of “using the context to restore the cloze blank,” which was reported by all the participants, was discussed in conjunction with the responses gathered from the retrospective interviews in the following section.

As mentioned in Chapter Two, research on the use of reading strategies in cloze testing is rare. So far, only the work of Kletzien (1991) and Lu (2006) have been found. While the subjects in Kletzien’s study were the fifth to seventh grade native speakers of English, Lu’s subjects were the graduate students with unknown language ability. Thus, the finding on the use of reading strategies in cloze testing situation found in this study could be compared to those studies in a lesser degree.

However, the finding has shed some light on the reading and cloze test-taking procedures of EFL university students with different reading ability levels. This may be useful for further studies.

### **5.3.5 RQ5 Are there differences in the use of contextual information by students with different reading ability levels in their filling the cloze gaps?**

There are differences in the use of contextual information by students with different reading ability levels in their filling the cloze gaps of the two text types. The high reading ability group significantly used more contextual information than the average and low reading ability group in both cloze texts. Concerning the use of text-level information, the verbal reports on the retrospective interviews revealed that there were significant differences in the use of text-level information by the three reading ability groups on their performance of both the narrative and expository cloze. The high reading ability group used more text-level information than the other two ability groups.

This finding supports the work of Yamashita (2003) in that the high reading ability students were able to give different weight to different types of information according to their importance in understanding the text. The average and low reading ability students, especially the latter, who were less able to use text-level information, put heavier emphasis on local-level information and guessing.

The finding from the verbal reports analysis on the use of contextual information support (1) the construct validity of the rational cloze test used in this study, and (2) the answers to all research questions from the perspective of the students.

The rationale for the cloze test used in this study was that cloze test was a measure of both local and global comprehension. The cloze items were meant to tap either sentential or text-level reading ability. Accordingly, the four categories of cloze item proposed by Bachman (1985) was adopted as the rationale for item deletion. The verbal reports analysis revealed that the students of all ability groups tended to use the type of information as required by individual items, as the primary source of information.

From the observations of the verbal reports, all reading ability groups did not have much trouble using the “within clause” information. Once they saw the item that required this source of information, they could associate it with the surrounding context and used the clausal-level grammatical information to solve the cloze item as in the following reproduced examples.

Example 1 (a high ability participant, working on item 3 of the narrative cloze):  
For item 3, I used “together” because the phrase “dance and play” should be followed by the adverb “together.” The phrase is quite familiar to me. I have often seen the phrase like “do something together” or “do this and that together.” That’s why I filled this blank with the word “together.”

Example 2 (an average ability group, working on item 5 of the expository cloze)  
For this item, I thought an article “the” was the correct answer since the phrase “the same” is so familiar to me, and I have been taught to use “the same” too.

Example 3 (a low reading ability group, working on item 6 of the narrative cloze)  
For this item, I guess “about” was the answer for this blank because the phrase “worry about” is somehow familiar to me.” Therefore, I was sure that “about” was the correct answer for this blank.

From the examples, the high and average reading ability students mentioned the grammatical terms like “adverb” and “article,” while the low ability student, unable to refer to the grammatical information, made use of his familiarity with the collocation “worry about.” Even though the low ability student could not come up with grammatical explanation, but by using lexical association he could come up with the correct answer. What can be inferred from the verbal reports is that clause-level information provided the clue that was readily available for all reading ability students.

The “across clause, within sentence” type of contextual information could pose problems to the average and low reading ability students as this type of cloze item requires the sentence-level information. From the observations, the students in the three ability groups seemed to be aware of this source of information required by the item as shown in the reproduced data from the retrospective interviews below.



Example 7 (an average ability participant, working on item 12 of the expository cloze):

I chose to fill the blank with the word “they” because I thought the sentence was about retired business people. And this blank, which occurs in the same sentence and follows the comma, should need the same subject as mentioned in the first part. Hence, the pronoun used at the beginning of the second clause would be “they.” I was not sure of the answer, though. I just guessed  
[The semantically acceptable word for this item is “who.”]

However, when the less ability students faced the problems, they had to find other source of information to help them solve the cloze item. From the above example, the difficulty that the less ability students faced with this cloze item may lie in the complex structure of the sentence: “Retired business people can give advice to young people (12) \_\_\_\_\_ are starting new businesses....” Regarding Keenan and Comrie’s (1977, cited in Norris, 2000) Accessibility Hierarchy (AH), the relative clauses formed on the subject, like in the position of item 12, is predicted to be easiest to learn. The failure to restore this cloze gap by the average and low ability groups seems to reflect their inadequacy of relative clause knowledge, not their inability to find source of information. The high reading ability group, nevertheless, tended to be aware of contextual variability of the structure of the complex sentence so they did not seem to have much problem with this. What can be inferred from the verbal reports regarding the “across clause, within sentence” type of contextual information is that less proficient language ability obstructed the use of the context clue, despite having been aware of this source of information.

The similar problems occur with the use of the “across sentence” type of contextual information, which is regarded as the text-level information. From the observations, the high reading ability students were better off using this source of information on their solving this type of cloze item. The average and low reading ability students also attempted to use this type of information as required by the items, as the primary source of information. However, when facing with difficulty, they would refer to other source of information, especially the readily available clause-level information, which frequently led to the production of the wrong answer, as shown in the verbal reports on answering item 17 of the cloze text.

I used “baby-sitter” for this item because of the phrase “look after children.” I know that “baby-sitter” sounded strange but I could not think of any other word to fill the blank. Well, actually, before I decided to fill the gap with “baby-sitter” I looked back to the above paragraph to look for a word or phrase that I could make use of. But I could not locate any source of information. So I had to stick to this word.

The students of all ability groups showed that they had used the “extra textual” type of contextual information when it was required by the items. The following examples are reproduced from the data on the verbal reports to illustrate the point.

Example 15 (a high ability participant, working on item 7 of the narrative cloze):  
For item 7, I filled the blank with “fun.” The preceding sentence, which says something about plenty of food and no worry about winter, and the following sentence, which says something like no worry of working hard, made me think that they could have some fun. Another thing was that the expressions, “Have fun” and “Let’s have fun” sound familiar to me.

Example 17 (an average participant, working on item 4 of the expository cloze):  
I used the word “money” for this blank for two reasons. First, when I read the sentence in which this blank appears, it reminded me of what I have seen in our society. Old people are paid some money by the government. Second, the word “pays”, in my opinion, should be followed by “money.”

Example 18 (a low ability group, working on item 15 of the expository cloze):  
For item 15, I chose the word “teach.” The context here is like what we have seen in our society that old people teach children to read. I could not think of any other word that could fill this blank better than this word.

It was evident from the verbal reports that the amount of context required to complete a cloze blank was an important factor in the difficulty of the item. This finding lends support to Mauranen (1988, cited in Storey, 1997: 216). This finding is also consistent with those of Bachman (1985) and Jonz (1990) in that the items required the information above sentence level were significantly more difficult than those that required the information at the clause or sentence levels.

In conclusion, the evidence from the verbal reports have shown that the students of different reading ability levels in this study used the type of information as required by individual cloze items as the primary source of information. When facing problems, most of time resulting from language problems, they had to refer to other source of information. The clause-level information was frequently referred to for it was local grammatical information which was readily available. The use of

contextual information as required by the cloze items, especially those items that required the text-level information by the high reading ability group was found consistent. This may indicate that the high reading ability students possess better language ability and reading process, which, thus, led to the higher use of text-level information than the other two groups of less ability.

### **5.3 Conclusion**

The rational deletion cloze test, making use of two different text types, in this study was found to be an appropriate measure of reading comprehension. It was designed to have different types of cloze items that could measure different levels of comprehension, ranging from clause-level information, text-level information to the incorporating of the world knowledge information. The findings support what Chapelle and Abraham (1990: 125) have pointed out that despite the inconsistency of rational deletion cloze tests in terms of the characteristics of responses, this type of cloze “should have the advantage of allowing more consistent and controllable results to the extent that distinct item types can be understood and identified.” The rational deletion cloze test used in this study was also found to differentiate well among good, average and low reading ability students.

The finding regarding the use of reading strategies for taking cloze tests is interesting in that it has helped to determine that the rational deletion cloze test used in this study can measure local and global reading skills. The qualitative data on the verbal reports from the retrospective interviews have been shown very useful in this study for they provided important data from the students’ perspective. The data also confirm the construct validity of the cloze test used in this study.

Finally, it should be pointed out that the rational deletion cloze test used in this study produced processes that are not directly relevant to reading comprehension for it required the production processes in which the students had to construct their own responses. The students had to activate all types of language knowledge, including the knowledge of grammar, vocabulary and reading processes. However, even though the production of responses was found to be the unfamiliar test format by the majority of the students and may not directly relevant to measure reading ability, the cloze test used in this study was perceived by the students to have positive impact on them. The

students perceived that if they were trained to do this type of cloze test, the test would help them improve their English language competence.

### **5.3.1 Implications of the Study**

The findings of this study can offer theoretical and practical implications.

In terms of theoretical implications, the study could lend support to the field of cloze testing that the cloze test can be designed to measure both local and global text comprehension, and that cloze test can differentiate well among learners of different reading ability levels. In designing the cloze test, the rationale must be clearly identified so that the test scores can truly reflect the ability of students. In this study, it can be concluded that the rational deletion cloze test can measure both local and global text comprehension of EFL students. Each cloze item can be used to identify students' problem in reading comprehension and certain language skill. Successful cloze test performance requires knowledge in grammar, vocabulary, reading comprehension ability and word knowledge. In addition, the study shed light on the scoring method for cloze test. The semantically acceptable scoring method was shown useful and appropriate for the EFL context. Finally, the study illustrates the test validation process using the combination of quantitative and qualitative data analysis in interpreting cloze scores.

In terms of practical contribution, the implications from the findings of this study are presented as follows.

1. For English teachers who would like to develop a cloze test for the test purpose can make use of Bachman's (1985) categories of cloze item type as the rationale for the selected deletions. The rationale for item deletion suggested by Bachman was found useful in measuring both local and global text comprehension. The rational deletion cloze test that can assess different types of text information can motivate students' awareness in text structure and in their text representation.

2. Both the reading test and the rational deletion cloze test employed in this study were highly rated by the expert judges. They can be useful for teachers in English education.

3. The rational deletion cloze test used in this study had a positive impact on the students for they perceived the test as something that insert motivation on them to find answers to the test.

4. The cloze procedure, which are less frequently used in schools and colleges in EFL context, may offer a novel and valid method of testing comprehension

### **5.3.2 Recommendations**

Since the study has been of restricted scope, the results should not be overgeneralized. There are several limitations that should be addressed in future research.

1. The present study included only two cloze texts, each of which was designed to represent narrative and expository text types respectively. The narrative text was in a fable form, the expository text was present in a compare/contrast rhetorical pattern of organization. Future studies should include a variety of each text type.

2. The present study did not strictly control over the difficulty of the texts. The texts used in the present study was designed to facilitate the less reading ability students to answer correctly by employing their knowledge of the world. This was so for the test format was perceived as unfamiliar. The more difficult texts should be used in future studies for EFL university students and the effect of word knowledge on the process of taking cloze tests should be further investigated.

3. The use of reading strategies in taking cloze test was worth investigated. The finding of this study has shed some light on the reading and cloze test-taking procedures of EFL university students with different reading ability levels. However, more studies should be conducted to explore what strategies are exactly used in taking cloze tests.

4. The present study employed the retrospective interviews to gain qualitative data on the process of solving cloze problems. The delay in time to obtain the data may affect the results. Different approaches for collecting qualitative data such as the think-aloud method should be applied in future studies to obtain more information and gain more insights into cloze test-taking process.



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ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย



## Appendices

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย



## Appendix A

### Test specifications of the Reading test

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

## Test specifications for the Reading test

**Test purpose:** This reading test was designed to determine students' reading ability.

**Test takers:** First-year EFL university students

**Test construct:** The construct of reading ability in this study was defined as students' ability in comprehending vocabulary, pronoun reference, details both explicitly and implicitly stated in reading passages, in understanding the key concept of the passage and the author's purpose.

**Nature of texts:** Texts written for a non-specialist audience with informative and interesting ideas.

**Sources of texts:** Excerpts from EFL textbooks, articles from newspapers, magazines, websites and advertisements

**Rhetorical organization:** narrative and expository texts

**Topic area:** Familiar to students

**Illocutionally features:** To recount past events, to inform, to explain, to describe, to advise, to persuade.

**Channel of presentation:** Normally textual with one advertisement.

**Length of text:** text lengths ranging from 47-298 words

**Time allocation:** one and a half hours

**Response mode:** Multiple-choice questions

**Explicitness of weighting:** All items equally weighted; one point for each item.

.....  
 Descriptions of the item types below have been adapted from Jamieson et al. (2000), in Cohen and Upton (2006, 2007), and in the Official Guide to the New TOEFL® iBT (2006).

### 1. Vocabulary Item Type

This type of item is intended to measure students' ability to comprehend the meanings of individual words and phrases as used in the context of the passage. To correctly respond to the item, students are to choose the option that can replace the targeted word or phrase.

Examples of this type of item, or question, are:

- What does the word “...” (line ...) mean?
- What does the phrase “...” in the passage mean?
- The word “...” (line...) in the passage means .....
- The word “...” (line...) is closest in meaning to .....
- The phrase “...” (line...) means .....
- The expression “...” (line...) means ...

## 2. Factual information Item Type

This type of item is intended to measure students' ability to identify, or locate, a specific piece of information that is explicitly stated in the passage. To correctly respond to the item, students are to choose the option that match the information required in the item to the information in the text.

This type of item is also used to measure students' ability to identify negative factual information. Students are to check what information is true or not true or not included in the passage based on information that is explicitly stated in the passage.

Examples of this type of item, or question, are

- How many dugongs are left in the Okinawa waters?
- Where is Toyota's Tsutsumi Plant located?
- According to the announcement, bears are .....
- When will the Han Style project finish?
- Which is NOT true about...?
- The following groups of people involve in planting trees in Tsutsumi areas EXCEPT .....

## 3. Pronoun reference Item Type

This type of item is intended to measure students' ability to identify a word or phrase in the passage that refers to a pronoun. The word “pronoun” used here includes relative pronouns (e.g. “which” or “who”).

To correctly respond to this type of item, students are to choose the option that exhibits referential relationship between the pronoun highlighted in the passage and the word or phrase that refers to the pronoun.

Examples of this type of item, or question, are:

- What does the word “...” (line...) refer to?
- The word “...” (line... ) refers to .....

## 4. Inference Item Type

This type of item is intended to measure students' ability to draw a conclusion based on information not explicitly stated in the passage.

To correctly respond to this type of item, students are to choose the option that is inferable from the passage based on explicitly stated information in the passage that leads to the inference they have chosen.

Examples of this type of item, or question, are:

- We can infer from this passage that .....
- We can conclude from the passage that .....
- It can be inferred from the passage that .....
- It can be assumed from the passage that .....



### 5. Purpose Item Type

This type of item is intended to measure students' ability to understand why the author explains a concept in a specific way. To correctly respond to this type of item, students need to be able to reason and infer the author's purpose based on the information of the entire passage.

Examples of this type of item, or question, are:

- What is the purpose of the text?
- What is the writer's main purpose in the text?

### 6. Main idea Item Type

This type of item is intended to measure students' ability to recognize topic, or the general theme or broad message of the passage, and main idea, the key concept expressed in the passage.

To correctly respond to this type of item, students are to choose the option that best expresses the general theme or the key concept of the passage based on the information of the entire passage.

Examples of this type of item, or questions, are:

- What is the passage about?
- What is the main idea of the passage?



## Appendix B

### The first draft of the Reading test

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

การทำข้อสอบครั้งนี้เป็นส่วนหนึ่งของงานวิจัยเท่านั้น คะแนนที่ได้จากการสอบไม่มีผลกระทบใด ๆ  
ต่อการสอบในวิชาภาษาอังกฤษ และไม่มีเปิดเผยข้อมูลของท่านต่อสาธารณะ  
ขอขอบคุณอย่างสูงยิ่งต่อนักศึกษาทุกท่านที่ให้ความร่วมมือในการเก็บข้อมูลในครั้งนี้

.....

- คำชี้แจง 1. มีเนื้อเรื่องทั้งหมด 7 เรื่อง ความยาวของเนื้อเรื่องอยู่ระหว่าง 47 – 298 คำ  
2. ตอบคำถามทุกข้อโดยเลือกตัวเลือกที่เหมาะสมที่สุด และทำเครื่องหมาย **X** ลงบน  
ตัวเลือกที่ต้องการในกระดาษคำตอบ

### Text 1

	<p>Dear Abby:</p> <p>A few days ago, "Deanna," my girlfriend of 3 1/2 years, told me she wanted to break up. Then we got into a serious fight and I lost my temper big time. I never hit her, but I did throw some things. She got really scared because I used to black out when I got that mad. It's the first time in three years that I was ever that mad.</p> <p>Deanna went to stay with her mom because she said she was afraid of me. We have since talked a little, and she says she still cares about me. We both said a lot of things we didn't mean, and I don't know how to explain myself.</p> <p>I have since started seeing a counselor to control my temper. But Deanna is giving me mixed signals about what she wants. This is making me severely depressed and I don't know what to do. Can you please help me? I love her more than anything in the world.</p> <p style="text-align: right;">Deeply Depressed in Ohio</p> <p>.....</p> <p><b>Deeply Depressed in Ohio</b></p> <p>It's an intelligent person who recognizes that he has a problem and takes steps to do something about it. I <u>commend</u> you for getting professional help.</p> <p>It is possible for two people who love each other to bring out the worst in each other rather than the best. When a longtime girlfriend says she wants to break up, and then follows it up by saying she "cares about you" rather than loves you, the romance is usually over.</p> <p>Before trying to pursue this woman any further, you should discuss the entire situation with your counselor.</p>
--	---

1. How long did the relationship between the man and his girlfriend last?
  1. About three years
  2. Three and a half years\*
  3. More than four years
  4. Less than three years
  
2. Why did Deanna go to stay with her mother?
  1. The man hit her when they had a serious fight.
  2. They had a serious fight and the man scared her.\*
  3. The man threw things at her and she was badly hurt.
  4. The man said something that hurt her feelings.
  
3. What did the man do to better the situation?
  1. He wrote a letter to get help from Abby.
  2. He took the girl to see the counselor with him.
  3. He tried to explain himself to his girlfriend.
  4. He sought counseling to control his temper.\*
  
4. The man was \_\_\_\_\_ when his girlfriend wanted to break up.
  1. severely scared
  2. very confused
  3. quite relieved
  4. really unhappy\*
  
5. What does the word “commend” (line 24) mean?
  1. admire\*
  2. advise
  3. believe
  4. oppose
  
6. What did Abby suggest in her letter to the man?
  1. Deanna wanted to remain the relationship with him.
  2. She had to stop bringing out the worst in him.
  3. Deanna would not return to him.\*
  4. He had to try to pursue Deanna.
  
7. Abby seemed to \_\_\_\_\_.
  1. agree with the man to keep pursuing the girl
  2. feel positive about the girl’s decision to break up.
  3. put the blame on the man for breaking up with the girl
  4. discourage the man from continuing his relationship with the girl\*

## Text 2

### Keeping the Future Bright and Green

Two weeks ago, teachers, high school students and municipal officials from three provinces (Trang, Lampang and Loei) travelled to Japan to observe how a giant car corporation and an industrial city improve the environment. The three groups of youths and adults were winners of  
 5 Toyota Motor Thailand and Thailand Environment Institute’s annual Stop Global Warming Project. The project encourages schools to team up with their local communities to reduce carbon footprints in their areas. The trip to Japan was meant for them to study how the country tackles its environmental problems.

10 The group visited Toyota’s Tsutsumi Plant in Toyota City, which is one of company’s models for sustainable plants. At Tsutsumi, the delegation was introduced not only to technologies and designs to help curb energy consumption, but also to the way the company involves the surrounding communities to create a greener place.

15 In creating greener spaces around the plant and in the surrounding communities, the company involves the staff, their families and the locals, numbering in the thousands, to help plant trees. In deciding what kind of trees to plant, Toyota observed the ones grown in the local temples and shrines. The new green areas are monitored for three years  
 20 before they are left to grow without being tended.

The trip to Japan helped the Thai delegation see the way Japan manages its environmental education and carbon reduction. Observing the habits of the Japanese people made them want to work harder with their local communities.

8. The word “tackles” (line 8) is closest in meaning to \_\_\_\_\_.
- |                |                |
|----------------|----------------|
| 1. faces       | 2. observes    |
| 3. deals with* | 4. gets rid of |
9. It can be assumed that carbon footprints \_\_\_\_\_.
1. are helpful for the surroundings
  2. are not good for the environment\*
  3. help reduce environmental problems
  4. encourage team work in communities
10. We can infer that sustainable plants are those factories that \_\_\_\_\_.
1. create green buildings in the environment
  2. involve delegations from other countries
  3. encourage energy consumption
  4. attempt to minimize energy use\*



11. The following groups of people are involved in planting trees in Tsutsumi areas EXCEPT \_\_\_\_\_.
- |                               |                                     |
|-------------------------------|-------------------------------------|
| 1. the Toyota company workers | 2. the Thai delegation*             |
| 3. the Tsutsumi local people  | 4. the families of the Toyota staff |
12. “In deciding what kind of trees to plant, Toyota observes the ones grown in the local temples and shrines.”  
The above statement tells us that Toyota \_\_\_\_\_.
- |   |
|---|
| 1. likes to help local temples            |
| 2. wants to preserve local trees*         |
| 3. is a leading company in growing trees  |
| 4. encourages temples to grow local trees |
13. What does the word “them” (line 23) refer to?
- |                         |                                  |
|-------------------------|----------------------------------|
| 1. Japanese people      | 2. the habits of Japanese people |
| 3. the Thai delegation* | 4. local communities             |
14. The group from Thailand seemed to be \_\_\_\_\_ by the ways Japan manages its environmental problems.
- |                 |               |
|-----------------|---------------|
| 1. disappointed | 2. surprised  |
| 3. excited      | 4. impressed* |
15. The writer’s main purpose of the passage is \_\_\_\_\_.
- |   |
|---|
| 1. To describe a sustainable plant                  |
| 2. To praise the Toyota car corporation             |
| 3. To report on the Thai delegation in Japan*       |
| 4. To convince readers to reduce carbon footprints. |

## Text 3

South Korea's Culture Ministry has announced that it is developing plans to push the "Han" (Korean) brand in order to enhance the value of Korean culture and to further promote the country's image abroad.

5 Under the five-year "Han Style project" that starts in the year 2007, the ministry and other government agencies will help globalise the Han brand by investing 270 billion won (US\$289 million) in six cultural themes: *Hangeul* (the Korean language), *hansik* (Korean food), *hanji* (mulberry paper), *hanbok* (traditional dress), *hanok* (traditional homes) and *hankuk eumak* (traditional music).

10 The minister stressed that the globalization of the Han brand will be a core project to form the new Korean wave, or *Hallyu*.

15 According to this project, the government plans to offer Korean language classes to foreigners by setting up 100 Sejong centres abroad by 2011. To globalise *hansik*, the government plans to double the number of Korean restaurants overseas up to 7,600. The government will encourage the *hanbok* industry to increase sales up to 120 billion won (\$127 million) by 2011. It will also help *hanbok* designers enter foreign markets by encouraging them to participate in international fashion shows.

20 The authorities have been devising a way to rebrand Korean culture, noting that it is the most essential element in creating a national brand image.

16. What is the passage about?

- |                                |                            |
|--------------------------------|----------------------------|
| 1. Han cultural themes         | 2. A national brand image  |
| 3. The value of Korean culture | 4. Han style going abroad* |

17. The following are parts of the cultural themes EXCEPT \_\_\_\_\_ .

- |                      |                      |
|----------------------|----------------------|
| 1. national language | 2. national food     |
| 3. mulberry drink*   | 4. traditional dress |

18. The word "them" (line 18) refers to \_\_\_\_\_.

- |                   |                    |
|-------------------|--------------------|
| 1. the government | 2. sales           |
| 3. designers*     | 4. foreign markets |

19. According to Paragraph Four, which statement is **true**?

1. 100 Sejong centres were opened abroad in 2007.
2. There are more than 7,600 traditional restaurants in Korea.
3. Korean traditional dresses are planned to enter international markets\*.
4. 127 million has already been made from selling Hanbok dresses.

20. The word "devising" (line 19) means \_\_\_\_\_.

- |               |                |
|---------------|----------------|
| 1. passing    | 2. changing    |
| 3. presenting | 4. developing* |

21. The word “it” (line 20) refers to \_\_\_\_\_
1. Korean culture
  2. the Hanbok industry
  3. a national brand image
  4. a way to rebrand Korean culture\*
22. What is the main idea of the passage?
1. There are six cultural themes in the Han Style project.
  2. The Han brand is a success of the Korean government.
  3. Korea has set up plans to promote its globalization.\*
  4. Korea has created a brand for its products.
23. What is the writer’s purpose of the passage?
1. To advertise the Han brand
  2. To report on the Han Style project\*
  3. To predict the success of the Han brand
  4. To promote Korean traditional lifestyle

#### Text 4

## IMPERIAL COLLEGE LONDON

### MSc in Environmental Technology

1 year full-time

Europe’s leading environment Masters.

Excellent employment for graduates.

E-mail: [enquiries.env@imperial.ac.uk](mailto:enquiries.env@imperial.ac.uk).

Water; EAA; Health & Env options. Apply now.

Web: <http://www.env.ic.ac.uk>.

Valuing diversity and committed to equality of opportunity.

24. The program offers the following fields of environmental technology EXCEPT

1. EAA
2. Health
3. Water
4. Ecology\*

25. The advertisement says that \_\_\_\_\_.
1. students are not required to study full-time
  2. students are guaranteed to graduate in one year
  3. its graduates have a good chance to be employed\*
  4. its graduates are to be leaders in environmental issues
26. How can one who is interested in this program apply?
1. By sending an email to “enquiries.env@imperial.ac.uk”
  2. By making enquiries at Imperial College in London
  3. By getting the information on the program website\*
  4. By accessing the web “http://www.imperial.ac.uk”
27. It can be inferred from the advertisement that the program \_\_\_\_\_.
1. is committed to employ its graduates
  2. is open to students from different countries\*
  3. provides courses for European students only
  4. offers chances for students wishing to study part time
28. We can infer that the MSc program in the advertisement \_\_\_\_\_.
1. is famous worldwide
  2. is widely recognized in Europe\*
  3. specializes in technological issues
  4. offers more than five specialized fields
29. What is the purpose of the text above?
1. To promote the study program\*
  2. To inform readers of Imperial College
  3. To provide details of the study program
  4. To announce the success of the college

## Text 5

**Protect the Dugong\* - Stop the Airbase**

The island of Okinawa has been called the "Galapagos of the East" because of the precious biodiversity it supports. It is also known as the "island of the base" because U.S. military bases occupy over 18 percent of the landmass. Now, another base is slated for construction, despite the irreparable damage it will cause to a critical marine area.

The proposed construction site is right in the heart of a coral reef, which nurtures diverse marine life including sea turtles and dugongs - relatives of the manatee. Habitat degradation and the increasing scarcity of their food have led to the dugong's recent classification as an endangered species. As few as 12 dugongs are left in the Okinawa waters. If the plan proceeds, the dugongs of Japan may be lost forever.

**What can you do?**

Please take a moment to send a message to the Japanese government saying "NO" to the construction of the U.S. military airbase and "YES" to the protection of the Okinawa dugong.

Support the local people who are out on the water all day, every day, to stop the destruction. For every message we receive, we will tie one ribbon to the Rainbow Warrior, demonstrating the solidarity of activists from around the world.

\*dugong พะยูน

30. Which statement is NOT true about the US bases?
1. There is more than one U.S. base in Okinawa.
  2. The US bases are harmless to the Okinawa waters.\*
  3. A new US airbase is to be constructed in Okinawa.
  4. The US bases occupy less than one-fifth of Okinawa.

31. The word "slated" (line 4) means \_\_\_\_\_
- |             |              |
|-------------|--------------|
| 1. reserved | 2. shown     |
| 3. designed | 4. arranged* |

32. The word "it" (line 5) refers to \_\_\_\_\_.
- |                 |                  |
|-----------------|------------------|
| 1. construction | 2. another base* |
| 3. the landmass | 4. a marine area |



33. The word “proceeds” (line 12) is closest in meaning to \_\_\_\_\_.
1. stops
  2. exists
  3. progresses\*
  4. pauses
34. The dugongs in Japan are classified as endangered species because \_\_\_\_\_.
1. very few of them are left in the seas\*
  2. they are dangerous marine animals
  3. the grade of their habitats are high
  4. their foods are plenty
35. How do the local people protest against the construction of the new US base?
1. By sending messages to the Japanese government
  2. By tying yellow ribbons to the Rainbow Warrior
  3. By demonstrating the activists’ solidarity
  4. By being in the sea all day every day\*
36. The following are reasons to fight against the new US base EXCEPT \_\_\_\_\_.
1. to save diverse marine life in the Okinawa waters
  2. to degrade the habitats of the Okinawa marine life\*
  3. to protect dugongs from becoming extinct
  4. to save the coral reef from being damaged
37. What is the writer’s main purpose of the text?
1. To describe the beauty of the Okinawa island
  2. To report on the number of dugongs in Japan
  3. To persuade readers to help stop the airbase construction\*
  4. To complain about how biodiversity has been destroyed
38. What is the main message of the text?
1. Constructing a new US base will destroy dugongs in the Okinawa waters\*.
  2. The dugongs of Japan have disappeared because of the US military bases.
  3. Only messages to the Japanese government cannot protect dugongs.
  4. Dugongs are the most valuable marine life in the Okinawa waters.

## Text 6

5	<p>Grizzly and black bears in Denali National Park can kill you or severely <u>maul</u> you. They are unpredictable and will <u>defend</u> themselves, their young, their food, and their territory. When surprised, they may react by attacking. Bears are potentially dangerous. Remember, when you enter the Park, YOU are the visitor.</p>
10	<p style="text-align: center;"><b>BEAR COUNTRY: STEPS TOWARDS TRAVELLING SAFETY</b></p> <p>A basic knowledge of bears, their behavior and habitat is essential if you want to travel safely in a bear country.</p>
15	<p>1. Avoid coming into contact with bears. Change your route if necessary. Keep your distance at all times. Even at 100 yards a bear may begin to <u>feel crowded</u>.</p>
20	<p>2. Make noise. Talk, ring a bell, shake pebbles in a can to let the bear know where you are.</p> <p>3. Keep yourself clean. Do not use perfumes or deodorants while hiking. Keep your clothes and equipment free of food odors.</p> <p>4. Encountering a bear – NEVER RUN. You can't outrun a grizzly.</p>

39. The word "maul" (line 2) means \_\_\_\_\_.
1. hunt
  2. eat
  3. shoot
  4. attack\*
40. The word "defend" (line 2) means \_\_\_\_\_.
1. care
  2. prevent
  3. protect\*
  4. control
41. If an animal is unpredictable, it \_\_\_\_\_.
1. is very fierce and dangerous
  2. behaves or reacts in the same way
  3. is difficult to guess how it will behave\*
  4. always has strange and unusual behaviors
42. The phrase "feel crowded" (line 15) suggests that bears \_\_\_\_\_.
1. are not social animals
  2. don't like the smells of people
  3. don't feel possessive of their land
  4. don't feel safe to have people nearby\*

43. Which of the following is NOT included in the basic knowledge above?
1. Keeping away from bears at all times.
  2. Standing still when encountering a bear.
  3. Using deodorants while hiking for clean smell.\*
  4. Making noise to let bears know where you are.
44. Why is it suggested that you keep your clothes and equipment free of food odors?
1. Food left in the park causes bad odors.
  2. Food taken to the park makes the place dirty.
  3. Food odors can terrify bears, and make them run wild.
  4. Food smell can attract bears, and lead them to you.\*
45. What is the main message of the text?
1. Bears' behavior and habitat is essential for visitors' survival.
  2. Bears have the potential to live safely with people in a national park.
  3. Bears' nature can mislead people to think that they are dangerous.
  4. Bears can be dangerous and they do not like being around people.\*
46. What is the writer's purpose of the text above?
1. To inform us about bears and their country
  2. To instruct people how to be careful of bears\*
  3. To convince readers that bears are dangerous
  4. To report the nature of bears in the national park

### Text 7

While many people enjoy cool weather at this time of the year, countless numbers of puppies suffer from several deadly diseases due to the low temperatures.

5 According to vet Ratiporn Tanisakdi, during the cool season, many puppies are affected by three life-threatening illnesses—canine herpes virus, canine distemper, and respiratory infection. These incurable diseases are caused by viruses.

10 “No medicine can kill these viruses. How long an infected puppy survives depends on its immunity. We can only treat them by giving them a saline solution, and try to prevent further infection by bacteria that can lead to other complications,” explained the vet.

15 Normally, puppies aged between nine and 14 days have lower body temperatures and are more vulnerable to canine herpes virus, which can be transmitted from mother to puppies through saliva and liquid from the mother's vagina. Infected puppies are nervous, cry all the time, suffer from stomach aches, and are frequently short of breath. A dog with an acute case can die within 24 hours.

Canine distemper is a fatal communicable disease. The virus can be transmitted through various channels including saliva, excrement,

- 20 urine, nasal mucus, and tears. A sick animal exhibits symptoms such as thick nasal and eye discharges, coughing, difficulty in breathing, diarrhea, vomiting, pneumonia, spasms, and paralysis. This disease can be prevented only by having the animal vaccinated.
- 25 Respiratory infection can be caused by viruses and bacteria. They can be transmitted through the air or by body fluids. A sick animal will have chronic symptoms—a fever, loss of appetite, cough phlegm, and a thick nasal mucus. If not treated, the animal can develop pneumonia and die. “We can help prevent this disease by providing the right environment,” suggests the vet.
- 30 Since these diseases are incurable, the best prescription is “prevention is better than cure”.
47. What is the passage about?
- |                                  |                                   |
|----------------------------------|-----------------------------------|
| 1. Respiratory infection in pets | 2. Incurable bacterial infections |
| 3. Fatal diseases for puppies*   | 4. Dangerous winter viruses       |
48. What is NOT true about the three illnesses mentioned above?
- |                                 |                                |
|---------------------------------|--------------------------------|
| 1. They are incurable diseases. | 2. They are caused by viruses. |
| 3. They are deadly diseases.    | 4. They threaten viruses.*     |
49. The word “vulnerable” (line 13) means \_\_\_\_\_.
- |                        |                       |
|------------------------|-----------------------|
| 1. resistant           | 2. immune             |
| 3. be easily affected* | 4. be quickly changed |
50. The word “which” (line 13) refers to \_\_\_\_\_.
- |                         |                      |
|-------------------------|----------------------|
| 1. mother               | 2. puppies           |
| 3. canine herpes virus* | 4. body temperatures |
51. The word “transmitted” (line 19) means \_\_\_\_\_.
- |             |               |
|-------------|---------------|
| 1. affected | 2. passed on* |
| 3. treated  | 4. moved to   |
52. The word “exhibits” (line 20) means \_\_\_\_\_.
- |           |             |
|-----------|-------------|
| 1. shows* | 2. notices  |
| 3. hides  | 4. observes |
53. Puppies suffering from respiratory infection have the following symptoms: \_\_\_\_\_.
- |                                    |                                      |
|------------------------------------|--------------------------------------|
| 1. stomach aches and vomiting      | 2. loss of appetite and a fever*     |
| 3. breathing difficulty and spasms | 4. shortness of breath and paralysis |
54. The passage does NOT tell us how \_\_\_\_\_ can be prevented.
- |                          |                       |
|--------------------------|-----------------------|
| 1. canine herpes virus*  | 2. canine distemper   |
| 3. respiratory infection | 4. all three diseases |

55. What is the main idea of the passage?
1. Prevention is the best method for incurable diseases.
  2. Puppies and their mothers are vulnerable to low-temperature diseases
  3. Although incurable diseases are fatal, they are not communicable.
  4. There are certain incurable diseases for puppies that come in the cool season.\*
56. What is the writer's purpose of the text?
1. To inform readers of puppies' common diseases
  2. To give information about fatal diseases in puppies\*
  3. To tell readers how to prevent incurable diseases
  4. To warn against life-threatening illnesses.

ขอขอบคุณอย่างสูงยิ่งต่อนักศึกษาทุกท่านที่ให้ความร่วมมือในการเก็บข้อมูลในครั้งนี้



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย





## **Appendix C**

### **Expert Judgment Questionnaire**

ศูนย์วิทยพัทพยาบาล  
จุฬาลงกรณ์มหาวิทยาลัย

## Expert Judgment Questionnaire

The aim of this questionnaire is to have reading experts to assess the reading test constructed by the researcher.

---

### Background information of the reading test used in the study

The reading test constructed for this study was aimed to measure students' reading ability in the following six reading skills.

1. **Vocabulary:** Ability to understand the meanings of individual words or phrases as used in the context.
2. **Factual information:** Ability to identify factual information that is explicitly stated in the passage, and ability to identify negative factual information.
3. **Pronoun Reference:** Ability to identify relationships between pronouns and words or phrases in the passage.
4. **Inference:** Ability to draw a conclusion based on information not explicitly stated in the passage.
5. **Purpose:** Ability to understand why the author explains a concept in a specific way.
6. **Main idea:** Ability to recognize the topic and main idea which characterize the most important information in the passage.

### Types of questions

#### 1. Vocabulary Item Type (VOC)

This type of item is intended to measure students' ability to comprehend the meanings of individual words and phrases as used in the context of the passage.

To correctly respond to the item, students are to choose the option that can replace the targeted word or phrase.

#### 2. Factual information Item Type (FIN)

This type of item is intended to measure students' ability to identify, or locate, a specific piece of information that is explicitly stated in the passage. To correctly respond to the item, students are to choose the option that matches the information required in the item to the information in the text.

This type of item is also used to measure students' ability to identify negative factual information. Students are to check what information is true or not true or not included in the passage based on information that is explicitly stated in the passage.

#### 3. Pronoun reference Item Type (PR)

This type of item is intended to measure students' ability to identify a word or phrase in the passage that refers to a pronoun. The word "pronoun" used here includes relative pronouns (e.g. "which" or "who").

To correctly respond to this type of item, students are to choose the option that exhibits a referential relationship between the pronoun highlighted in the passage and the word or phrase that refers to the pronoun.

**4. Inference Item Type (INF)**

This type of item is intended to measure students' ability to draw a conclusion based on information not explicitly stated in the passage.

To correctly respond to this type of item, students are to choose the option that is inferable from the passage based on explicitly stated information in the passage.

**5. Purpose Item Type (PUR)**

This type of item is intended to measure students' ability to understand why the author explains a concept in a specific way.

To correctly respond to this type of item, students need to be able to reason and infer the author's purpose based on the information in the entire passage.

**6. Main idea Item Type (MI)**

This type of item is intended to measure students' ability to recognize the topic, or the general theme or broad message of the passage, and the main idea, the key concept expressed in the passage.

To correctly respond to this type of item, students are to choose the option that best expresses the general theme or the key concept of the passage based on the information in the entire passage.



Please give your assessment of the type of test items used in the reading test by ticking (✓) the appropriate boxes.

The following are the test item types and their abbreviations.

Vocabulary Item Type (VOC)

Factual information Item Type (FIN)

Pronoun reference Item Type (PR)

Inference Item Type (INF)

Purpose Item Type (PUR)

Main idea Item Type (MI)

*Examples:* If you agree that Item 1 tested students' ability concerning factual information, please tick (✓) the agree box.

If you don't agree that Item 4 tested students' ability in inferencing, please tick (✓) the not agree box.

Any item that you are not sure of the test item type, please tick (✓) the not sure box.

Texts	Items	Agree	Not agree	Not sure
1 Dear Abby	1. FIN			
	2. FIN			
	3. FIN			
	4. FIN			
	5. VOC			
	6. INF			
	7. INF			
2 Keeping The Future...	8. MI			
	9. VOC			
	10. INF			
	11. FIN			
	12. INF			
	13. PR			
	14. INF			
	15. PUR			
3 South Korea	16. MI			
	17. FIN			
	18. PR			
	19. FIN			
	20. VOC			
	21. PR			
	22. MI			
	23. PUR			

Texts	Items	Agree	Not agree	Not sure
4 Imperial College	24. FIN			
	25. FIN			
	26. FIN			
	27. INF			
	28. INF			
	29. PUR			
5 Protect the Dugongs	30. FIN			
	31. VOC			
	32. PR			
	33. VOC			
	34. INF			
	35. FIN			
	36. FIN			
	37. PUR			
6 Bears	38. MI			
	39. VOC			
	40. VOC			
	41. INF			
	42. INF			
	43. FIN			
	44. INF			
	45. MI			
7 Puppy diseases	46. PUR			
	47. MI			
	48. FIN			
	49. VOC			
	50. PR			
	51. VOC			
	52. VOC			
	53. FIN			
	54. FIN			
	55. MI			
56. PUR				

Thank you very much for your time and attention.





## Appendix D

**The final draft of the reading test**

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

การทำข้อสอบครั้งนี้เป็นส่วนหนึ่งของงานวิจัยเท่านั้น คะแนนที่ได้จากการสอบไม่มีผลกระทบใด ๆ  
ต่อการสอบในวิชาภาษาอังกฤษ และไม่มีเปิดเผยข้อมูลของท่านต่อสาธารณะ  
ขอขอบคุณอย่างสูงยิ่งต่อนักศึกษาทุกท่านที่ให้ความร่วมมือในการเก็บข้อมูลในครั้งนี้

.....

- คำชี้แจง**
1. มีเนื้อเรื่องทั้งหมด 5 เรื่อง ความยาวของเนื้อเรื่องอยู่ระหว่าง 190 – 298 คำ
  2. เวลาในการทำข้อสอบ 60 นาที
  3. ตอบคำถามทุกข้อโดยเลือกตัวเลือกที่เหมาะสมที่สุด
  4. ใช้ดินสอ 2B ระบายในวงกลมที่ต้องการ เมื่อต้องการแก้ไขให้ใช้ยางลบ ลบให้สะอาดแล้วจึงระบายวงใหม่ที่ต้องการ
  5. ในการกรอกข้อมูลลงในกระดาษคำตอบ ให้ใช้ “ช่องเลขที่นั่งสอบ” กรอกรหัสประจำตัวของนักศึกษา และช่อง “รหัสวิชา” กรอกรหัสเลข section ของตนเอง Section ที่ 1-9 ให้ใช้รหัสขึ้นต้นด้วย 0 และตามด้วยเลข section เช่น 03 คือ section 3

ตัวอย่างการกรอกและระบายรหัส

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

ขอความกรุณาทำข้อสอบอย่างเต็มความสามารถ

## Text 1

5	<p>Grizzly and black bears in Denali National Park can kill you or severely <u>maul</u> you. They are unpredictable and will <u>defend</u> themselves, their young, their food, and their territory. When surprised, they may react by attacking. Bears are potentially dangerous. Remember, when you enter the Park, YOU are the visitor.</p>
10	<p><b>BEAR COUNTRY: STEPS TOWARDS TRAVELLING SAFETY</b></p> <p>A basic knowledge of bears, their behavior and habitat is essential if you want to travel safely in a bear country.</p>
15	<p>1. Avoid coming into contact with bears. Change your route if necessary. Keep your distance at all times. Even at 100 yards a bear may begin to <u>feel crowded</u>.</p>
20	<p>2. Make noise. Talk, ring a bell, shake pebbles in a can to let the bear know where you are.</p> <p>3. Keep yourself clean. Do not use perfumes or deodorants while hiking. Keep your clothes and equipment free of food odors.</p> <p>4. Encountering a bear – NEVER RUN. You can't outrun a grizzly.</p>

1. The word "maul" (line 2) means \_\_\_\_\_.
  1. hunt
  2. eat
  3. shoot
  4. attack\*
2. The word "defend" (line 2) means \_\_\_\_\_.
  1. care
  2. prevent
  3. protect\*
  4. control
3. The phrase "feel crowded" (line 15) suggests that bears \_\_\_\_\_.
  1. are not social animals
  2. are not excited by people
  3. don't like the smells of people
  4. don't feel safe to have people nearby\*
4. The basic knowledge above tells us \_\_\_\_\_ when we meet a bear.
  1. to use deodorants
  2. not to make noise
  3. not to run away\*
  4. to keep quiet
5. Why is it suggested that you keep your clothes and equipment free of food odors?
  1. Food left in the park causes bad odors.
  2. Food taken to the park makes the place dirty.
  3. Food odors can terrify bears, and make them run wild.
  4. Food smell can attract bears, and lead them to you.\*

6. What is the main idea of the text?
1. Bears are friendly and welcome visitors.
  2. Bears can be dangerous and should be avoided.\*
  3. Bears are not as dangerous as people have thought.
  4. Bears can be good travelling companions.
7. What is the writer's purpose in the text above?
1. To inform us about a bear country
  2. To teach people how to look for bears
  3. To tell us what to do when in a bear country\*
  4. To report the story of bears in the national park

## Text 2

### Keeping the Future Bright and Green

Two weeks ago, teachers, high school students and municipal officials from three provinces (Trang, Lampang and Loei) travelled to Japan to observe how a giant car corporation (Toyota) and an industrial city (Toyota City) improve the environment. The three groups of youths and adults were winners of Toyota Motor Thailand and Thailand Environment Institute's annual Stop Global Warming Project. The project encourages schools to team up with their local communities to reduce carbon footprints in their areas. The trip to Japan was meant for them to study how the country tackles its environmental problems.

The group visited Toyota's Tsutsumi Plant in Toyota City, which is one of company's models for sustainable plants. At Tsutsumi, the group was introduced not only to technologies and designs to help curb energy consumption, but also to the way the company involves the surrounding communities to create a greener place.

In creating greener spaces around the plant and in the surrounding communities, the company involves the staff, their families and the locals, numbering in the thousands, to help plant trees. The new green areas are monitored for three years before they are left to grow without being tended.

The trip to Japan helped the Thai group see the way Japan manages its environmental education and carbon reduction. Observing the habits of the Japanese people made them want to work harder with their local communities.

8. What is the passage about?
1. A trip to a Japanese town
  2. Tsutsumi Plant in Toyota City
  3. A Thai group visiting a Toyota plant \*
  4. Thai high school teachers and students

9. The word “tackles” (line 9) is closest in meaning to \_\_\_\_\_.
1. studies
  2. observes
  3. manages\*
  4. increases
10. It can be assumed that carbon footprints \_\_\_\_\_.
1. are helpful for the surroundings
  2. are not good for the environment\*
  3. help reduce environmental problems
  4. encourage team work in communities
11. The following groups of people are involved in planting trees in Tsutsumi areas EXCEPT \_\_\_\_\_.
1. the Toyota company workers
  2. the professional tree planters\*
  3. the Tsutsumi local people
  4. the families of the Toyota staff
12. What does the word “them” (line 22) refer to?
1. Japanese people
  2. the habits of Japanese people
  3. the Thai group\*
  4. local communities
13. The group from Thailand seemed to be \_\_\_\_\_ by the ways Japan deals with its environmental problems.
1. disappointed
  2. surprised
  3. happy
  4. impressed\*
14. We can conclude that sustainable plants are those factories that \_\_\_\_\_.
1. introduce curbing designs
  2. support energy consumption
  3. try to decrease energy use\*
  4. produce green buildings
15. The writer’s main purpose of the passage is \_\_\_\_\_.
1. to promote Toyota City
  2. to advertise Toyota products
  3. to report on the Thai group in Japan\*
  4. to invite readers to visit Tsutsumi



## Text 3

South Korea's Culture Ministry has announced that it is developing plans to push the "Han" (Korean) brand in order to enhance the value of Korean culture and to further promote the country's image abroad.

5 Under the five-year "Han Style project" that starts in the year 2007, the ministry and other government agencies will help globalise the Han brand by investing 270 billion won (US\$289 million) in six cultural themes: *Hangeul* (the Korean language), *hansik* (Korean food), *hanji* (mulberry paper), *hanbok* (traditional dress), *hanok* (traditional homes) and *hankuk eumak* (traditional music).

10 The minister stressed that the globalization of the Han brand will be a core project to form the new Korean wave, or *Hallyu*.

According to this project, the government plans to offer Korean language classes to foreigners by setting up 100 Sejong centres abroad by 2011. To globalise *hansik*, the government plans to double the number of 15 Korean restaurants overseas up to 7,600. The government will encourage the *hanbok* industry to increase sales up to 120 billion won (\$127 million) by 2011. It will also help *hanbok* designers enter foreign markets by encouraging them to participate in international fashion shows.

20 The authorities have been devising a way to rebrand Korean culture, noting that it is the most essential element in creating a national brand image.

16. What is the passage about?
1. Korean's Culture Ministry
  2. The value of Korean culture
  3. The Han brand in South Korea
  4. The project to promote Korean culture\*
17. Which of the following is NOT part of the cultural themes?
1. National language
  2. National food
  3. Mulberry drink\*
  4. Traditional dress
18. The word "them" (line 18) refers to \_\_\_\_\_.
1. the government
  2. sales
  3. designers\*
  4. foreign markets
19. According to Paragraph Four, which statement is **true**?
1. 100 Sejong centres were opened abroad in 2007.
  2. 120 million Hanbok dresses have been sold in 2011.
  3. There are more than 7,600 traditional restaurants in Korea.
  4. Korean traditional dresses are planned to enter foreign markets.\*

20. The word “devising” (line 19) means \_\_\_\_\_.
1. completing
  2. changing
  3. presenting
  4. developing\*
21. The word “it” (line 20) refers to \_\_\_\_\_
1. the year 2011
  2. the Hanbok industry
  3. a national brand image
  4. a way to rebrand Korean culture\*
22. What is the main idea of the passage?
1. Korea has created a project to globally promote its culture.\*
  2. There are six cultural themes in the Han Style project.
  3. The Han brand is a success of the Korean government.
  4. Korea’s Culture Ministry has completed its project.
23. What is the writer’s purpose in the passage?
1. To advertise the Han brand
  2. To report on the Han Style project\*
  3. To support Korea’s Culture Ministry
  4. To promote Korean traditional lifestyle



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

## Text 4

**Protect the Dugong\* - Stop the Airbase**

(\*dugong พะยูน)

The island of Okinawa has been called the "Galapagos of the East" because of the precious biodiversity it supports. It is also known as the "island of the base" because U.S. military bases\*\* occupy over 18 percent of the landmass. Now, another base is slated for construction, despite the great damage it will cause to the Okinawa sea.

(\*\*bases ฐานทัพ)

The proposed construction site is right in the heart of a coral reef, which supports diverse marine life including sea turtles and dugongs. Habitat degradation and the increasing scarcity of their food have led to the dugong's recent classification as an endangered species. As few as 12 dugongs are left in the Okinawa waters. If the plan proceeds, the dugongs of Japan may be lost forever.

**What can you do?**

Please take a moment to send a message to the Japanese government saying "NO" to the construction of the U.S. military airbase and "YES" to the protection of the Okinawa dugongs.

Support the local people who are out on the water all day, every day, to stop the destruction. For every message we receive, we will tie one ribbon to the Rainbow Warrior, demonstrating the solidarity of activists from around the world.

24. According to Paragraph One, which statement is **true**??

1. A new US base will be constructed in Okinawa.\*
2. A new US base is not dangerous to the Okinawa waters.
3. There is only one U.S. base in Okinawa at the moment.
4. The US bases occupy less than eighteen percent of Okinawa.

25. The word "slated" (line 4) means \_\_\_\_\_

- |             |             |
|-------------|-------------|
| 1. kept     | 2. shown    |
| 3. designed | 4. planned* |

26. The word "it" (line 5) refers to \_\_\_\_\_.

- |                 |                  |
|-----------------|------------------|
| 1. construction | 2. another base* |
| 3. the landmass | 4. a marine area |

27. The word “proceeds” (line 11) is closest in meaning to \_\_\_\_\_.
1. stops
  2. cancels
  3. continues\*
  4. pauses
28. Which is NOT the reason for the local people to stop the new US base?
1. To protect dugongs
  2. To save the coral reef
  3. To save diverse marine life
  4. To degrade marine habitats\*
29. A ribbon will be tied to the Rainbow Warrior for every message that supports \_\_\_\_\_.
1. the construction of the new US base
  2. the protection of the Okinawa dugongs\*
  3. the Japanese government
  4. the US government
30. What is the main idea of the text?
1. Another US base can protect Okinawa dugongs.
  2. There are a lot of dugongs in the Okinawa waters.
  3. Constructing a new US base will destroy dugongs.\*
  4. Dugongs are one of the most valuable kinds of marine life.
31. What is the writer’s main purpose in the text?
1. To describe the beauty of the Okinawa island
  2. To report on the number of dugongs in Japan
  3. To persuade readers to help stop the US base construction\*
  4. To complain about how biodiversity has been destroyed

## Text 5

While many people enjoy cool weather at this time of the year, countless numbers of puppies suffer from several deadly diseases due to the low temperatures.

5 According to vet Ratiporn Tanisakdi, during the cool season, many puppies are affected by three life-threatening illnesses—canine herpes virus, canine distemper, and respiratory infection. These incurable diseases are caused by viruses.

10 “No medicine can kill these viruses. How long an infected puppy survives depends on its immunity. We can only treat them by giving them a saline solution, and try to prevent further infection by bacteria that can lead to other complications,” explained the vet.

15 Normally, puppies aged between nine and 14 days have lower body temperatures and are more vulnerable to canine herpes virus, which can be transmitted from mother to puppies through saliva and liquid from the mother’s vagina. Infected puppies are nervous, cry all the time, suffer from stomach aches, and are frequently short of breath. A dog with an acute case can die within 24 hours.

20 Canine distemper is a fatal communicable disease. The virus can be transmitted through various channels including saliva, excrement, urine, nasal mucus, and tears. A sick animal exhibits symptoms such as thick nasal and eye discharges, coughing, difficulty in breathing, diarrhea, vomiting, pneumonia, spasms, and paralysis. This disease can be prevented only by having the animal vaccinated.

25 Respiratory infection can be caused by viruses and bacteria. They can be transmitted through the air or by body fluids. A sick animal will have chronic symptoms—a fever, loss of appetite, cough phlegm, and a thick nasal mucus. If not treated, the animal can develop pneumonia and die. “We can help prevent this disease by providing the right environment,” suggests the vet.

30 Since these diseases are incurable, the best prescription is “prevention is better than cure”.

32. What is the passage about?

- |                                 |                          |
|---------------------------------|--------------------------|
| 1. Respiratory infection        | 2. Incurable diseases    |
| 3. Deadly diseases for puppies* | 4. Dangerous cool season |

33. What is NOT true about the three illnesses?

- |                                 |                                     |
|---------------------------------|-------------------------------------|
| 1. They are incurable diseases. | 2. They are caused by viruses.      |
| 3. They are deadly diseases.    | 4. They can be killed by medicine.* |

34. The word “vulnerable” (line 13) means \_\_\_\_\_.

- |                        |                       |
|------------------------|-----------------------|
| 1. resistant           | 2. immune             |
| 3. be easily affected* | 4. be quickly changed |

35. The word “which” (line 13) refers to \_\_\_\_\_.

- |                         |                      |
|-------------------------|----------------------|
| 1. mother               | 2. puppies           |
| 3. canine herpes virus* | 4. body temperatures |



36. The word “transmitted” (line 19) means \_\_\_\_\_.
1. affected
  2. passed on\*
  3. treated
  4. moved to
37. The word “exhibits” (line 20) means \_\_\_\_\_.
1. shows\*
  2. notices
  3. hides
  4. observes
38. Puppies suffering from respiratory infection have the following symptoms:
- \_\_\_\_\_.
1. stomach aches and coughing
  2. loss of appetite and a fever\*
  3. thick nasal and eye discharges
  4. spasms and paralysis
39. What is the main idea of the passage?
1. Prevention is the best method for incurable diseases.
  2. Puppies and their mothers are easily affected by viruses.
  3. Incurable diseases are dangerous, but not communicable.
  4. Some incurable diseases for puppies come in the cool season.\*
40. What is the writer’s purpose in the text?
1. To inform readers of puppies’ common diseases
  2. To give information about deadly diseases in puppies\*
  3. To tell readers how to prevent incurable diseases
  4. To warn against life-threatening illnesses

ขอขอบคุณอย่างสูงยิ่งต่อนักศึกษาทุกท่านที่ให้ความร่วมมือในการเก็บข้อมูลในครั้งนี้

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย



## Appendix E

Passages for cloze test

Examples of the fixed-ratio cloze Texts

The final version of narrative and expository cloze texts

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

## Narrative passages

### Story 1

#### The Ant and the Grasshopper

In a field one summer's day, Grasshopper was hopping about, chirping and singing to express his heart's joy. Ant passed by, carrying along a stalk of rice, which he was taking to his home.

Grasshopper saw Ant's hard work and said, "Why not come and chat with me, instead of working so hard all day long? We can dance and play together."

Ant answered, "I am working to gather and save food for the winter. I suggest you do the same."

"Why worry about winter?" asked Grasshopper. "We have plenty of food at present. Let's have some fun. Don't be so foolish and waste your time working." But Ant went on its way and continued its work.

When the winter came, Grasshopper had no food. In fact, he was hungry and cold. He passed Ant's home, looked inside, and saw Ant eating some rice. Ant had all the rice that he had collected and stored in the summer. Ant was not hungry because he had gathered enough food to survive the winter. He was resting and enjoying his food in his warm and comfortable home.

Grasshopper asked Ant for some food. He said that he was cold and hungry. Ant replied, "You didn't work this summer. You sang and danced. You didn't follow my advice. You called me foolish. So now it is my turn to call you foolish."

When the next summer came, the grasshopper worked hard to store food for the upcoming winter. He knew: It was best to prepare for the days of necessity.

257 words

\*Grasshopper ต๊กแตน

(source: Santos, M. dos. 2007. My World 5. Bangkok: Thai Watana Panich/McGraw-Hill, p. 42.)

## Story 2

### Getting Ready for a New Life

Somchai is a freshman, and he is having all the problems that most freshmen have. As a matter of fact, his problems started before he even left his home in Khon Kaen to study at a university in Bangkok. He had to do a lot of things that he didn't want to do.

Somchai went to Big C in order to buy new shirts and trousers but he didn't find anything he liked so he went to Central Plaza. There, he found some nice shirts and trousers, but they were more expensive than those at Big C. As soon as he got home, he took them out of the bag so that his parents wouldn't see where they came from.

When Somchai was almost ready to leave for Bangkok, his mother suggested that he visit all his relatives. "What do you want me to do that for?" he asked, and she said, "To say good-bye." She made him go see his grandparents, his aunts and his uncles, and some of his cousins. He didn't want to see all those people, but he did it anyway because of his mother's insistence.

On the day that Somchai left for Bangkok, his sister helped him pack his clothes. When everything was about ready, he got his father to take him to the train station, and the whole family went along. Of course, his mother insisted on hugging him good-bye in spite of his embarrassment. As soon as Somchai was in his seat, he started dreaming of his new life away from home.

259 words

(source: Sasaki, M. (2000). Effects of cultural schemata on students' test-taking processes for cloze tests: a multiple data source approach. *Language Testing*, 17 (1): 85-114.)

## Story 3

### Prince Naresuan

During the time of King Thammaraja in the Ayutthaya Period, Thailand was under the control of Burma. Naresuan, a boy prince, had been taken to Burma as a hostage.

The prince grew up in Burma. When he was 16 years old, his father had him return to Siam. Phra Supankanlaya, his elder sister, was sent to Burma as an exchange hostage. This was to ensure that Thailand was still under the power of Burma.

Prince Naresuan was a great warrior. The Burmese King knew this very well and made plans to kill him, but was unsuccessful. In 1584 the prince was ordered by the Burmese King to lead the army to destroy the Mon people in Ava. However, the prince discovered that he would be attacked by the Burmese army. This made him very angry, so he declared independence for the Kingdom of Thailand in Ava. Moreover, the Prince led his army to the capital of Burma to free more than 10,000 Thai people who were being kept as hostages there.

The King of Burma was very unhappy with Prince Naresuan, so he sent armies to Thailand to destroy Ayutthaya, but he could not kill the Prince. In the fifth battle, Prince Naresuan did not wait for the Burmese army in Ayutthaya. Instead, he led the army to Nongsarai, Supanburi. There, he had a battle with the Burmese Crown Prince. The two princes had a fight on the elephants and the Burmese Prince was killed. After that Ayutthaya was left in peace for a long time.

255 words

(source: [http://www.tonyjaa.org/sword\\_king.shtml](http://www.tonyjaa.org/sword_king.shtml))



## Expository passages: Compare-contrast

### Passage 1

#### Old Age in Present Society

People today live longer than in the past. Long life in rich countries is already causing both good and bad things.

There are at least two negative problems from old age. The first is that old people often need others to take care of them. Old people cannot easily go places alone or do many things without help. An old person may not be able to drive a car safely. When older people retire, the government pays them money to help them live. In many rich countries, support for retired people is one of the biggest government expenses.

The second problem is the high cost of medical care for older people. They get sick more often than young people. They often need to stay in hospital for a long time. They need expensive medicines.

However, older people help society in many ways. They have knowledge and experience to give to younger people. Retired business people can give advice to young people who are starting new businesses or having business problems.

Retired people also have free time for community work. Old people can teach children to read. They also help people who are in trouble, such as people who take drugs, people in prison, and people without homes.

Old people are also free to look after children while parents are working. Because they have wisdom and experience, they usually do a good job taking care of children. Contact between children and old people is important, because children can learn kindness and gentleness from them.

254 words

Source: Day, R. R., Swan, J. & Masayo, Y. (1999). **Journeys: Reading 3**. Singapore: Prentice Hall ELT

**Passage 2****Differences between College and High School**

The change from high school to college, while pleasurable and exciting, can also be very difficult. There are differences between high school and college. High school gives students an education in all subjects, preparing them for the university. The college, or university, provides an education in a specific field, preparing students for a job. In college, students come and go as they please. In addition, they have to be responsible for the choices that they have made.

Personal freedom is one of the biggest differences. In college students have a great deal of freedom that they do not have in high school. There is no one to tell them to do homework. They have to manage their own time. Students are allowed to choose what classes they want to take and when those classes will be.

The classroom is another difference. In high school, students are in school for about six hours a day. Students are assigned daily homework, which teachers collect and check to insure that assigned work is being done. Teacher-student contact is close and frequent. In college, students spend fifteen to eighteen hours a week in classes. They usually meet professors during the office hours. In high school, there are teachers who watch students and punish them when they do wrong. In college, it is different. Students are old enough to take responsibility for their own actions.

Lastly, couples also start to get more serious in college because some people actually look for a marriage partner. However, most relationships in high school do not last.

257 words

Source:[http://wiki.answers.com/Q/What\\_are\\_the\\_differences\\_and\\_similarities\\_between\\_high\\_school\\_and\\_university](http://wiki.answers.com/Q/What_are_the_differences_and_similarities_between_high_school_and_university)

**Passage 3****Where should One Study?**

Studying abroad and studying in your own country both have benefits for a student. Living in another country can be an exciting experience because everything seems new and different. Living in a new environment can give you courage and self-confidence, too. If you want to learn another language, living abroad is a great way to do that because you can read magazines or newspapers, watch television programs, or make friends with people who are native speakers.

Another good reason to live abroad is to learn more about another culture. It is an opportunity for you to open yourself up to experience that you will never have when you stay home. Living and studying abroad gives you a new and different perspective of the world, and perhaps most important, of your own country. Maybe, it is the only time that you look back on your motherland.

On the other hand, there are also advantages to staying in your own country to study. It is cheaper than living abroad, so you can save more money. Also, in your home country, everything is familiar. You don't have to adjust yourself to a totally new environment. You don't need to worry about taking classes in a foreign language, and you can understand the culture and the expectations of teachers. Finally, if you stay in your own country, you can be close to your family and friends. So, if you are thinking about where to study, consider all of these benefits and make the decision that is right for you.

255 words

Source: Zemach, D. E. & Rumisek, L. A. (2003). College Writing: From Paragraph to Essay. Bangkok: Macmillan. .



**Examples of the fixed-ratio cloze Texts**

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

การทำข้อสอบครั้งนี้เป็นส่วนหนึ่งของงานวิจัยเท่านั้น คะแนนที่ได้จากการสอบไม่มีผลกระทบใด ๆ  
ต่อการสอบในวิชาภาษาอังกฤษ และไม่มีเปิดเผยข้อมูลของท่านต่อสาธารณะ  
ขอขอบคุณอย่างสูงยิ่งต่อนักศึกษาทุกท่านที่ให้ความร่วมมือในการเก็บข้อมูลในครั้งนี้

.....

- คำชี้แจง 1. มีข้อสอบในลักษณะเติมคำลงในช่องว่าง 3 เรื่อง
2. ให้เติมเพียง **1** คำต่อหนึ่งช่อง โดยที่นักศึกษาต้องคิดคำในภาษาอังกฤษด้วยตนเอง  
ทั้งนี้นักศึกษาควรอ่านเนื้อเรื่องให้จบก่อนเพื่อความเข้าใจพื้นฐาน และในการเติมคำแต่ละช่องว่าง  
ควร พิจารณาจากบริบทในเนื้อเรื่อง
3. กรุณาตอบแบบสอบถามที่แนบมาในแผ่นสุดท้ายของข้อสอบ



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

ชื่อ-สกุล \_\_\_\_\_ รหัสนักเรียน \_\_\_\_\_ sec. \_\_\_\_\_

**Story 1****The Ant and the Grasshopper**

In a field one summer's day, Grasshopper was hopping about, chirping and singing to express his heart's joy. Ant passed by, carrying along a stalk of rice, which he was taking to his home.

Grasshopper saw Ant's hard work and said, "Why not come (1) \_\_\_\_\_ chat with me, instead of working so hard all day (2) \_\_\_\_\_? We can dance and play together."

Ant answered, "I am (3) \_\_\_\_\_ to gather and save food for the winter. I suggest (4) \_\_\_\_\_ do the same."

"Why worry about winter?" asked Grasshopper. "We (5) \_\_\_\_\_ plenty of food at present. Let's have some fun. Don't (6) \_\_\_\_\_ so foolish and waste your time working." But Ant went (7) \_\_\_\_\_ its way and continued its work.

When the winter came, (8) \_\_\_\_\_ had no food. In fact, he was hungry and cold. (9) \_\_\_\_\_ passed Ant's home, looked inside, and saw Ant eating some (10) \_\_\_\_\_. Ant had all the rice that he had collected and (11) \_\_\_\_\_ in the summer. Ant was not hungry because he had (12) \_\_\_\_\_ enough food to survive the winter. He was resting and (13) \_\_\_\_\_ his food in his warm and comfortable home.

Grasshopper asked (14) \_\_\_\_\_ for some food. He said that he was cold and (15) \_\_\_\_\_. Ant replied, "You didn't work this summer. You sang and (16) \_\_\_\_\_. You didn't follow my advice. You called me foolish. So (17) \_\_\_\_\_ it is my turn to call you foolish."

When the (18) \_\_\_\_\_ summer came, the grasshopper worked hard to store food for (19) \_\_\_\_\_ upcoming winter. He knew: It was best to prepare for (20) \_\_\_\_\_ days of necessity.

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ชื่อ-สกุล \_\_\_\_\_ รหัสนักศึกษา \_\_\_\_\_ sec. \_\_\_\_\_

**Story 2****Getting Ready for a New Life**

Somchai is a freshman, and he is having all the problems that most freshmen have. As a matter of fact, his problems started before he even left his home in Khon Kaen to study at a university in Bangkok. He had to do a lot of things that he (1) \_\_\_\_\_ not want to do.

Somchai went to Big C in order (2) \_\_\_\_\_ buy new shirts and trousers but he didn't find anything (3) \_\_\_\_\_ liked so he went to Central Plaza. There, he found (4) \_\_\_\_\_ nice shirts and trousers, but they were more expensive than (5) \_\_\_\_\_ at Big C. As soon as he got home, he took (6) \_\_\_\_\_ out of the bag so that his parents wouldn't see (7) \_\_\_\_\_ they came from.

When Somchai was almost ready to leave (8) \_\_\_\_\_ Bangkok, his mother suggested that he visit all his relatives. "(9) \_\_\_\_\_ do you want me to do that for?" he asked, (10) \_\_\_\_\_ she said, "To say good-bye." She made him go see (11) \_\_\_\_\_ grandparents, his aunts and his uncles, and some of his (12) \_\_\_\_\_. He didn't want to see all those people, but he (13) \_\_\_\_\_ it anyway because of his mother's insistence.

On the (14) \_\_\_\_\_ that Somchai left for Bangkok, his sister helped him pack (15) \_\_\_\_\_ clothes. When everything was about ready, he got his father (16) \_\_\_\_\_ take him to the train station, and the whole family (17) \_\_\_\_\_ along. Of course, his mother insisted on hugging him good-bye (18) \_\_\_\_\_ spite of his embarrassment. As soon as Somchai was in (19) \_\_\_\_\_ seat, he started dreaming of his new life away from (20) \_\_\_\_\_.

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ชื่อ-สกุล \_\_\_\_\_ รหัสนักศึกษา \_\_\_\_\_ sec. \_\_\_\_\_

### Story 3

<b>Prince Naresuan</b>	
<p>During the time of King Thammaraja in the Ayutthaya Period, Thailand was under the control of Burma. Naresuan, a boy prince, had been taken to Burma as a hostage. The prince grew up in Burma. When he was 16 (1) _____ old, his father had him return to Thailand. Phra Supankanlaya, (2) _____ elder sister, was sent to Burma as an exchange hostage. (3) _____ was to ensure that Thailand was still under the power (4) _____ Burma.</p>	<p>1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____</p>
<p>Prince Naresuan was a great warrior. The Burmese King (5) _____ this very well and made plans to kill him, but (6) _____ unsuccessful. In 1584 the prince was ordered by the Burmese (7) _____ to lead the army to destroy the Mon people in Ava. (8) _____, the prince discovered that he would be attacked by the Burmese (9) _____. This made him very angry, so he declared independence for (10) _____ Kingdom of Thailand in Ava. Moreover, the Prince led his (11) _____ to the capital of Burma to free more than 10,000 Thai (12) _____ who were being kept as hostages there.</p>	<p>7. _____ 8. _____ 9. _____ 10. _____ 11. _____ 12. _____ 13. _____</p>
<p>The King of (13) _____ was very unhappy with Prince Naresuan, so he sent armies (14) _____ Thailand to destroy Ayutthaya, but he could not kill the (15) _____. In the fifth battle, Prince Naresuan did not wait for (16) _____ Burmese army in Ayutthaya. Instead, he led the army (17) _____ Nongsarai, Supanburi. There, he had a battle with the Burmese Crown Prince. (18) _____ two princes had a fight on the elephants and the (19) _____ Prince was killed. After that Ayutthaya was left in peace (20) _____ a long time.</p>	<p>14. _____ 15. _____ 16. _____ 17. _____ 18. _____ 19. _____ 20. _____</p>

## แบบสอบถาม

กรุณาแสดงความคิดเห็นของท่านที่มีต่อความยากง่ายของข้อสอบโดยใช้ตัวเลขจาก **1-3**

**3** มีความยากที่สุด

**2** มียากรองลงมา

**1** มีความยากน้อย

\_\_\_\_\_ Story 1 The Ant and the Grasshopper

\_\_\_\_\_ Story 2 Getting Ready for a New Life

\_\_\_\_\_ Story 3 Prince Naresuan

กรุณาระบุเหตุผล

Story \_\_\_\_\_ มีความยากที่สุดเนื่องจาก

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Story \_\_\_\_\_ มีความยากรองลงมาเนื่องจาก

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Story \_\_\_\_\_ มีความยากน้อยเนื่องจาก

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ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

การทำข้อสอบครั้งนี้เป็นส่วนหนึ่งของงานวิจัยเท่านั้น คะแนนที่ได้จากการสอบไม่มีผลกระทบใด ๆ  
ต่อการสอบในวิชาภาษาอังกฤษ และไม่มีการเปิดเผยข้อมูลของท่านต่อสาธารณะ  
ขอขอบคุณอย่างสูงยิ่งต่อนักศึกษาทุกท่านที่ให้ความร่วมมือในการเก็บข้อมูลในครั้งนี้

.....

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นักศึกษา ควรอ่านเนื้อเรื่องให้จบก่อนเพื่อความเข้าใจพื้นฐาน และในการเติมคำแต่ละช่องว่างควร  
พิจารณาจากบริบทในเนื้อเรื่อง
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ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

ชื่อ-สกุล \_\_\_\_\_ รหัสนักศึกษา \_\_\_\_\_ sec. \_\_\_\_\_

### Passage 1

<b>Old Age in Present Society</b>	
<p>People today live longer than in the past. Long life in rich countries is already causing both good and bad things.</p>	1. _____
<p>There are at least two negative problems from old age. (1) _____ first is that old people often need others to take (2) _____ of them. Old people cannot easily go places alone or (3) _____ many things without help. An old person may not be (4) _____ to drive a car safely. When older people retire, the (5) _____ pays them money to help them live. In many rich (6) _____, support for retired people is one of the biggest government (7) _____.</p>	2. _____ 3. _____ 4. _____ 5. _____ 6. _____
<p>The second problem is the high cost of medical care (8) _____ older people. They get sick more often than young people. (9) _____ often need to stay in hospital for a long time. (10) _____ need expensive medicines.</p>	7. _____ 8. _____ 9. _____
<p>However, older people help society in many (11) _____. They have knowledge and experience to give to younger people. (12) _____ business people can give advice to young people who are (13) _____ new businesses or having business problems.</p>	10. _____ 11. _____ 12. _____
<p>Retired people also have (14) _____ time for community work. Old people can teach children to (15) _____. They also help people who are in trouble, such as (16) _____ who take drugs, people in prison, and people without homes.</p>	13. _____ 14. _____ 15. _____
<p>(17) _____ people are also free to look after children while parents (18) _____ working. Because they have wisdom and experience, they usually do (19) _____ good job taking care of children. Contact between children and (20) _____ people is important, because children can learn kindness and gentleness from them.</p>	16. _____ 17. _____ 18. _____ 19. _____ 20. _____

ชื่อ-สกุล \_\_\_\_\_ รหัสนักศึกษา \_\_\_\_\_ sec. \_\_\_\_\_

**Passage 2****Differences between College and High School**

The change from high school to college, while pleasurable and exciting, can also be very difficult. There are differences between high school and college. High school gives students an education in all subjects, preparing (1) \_\_\_\_\_ for the university. The college, or university, provides an education (2) \_\_\_\_\_ a specific field, preparing students for a job. In college, (3) \_\_\_\_\_ come and go as they please. In addition, they have (4) \_\_\_\_\_ be responsible for the choices that they have made.

Personal (5) \_\_\_\_\_ is one of the biggest differences. In college students have (6) \_\_\_\_\_ great deal of freedom that they do not have in (7) \_\_\_\_\_ school. There is no one to tell them to do (8) \_\_\_\_\_. They have to manage their own time. Students are allowed (9) \_\_\_\_\_ choose what classes they want to take and when those (10) \_\_\_\_\_ will be.

The classroom is another difference. In high school, (11) \_\_\_\_\_ are in school for about six hours a day. Students (12) \_\_\_\_\_ assigned daily homework, which teachers collect and check to insure (13) \_\_\_\_\_ assigned work is being done. Teacher-student contact is close (14) \_\_\_\_\_ frequent. In college, students spend fifteen to eighteen hours a (15) \_\_\_\_\_ in classes. They usually meet professors during the office hours. (16) \_\_\_\_\_ high school, there are teachers who watch students and punish (17) \_\_\_\_\_ when they do wrong. In college, it is different. Students (18) \_\_\_\_\_ old enough to take responsibility for their own actions.

Lastly, (19) \_\_\_\_\_ also start to get more serious in college because some (20) \_\_\_\_\_ actually look for a marriage partner. However, most relationships in high school do not last.

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ชื่อ-สกุล \_\_\_\_\_ รหัสนักศึกษา \_\_\_\_\_ sec. \_\_\_\_\_

**Passage 3****Where should One Study?**

Studying abroad and studying in your own country both have benefits for a student. Living in another country can be an exciting experience because everything seems new and different. Living in a new environment can give you courage and (1) \_\_\_\_\_-confidence, too. If you want to learn another language, living (2) \_\_\_\_\_ is a great way to do that because you can (3) \_\_\_\_\_ magazines or newspapers, watch television programs, or make friends with (4) \_\_\_\_\_ people who are native speakers.

Another good reason to live (5) \_\_\_\_\_ is to learn more about another culture. It is an (6) \_\_\_\_\_ for you to open yourself up to experience that you (7) \_\_\_\_\_ never have when you stay home. Living and studying abroad (8) \_\_\_\_\_ you a new and different perspective of the world, and (9) \_\_\_\_\_ most important, of your own country. Maybe, it is the (10) \_\_\_\_\_ time that you look back on your motherland.

On the (11) \_\_\_\_\_ hand, there are also advantages to staying in your own (12) \_\_\_\_\_ to study. It is cheaper than living abroad, so you (13) \_\_\_\_\_ save more money. Also, in your home country, everything is (14) \_\_\_\_\_. You don't have to adjust yourself to a totally new (15) \_\_\_\_\_. You don't need to worry about taking classes in a (16) \_\_\_\_\_ language, and you can understand the culture and the expectations (17) \_\_\_\_\_ teachers. Finally, if you stay in your own country, you (18) \_\_\_\_\_ be close to your family and friends. So, if you (19) \_\_\_\_\_ thinking about where to study, consider all of these benefits (20) \_\_\_\_\_ make the decision that is right for you.

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## แบบสอบถาม

กรุณาแสดงความคิดเห็นของท่านที่มีต่อความยากง่ายของข้อสอบโดยใช้ตัวเลขจาก **1-3**

**3** มีความยากที่สุด

**2** มียากรองลงมา

**1** มีความยากน้อย

\_\_\_\_\_ **Passage 1 Old Age in Present Society**

\_\_\_\_\_ **Passage 2 Differences between College and High School**

\_\_\_\_\_ **Passage 3 Where should One Study?**

กรุณาระบุเหตุผล

Passage \_\_\_\_\_ มีความยากที่สุดเนื่องจาก

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Passage \_\_\_\_\_ มีความยากรองลงมาเนื่องจาก

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Passage \_\_\_\_\_ มีความยากน้อยเนื่องจาก

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ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

**The final version of the narrative and expository cloze texts**



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

การทำข้อสอบครั้งนี้เป็นส่วนหนึ่งของงานวิจัยเท่านั้น คะแนนที่ได้จากการสอบไม่มีผลกระทบใด ๆ  
 ต่อการสอบในวิชาภาษาอังกฤษ และไม่มีเปิดเผยข้อมูลของท่านต่อสาธารณะ  
 ขอขอบคุณอย่างสูงยิ่งต่อนักศึกษาทุกท่านที่ให้ความร่วมมือในการเก็บข้อมูลในครั้งนี้

- .....
- คำชี้แจง
1. มีข้อสอบในลักษณะเติมคำลงในช่องว่าง 2 เรื่อง
  2. ให้เติมเพียง **1** คำต่อหนึ่งช่อง โดยที่นักศึกษาต้องคิดคำในภาษาอังกฤษด้วยตนเอง  
 ทั้งนี้ นักศึกษาควรอ่านเนื้อเรื่องให้จบก่อนเพื่อความเข้าใจพื้นฐาน และในการเติมคำ  
 แต่ละช่องว่างควรพิจารณาจากบริบทในเนื้อเรื่อง
  3. กรุณาตอบแบบสอบถามที่แนบมาด้วย



ศูนย์วิทยทรัพยากร  
 จุฬาลงกรณ์มหาวิทยาลัย

ชื่อ-สกุล \_\_\_\_\_ รหัสนักศึกษา \_\_\_\_\_

### The Ant and the Grasshopper

In a field one summer's day, Grasshopper was hopping about, chirping and singing to express his heart's joy. Ant passed by, carrying along a stalk of rice, which he was taking to his home.

Grasshopper saw Ant's hard work (1) \_\_\_\_\_ said, "Why not come and chat with me, instead of (2) \_\_\_\_\_ so hard all day long? We can dance and play (3) \_\_\_\_\_."

Ant (4) \_\_\_\_\_, "I am working to gather and save food for the winter. I suggest you do (5) \_\_\_\_\_ same."

"Why worry (6) \_\_\_\_\_ winter?" asked Grasshopper. "We have plenty of food at present. Let's have some (7) \_\_\_\_\_. Don't be so foolish and waste your time working." (8) \_\_\_\_\_ Ant went on its way and continued its work.

When the winter came, (9) \_\_\_\_\_ had no food. In fact, he was hungry and cold. He passed Ant's home, (10) \_\_\_\_\_ inside, and saw Ant eating some rice. Ant had all the (11) \_\_\_\_\_ that he had collected and stored in the summer. Ant was (12) \_\_\_\_\_ hungry because he had gathered enough food to survive the winter. He was resting and enjoying his (13) \_\_\_\_\_ in his warm and comfortable home.

Grasshopper asked (14) \_\_\_\_\_ for some food. He said that he was cold and (15) \_\_\_\_\_. Ant replied, "You didn't work this summer. You sang and danced. (16) \_\_\_\_\_ didn't follow my advice. You called me foolish. So now it is my turn to (17) \_\_\_\_\_ you foolish."

When the next summer came, the grasshopper worked (18) \_\_\_\_\_ to store food for the (19) \_\_\_\_\_ winter. He knew: It was best to (20) \_\_\_\_\_ for the days of necessity.

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ชื่อ-สกุล \_\_\_\_\_ วิทยาลัย \_\_\_\_\_

### Old Age in Present Society

People today live longer than in the past. Long life in rich countries is already causing both good and bad things.

There are at least two negative problems from old age.

The first is that old people often need (1) \_\_\_\_\_ to take care of them. Old people cannot easily go places alone (2) \_\_\_\_\_ do many things without help. An old person may (3) \_\_\_\_\_ be able to drive a car safely. When older people retire, the government pays them (4) \_\_\_\_\_ to help them live. In many rich countries, support for retired (5) \_\_\_\_\_ is one of the biggest (6) \_\_\_\_\_ expenses.

(7) \_\_\_\_\_ second problem is the high cost of medical care for older people. They get sick (8) \_\_\_\_\_ often than young people. They often need to stay in hospital for a long time. (9) \_\_\_\_\_ need expensive medicines.

(10) \_\_\_\_\_, older people help society in many ways. They have knowledge and experience to (11) \_\_\_\_\_ to younger people. Retired business people can give advice to young people (12) \_\_\_\_\_ are starting new businesses or having (13) \_\_\_\_\_ problems.

(14) \_\_\_\_\_ people also have free time for community work. Old people can (15) \_\_\_\_\_ children to read. They also help people who are in (16) \_\_\_\_\_, such as people who take drugs, people in prison, and people without homes.

Old people are also (17) \_\_\_\_\_ to look after children while parents are working. Because they have wisdom and (18) \_\_\_\_\_, they usually do a good job taking (19) \_\_\_\_\_ of children. Contact between children and (20) \_\_\_\_\_ people is important, because children can learn kindness and gentleness from them.

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**Appendix F**

**Cloze test scoring keys**

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

## Cloze test scoring keys

There are two types of scores: 2 points and 1 point. Alternatives that are semantically acceptable with minor spelling mistakes are given 2 points.

The alternatives that are in the following forms are given 1 point:

- those in which word choice is not appropriate, but reflects test takers' understanding of the story
- those that are not grammatically correct but the meaning of the slot is maintained;
- those that are not syntactically acceptable but the meaning of the slot is maintained; and
- those that violate the instructions by inserting more than one word, but the meaning of the slot is maintained.

.....

### Scoring key for the narrative cloze: The Ant and The Grasshopper

\*Words in capital letters are the exact words in the original passage.

Items	2 points	1 point
1	AND, then	Grasshopper, grasshopper, he, it, <i>she</i>
2	WORKING	Work, <i>hard work</i>
3	TOGETHER, music, songs	- song, <i>now, games, game</i>
4	ANSWERED, said, replied	answer, say, reply
5	THE	-
6	ABOUT	at, for
7	FUN, rest	party, <i>food, dance</i>
8	BUT, however	
9	GRASSHOPPER, grasshopper	he, the grasshopper, it
10	LOOKED, came	look, looks, come, walked, walk, go
11	RICE, food, foods	stuff
12	NOT, no	
13	FOOD, meal, life, breakfast	live (misspelled of "life)
14	ANT, ant	the ant, him
15	HUNGRY	tired, weak
16	YOU, you	
17	CALL	called, calling, name
18	HARD	very hard
19	UPCOMING, next, coming	long, cold
20	PREPARE, work, save	gather, store, <i>save food</i>

**Scoring key for the expository cloze: Old Age in the Present Society**

<b>Items</b>	<b>2 points</b>	<b>1 point</b>
1	OTHERS, someone, relatives, people	us, young people, family, person
2	OR	and, to
3	NOT	
4	MONEY	pension, salary, pensions
5	PEOPLE, citizens, persons	person
6	GOVERNMENT, government's, country's, countries', public	in, extra, welfare
7	THE	-
8	MORE	-
9	THEY	-
10	HOWEVER, Nevertheless, But, however, nevertheless, but, anyway	On the other hand
11	GIVE	help, share, advise, advice
12	WHO, that	whom
13	BUSINESS, some, many, other, negative	<i>new</i>
14	OLD, Older, Retired, old, older, retired	
15	TEACH, help, train	
16	TROUBLE, troubles	problems
17	FREE, able, available, helpful, useful	needed, helping, help, willing
18	EXPERIENCE, experiences, maturity, patience	Intelligence, kindness, kind
19	CARE	
20	OLD, older, retired	

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย



## Appendix G

**Results of the first two tryouts of the rational deletion cloze test**

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

### One-Sample Kolmogorov-Smirnov Test

		VAR00001
N		110
Normal Parameters(a,b)	Mean	109.9430
	Std. Deviation	33.42186
Most Extreme Differences	Absolute	.079
	Positive	.079
	Negative	-.077
Kolmogorov-Smirnov Z		.848
Asymp. Sig. (2-tailed)		.468

a Test distribution is Normal.

b Calculated from data.

### Results of the first tryout of the narrative cloze text

#### Case Processing Summary

		N	%
Cases	Valid	110	100.0
	Excluded (a)	0	.0
	Total	110	100.0

a Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.838	.836	20

#### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
25.3364	60.189	7.75813	20

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
VAR00001	24.1455	56.621	.368	.369	.833
VAR00002	24.4545	55.663	.510	.477	.828
VAR00003	24.0909	52.304	.536	.464	.824
<b>VAR00004</b>	<b>23.6091</b>	<b>58.222</b>	<b>.167</b>	<b>.339</b>	<b>.840</b>
VAR00005	24.3727	52.713	.444	.421	.830
VAR00006	23.9182	53.874	.428	.399	.830
<b>VAR00007</b>	<b>24.5636</b>	<b>57.808</b>	<b>.159</b>	<b>.161</b>	<b>.842</b>
<b>VAR00008</b>	<b>25.0636</b>	<b>59.418</b>	<b>.028</b>	<b>.287</b>	<b>.846</b>
VAR00009	23.8091	54.706	.443	.469	.829
VAR00010	24.4636	53.242	.520	.559	.826
VAR00011	23.7273	52.017	.661	.682	.819
VAR00012	23.8545	52.603	.537	.567	.824
VAR00013	24.2818	53.599	.385	.352	.833
VAR00014	23.7545	55.343	.378	.384	.832
VAR00015	23.4818	56.949	.377	.470	.833
VAR00016	23.6545	54.779	.452	.414	.829
VAR00017	24.1545	51.141	.631	.590	.819
VAR00018	23.5182	56.105	.433	.445	.831
VAR00019	23.8455	51.875	.626	.601	.820
<b>VAR00020</b>	<b>24.6273</b>	<b>56.695</b>	<b>.217</b>	<b>.307</b>	<b>.840</b>

### Results of the first tryout of the expository cloze text

#### Case Processing Summary

		N	%
Cases	Valid	110	100.0
	Excluded (a)	0	.0
	Total	110	100.0

a Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.779	.774	20



## Scale Statistics

Mean	Variance	Std. Deviation	N of Items
20.6182	53.541	7.31717	20

## Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
VAR00001	19.3091	47.537	.421	.450	.764
VAR00002	19.7455	50.430	.318	.448	.772
VAR00003	19.3909	45.323	.561	.451	.753
VAR00004	19.5455	48.342	.323	.305	.772
VAR00005	19.7636	46.439	.508	.462	.758
VAR00006	20.4909	51.537	.361	.562	.773
<b>VAR00007</b>	<b>18.7455</b>	<b>52.375</b>	<b>.130</b>	<b>.106</b>	<b>.780</b>
VAR00008	19.4727	46.784	.424	.401	.764
<b>VAR00009</b>	<b>19.0455</b>	<b>51.457</b>	<b>.124</b>	<b>.327</b>	<b>.784</b>
<b>VAR00010</b>	<b>20.1091</b>	<b>52.263</b>	<b>.040</b>	<b>.417</b>	<b>.790</b>
<b>VAR00011</b>	<b>20.3364</b>	<b>52.739</b>	<b>.073</b>	<b>.405</b>	<b>.782</b>
VAR00012	19.5273	43.022	.725	.690	.739
VAR00013	19.3727	45.319	.572	.541	.753
VAR00014	19.4545	49.259	.237	.411	.779
VAR00015	19.1273	49.488	.267	.363	.775
VAR00016	20.3818	50.715	.317	.469	.772
VAR00017	19.7909	47.378	.511	.604	.759
<b>VAR00018</b>	<b>19.8273</b>	<b>51.557</b>	<b>.077</b>	<b>.373</b>	<b>.790</b>
VAR00019	19.2727	45.595	.562	.477	.754
VAR00020	19.0364	50.090	.241	.254	.776

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จุฬาลงกรณ์มหาวิทยาลัย

**Results of the second tryout**



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## Results of the second tryout of the narrative cloze text

### Case Processing Summary

		N	%
Cases	Valid	197	100.0
	Excluded (a)	0	.0
	Total	197	100.0

a Listwise deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.814	.821	20

### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
25.3858	60.208	7.75935	20

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### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
VAR00001	24.2234	56.756	.319	.247	.810
VAR00002	24.4873	55.506	.496	.361	.803
VAR00003	24.0914	53.022	.494	.324	.800
<b>VAR00004</b>	<b>24.0609</b>	<b>58.037</b>	<b>.117</b>	<b>.292</b>	<b>.820</b>
VAR00005	24.0609	55.435	.285	.288	.812
VAR00006	23.9848	54.403	.375	.274	.807
<b>VAR00007</b>	<b>24.2690</b>	<b>55.810</b>	<b>.280</b>	<b>.299</b>	<b>.812</b>
<b>VAR00008</b>	<b>24.8832</b>	<b>56.491</b>	<b>.253</b>	<b>.247</b>	<b>.813</b>
VAR00009	23.8477	53.711	.511	.501	.800
VAR00010	24.2640	53.450	.455	.452	.802
VAR00011	23.8985	51.806	.608	.555	.793
VAR00012	24.3959	55.302	.263	.385	.814
VAR00013	24.2234	54.511	.327	.236	.810
VAR00014	23.9289	55.495	.329	.223	.809
VAR00015	23.5990	56.425	.366	.269	.808
VAR00016	23.6853	54.809	.464	.362	.803
VAR00017	24.1929	51.503	.593	.513	.794
VAR00018	23.5990	55.466	.473	.337	.803
VAR00019	23.9036	53.669	.485	.403	.801
<b>VAR00020</b>	<b>24.7310</b>	<b>55.759</b>	<b>.298</b>	<b>.181</b>	<b>.811</b>

### Results of the second try out of expository cloze test

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.802	.790	20

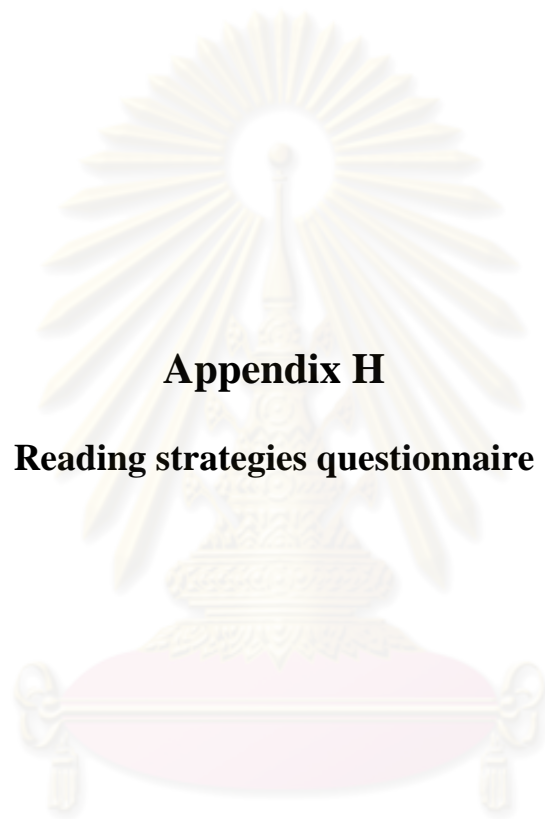
#### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
20.3655	58.886	7.67373	20

## Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
VAR00001	19.0609	53.282	.376	.362	.793
VAR00002	19.4619	55.240	.373	.349	.794
VAR00003	19.1472	50.351	.553	.404	.781
VAR00004	19.2589	53.040	.357	.250	.794
VAR00005	19.5787	51.806	.480	.389	.787
VAR00006	20.2335	57.251	.238	.346	.800
<b>VAR00007</b>	<b>18.4975</b>	<b>57.323</b>	<b>.175</b>	<b>.117</b>	<b>.802</b>
VAR00008	19.1980	51.374	.461	.387	.788
VAR00009	18.8680	55.197	.230	.316	.802
<b>VAR00010</b>	<b>19.8832</b>	<b>56.940</b>	<b>.096</b>	<b>.298</b>	<b>.809</b>
<b>VAR00011</b>	<b>20.0964</b>	<b>58.588</b>	<b>.002</b>	<b>.252</b>	<b>.808</b>
VAR00012	19.2792	48.355	.686	.622	.771
VAR00013	19.0761	50.724	.545	.416	.782
VAR00014	19.1980	53.211	.326	.246	.797
VAR00015	18.8934	52.769	.416	.395	.791
VAR00016	20.0711	55.332	.329	.361	.796
VAR00017	19.5939	52.732	.491	.555	.787
<b>VAR00018</b>	<b>19.6904</b>	<b>55.909</b>	<b>.152</b>	<b>.359</b>	<b>.807</b>
VAR00019	19.0558	49.441	.641	.513	.775
VAR00020	18.8020	55.109	.251	.219	.800

ศูนย์วิทยทรัพยากร  
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## **Appendix H**

### **Reading strategies questionnaire**

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย



## Questionnaire

This questionnaire is aimed at getting your information on your cloze test performance. Please provide the information concerning the cloze test and your use of reading strategies and text information on your cloze test taking. **Put a tick (/) for appropriate boxes.**

Thank you very much.

.....

### I: Students' Perception of cloze test format

1. Are you familiar with this test format?  
 {10% } Yes                      {90% } No
  
2. What language ability do you perceive this test measure?  
 You can choose more than one answer.  
 {90.9 % } vocabulary  
 {72.7% } grammar and structure  
 {90.9% } reading comprehension  
 {9.1% } writing  
 { - } other Please specify .....

### II. Students' use of reading strategies on completing cloze test.

3. What reading strategies did you use on your answering the cloze test?  
 You can choose more than one answer.  
 {100% } reading the whole cloze passage before working on the blanks  
 {72.7 % } skipping unknown words while reading the cloze passage  
 {79% } using sentence structures  
 {57.2% } using rhetorical pattern of organization  
 {95.5 % } focusing on vocabulary  
 {100 % } using context to restore the cloze blanks  
 {95.5 % } looking for key words and phrases  
 {74.5 % } using punctuation  
 {44.2 % } making inferences  
 {40.9 % } using main idea  
 {83.6 % } using prior or world knowledge  
 { - } other Please specify .....

Continue on the next page.

### III. Students' use of text information on their restoring cloze gaps.

4. What text information did you generally use on your restoring the cloze gaps?

You can choose more than one answer.

{70.9% }information in the clause where the gap appears

{80.9% }information in the sentence where the gap appears

{79.1% }information in the preceding sentences

{60.9% }information in the following sentences

{51.8% }information from your world knowledge

### IV. Students' perception of the impact of the cloze test

5. If you were trained to do this type of cloze test, do you think this cloze procedure would help you improve your English language competence?

{86.3% }Yes, very much.

{ 9.1% }Yes, but not much.

{ 4.6% }No, it would not help.

**Thank you very much for your cooperation.**

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย



- { } อนุমানความหมายแฝง
- { } ใช้ใจความสำคัญในการทำความเข้าใจ
- { } ใช้ความรู้พื้นฐานจากภูมิหลังในการทำความเข้าใจ
- { } อื่น ๆ โปรดระบุ .....

### III. การใช้เนื้อความหรือข้อมูลในเนื้อเรื่องเพื่อการเติมคำลงในช่องว่าง

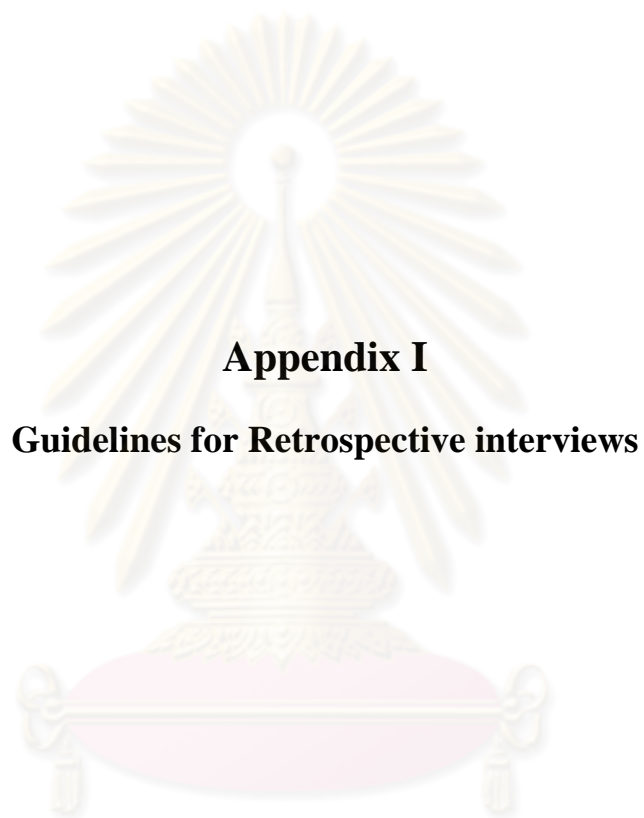
4. ท่านใช้เนื้อความหรือข้อมูลในลักษณะใดดังต่อไปนี้ในการเติมคำลงในช่องว่าง
- { } เนื้อความหรือข้อมูลในวลีที่ช่องว่างปรากฏอยู่
  - { } เนื้อความหรือข้อมูลในประโยคที่ช่องว่างปรากฏอยู่
  - { } เนื้อความหรือข้อมูลในประโยคต่าง ๆ ก่อนประโยคที่ช่องว่างปรากฏอยู่
  - { } เนื้อความหรือข้อมูลในประโยคต่าง ๆ หลังประโยคที่ช่องว่างปรากฏอยู่
  - { } ข้อมูลจากความรู้พื้นฐานจากภูมิหลังของตัวเอง

### IV. ความรู้สึกของท่านที่มีต่อผลสะท้อนที่ได้รับจากการทำแบบทดสอบโคลซ

5. ท่านคิดว่าหากได้รับการฝึกฝนในการทำแบบทดสอบในลักษณะนี้ จะเป็นการช่วยพัฒนาความสามารถทางภาษาอังกฤษของท่านได้หรือไม่
- { } ช่วยได้มาก
  - { } ช่วยได้เล็กน้อย
  - { } ไม่สามารถช่วยได้

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

ขอขอบคุณอย่างสูงยิ่งต่อนักศึกษาทุกท่านที่ให้ความร่วมมือในการเก็บข้อมูลในครั้งนี้



## **Appendix I**

### **Guidelines for Retrospective interviews**

ศูนย์วิทยพัทพยาบาล  
จุฬาลงกรณ์มหาวิทยาลัย

### Guidelines for retrospective interviews

- Step 1: Inform the participant the purpose of the retrospective interview. Let her/him aware that her/his information is important to the study, and it is not a fault-finding process.
- Step 2: Provide the participant with the photocopies of her/his cloze test paper.
- Step 3: Ask her/him on how they approach the cloze test whether s/he has read the whole text before starting to solve each cloze item.
- Step 4: Invite her/him to provide the information on how s/he has solved each cloze item. If the participant does not say anything, or if there is a long pause, s/he should be encouraged by saying “what came into your mind when you first saw this blank?”
- Step 5: At the end of the interview, ask the participant’s opinion of the cloze test whether s/he has found the test useful.

The following is the evaluation form for the raters.

Items	WithinCL	WithinSEN	AcSEN	ExText	Guessing	Remarks
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						





## Appendix J

**Statistics details of the reading test in the main study**

ศูนย์วิทยพัทพยาบาล  
จุฬาลงกรณ์มหาวิทยาลัย

# CTIA 50

This is CLASSICAL TEST ITEM ANALYSIS PROGRAM, Version 9 (2550)

to analyze M/C item and assign grades.

It was originally written for DOS by

Dr. Suphat Sukamolson, Ph.D. \*

(Educational Measurement and Evaluation),

and updated for Windows by

Mr. Komson Eiamjamrus, M.Sc.

LANGUAGE INSTITUTE

CHULALONGKORN UNIVERSITY, 2004

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[\* Sukamolson, S. *Computerized Item Analyses and Grading*. BKK: Wittayaphat, 2542.]

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

**CONTROL PARAMETERS****Total Items:** 40**Items Analyzed:** 40**From Item:** 1**To Item:** 40**Number of Choices:** 4**NUMERIC ANSWER KEYS****KEYS:** 4343423332234334334441214234233343321242

43434 23332 23433 43344 41214 23423 33433 21242



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

## RANKED SCORES

RANK SCORES	RAW SCORES	PERCENT SCORES	IDENTIFICATION
1	39	97.5	046
2	37	92.5	047
3	33	82.5	048
4	32	80.0	001
4	32	80.0	027
4	32	80.0	138
4	32	80.0	142
8	31	77.5	075
8	31	77.5	096
10	30	75.0	045
11	29	72.5	077
12	28	70.0	042
12	28	70.0	065
12	28	70.0	095
15	27	67.5	055
16	26	65.0	002
16	26	65.0	003
16	26	65.0	151
19	25	62.5	009
19	25	62.5	064
19	25	62.5	085
19	25	62.5	119
19	25	62.5	152
19	25	62.5	154
25	24	60.0	011
25	24	60.0	063
25	24	60.0	067
25	24	60.0	091
25	24	60.0	145
30	23	57.5	018
30	23	57.5	020
30	23	57.5	035
30	23	57.5	158
30	23	57.5	165
30	23	57.5	181
36	22	55.0	023
36	22	55.0	025

## RANKED SCORES

RANK SCORES	RAW SCORES	PERCENT SCORES	IDENTIFICATION
36	22	55.0	039
36	22	55.0	049
36	22	55.0	062
36	22	55.0	089
36	22	55.0	107
36	22	55.0	115
36	22	55.0	118
36	22	55.0	128
36	22	55.0	141
36	22	55.0	157
36	22	55.0	161
36	22	55.0	177
50	21	52.5	031
50	21	52.5	036
50	21	52.5	050
50	21	52.5	054
50	21	52.5	057
50	21	52.5	072
50	21	52.5	088
50	21	52.5	090
50	21	52.5	127
50	21	52.5	166
50	21	52.5	167
61	20	50.0	111
61	20	50.0	169
61	20	50.0	174
64	19	47.5	033
64	19	47.5	038
64	19	47.5	043
64	19	47.5	044
64	19	47.5	061
64	19	47.5	081
64	19	47.5	101
64	19	47.5	130
64	19	47.5	136
64	19	47.5	164
64	19	47.5	173

## RANKED SCORES

RANK SCORES	RAW SCORES	PERCENT SCORES	IDENTIFICATION
75	18	45.0	015
75	18	45.0	056
75	18	45.0	068
75	18	45.0	071
75	18	45.0	113
75	18	45.0	148
75	18	45.0	170
82	17	42.5	006
82	17	42.5	032
82	17	42.5	100
82	17	42.5	171
86	16	40.0	004
86	16	40.0	021
86	16	40.0	080
86	16	40.0	109
86	16	40.0	139
86	16	40.0	179
92	15	37.5	012
92	15	37.5	024
92	15	37.5	040
92	15	37.5	053
92	15	37.5	078
92	15	37.5	083
92	15	37.5	087
92	15	37.5	104
92	15	37.5	140
101	14	35.0	008
101	14	35.0	019
101	14	35.0	066
101	14	35.0	120
101	14	35.0	134
101	14	35.0	146
101	14	35.0	168
108	13	32.5	007
108	13	32.5	014
108	13	32.5	016
108	13	32.5	052



## RANKED SCORES

RANK SCORES	RAW SCORES	PERCENT SCORES	IDENTIFICATION
108	13	32.5	058
108	13	32.5	070
108	13	32.5	093
108	13	32.5	099
108	13	32.5	106
108	13	32.5	137
108	13	32.5	144
108	13	32.5	160
120	12	30.0	005
120	12	30.0	030
120	12	30.0	084
120	12	30.0	114
120	12	30.0	131
120	12	30.0	133
120	12	30.0	175
127	11	27.5	026
127	11	27.5	073
127	11	27.5	079
127	11	27.5	092
127	11	27.5	097
127	11	27.5	132
127	11	27.5	147
127	11	27.5	155
127	11	27.5	182
136	10	25.0	013
136	10	25.0	028
136	10	25.0	051
136	10	25.0	102
136	10	25.0	108
136	10	25.0	112
136	10	25.0	124
136	10	25.0	125
136	10	25.0	135
136	10	25.0	143
136	10	25.0	153
136	10	25.0	172
148	9	22.5	022

## RANKED SCORES

RANK SCORES	RAW SCORES	PERCENT SCORES	IDENTIFICATION
148	9	22.5	029
148	9	22.5	034
148	9	22.5	059
148	9	22.5	069
148	9	22.5	074
148	9	22.5	076
148	9	22.5	086
148	9	22.5	110
148	9	22.5	122
148	9	22.5	126
148	9	22.5	129
148	9	22.5	150
148	9	22.5	156
148	9	22.5	178
163	8	20.0	098
163	8	20.0	116
163	8	20.0	117
163	8	20.0	162
163	8	20.0	163
163	8	20.0	180
169	7	17.5	010
169	7	17.5	017
169	7	17.5	037
169	7	17.5	041
169	7	17.5	123
169	7	17.5	149
169	7	17.5	176
176	6	15.0	060
176	6	15.0	082
176	6	15.0	094
176	6	15.0	103
180	5	12.5	121
180	5	12.5	159
182	4	10.0	105

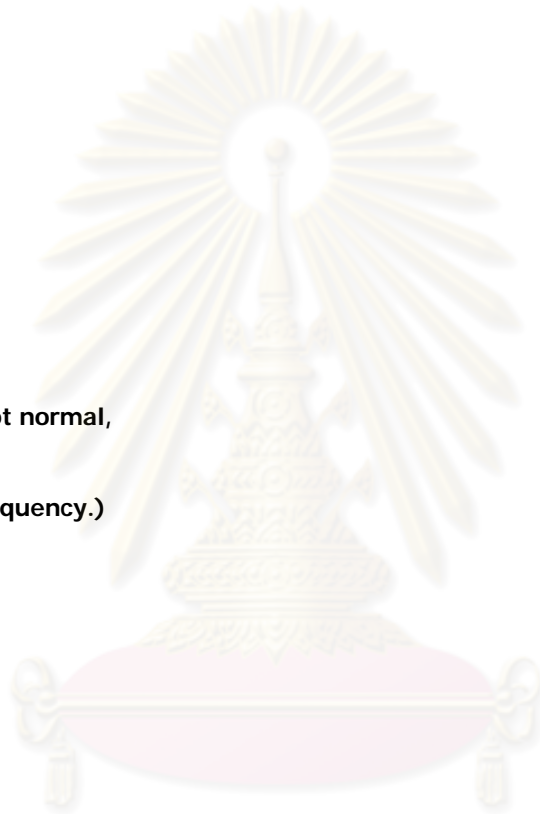
**SCORE STATISTICS**

**No. of Items:** 40  
**Respondents:** 182  
**Mean Score:** 16.57  
**Standard Deviation:** 7.18  
**Mean Standard Error:** 0.532  
**Maximum:** 39  
**Minimum:** 4  
**Range:** 35  
**Quartile Deviation:** 6.00  
**Median:** 15.50  
**Mode\*:** 9  
**Skewness:** 0.54  
**Kurtosis:** -0.22

\* Estimated Mode,

If the score distribution is not normal,  
look for the actual mode.

(The score with highest frequency.)



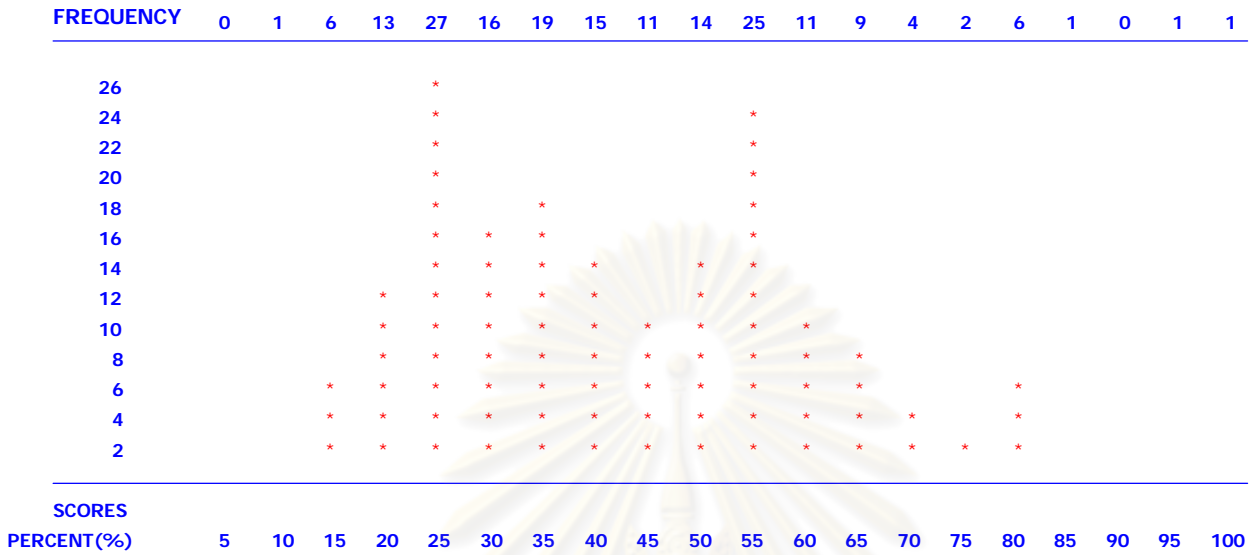
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จุฬาลงกรณ์มหาวิทยาลัย

## DISTRIBUTION OF SCORES

SCORES		FREQUENCY	CUMULATIVE FREQUENCY	PERCENT FREQUENCY	CUMULATIVE PERCENT FREQUENCY	PERCENTILE RANK	NORMALIZED T-SCORE	STANINE SCORE	Z SCORE	LINEAR T-SCORE
RAW	PERCENT									
39	97.5	1	1	0.5	0.5	99.7	78	1	3.124	81.2
37	92.5	1	2	0.5	1.1	99.2	74	1	2.845	78.5
33	82.5	1	3	0.5	1.6	98.6	73	1	2.288	72.9
32	80.0	4	7	2.2	3.8	97.3	70	1	2.149	71.5
31	77.5	2	9	1.1	4.9	95.6	68	2	2.010	70.1
30	75.0	1	10	0.5	5.5	94.8	67	2	1.870	68.7
29	72.5	1	11	0.5	6.0	94.2	66	2	1.731	67.3
28	70.0	3	14	1.6	7.7	93.1	65	2	1.592	65.9
27	67.5	1	15	0.5	8.2	92.0	65	2	1.453	64.5
26	65.0	3	18	1.6	9.9	90.9	64	2	1.314	63.1
25	62.5	6	24	3.3	13.2	88.5	62	3	1.174	61.7
24	60.0	5	29	2.7	15.9	85.4	61	3	1.035	60.4
23	57.5	6	35	3.3	19.2	82.4	60	3	0.896	59.0
22	55.0	14	49	7.7	26.9	76.9	58	4	0.757	57.6
21	52.5	11	60	6.0	33.0	70.1	56	4	0.617	56.2
20	50.0	3	63	1.6	34.6	66.2	55	4	0.478	54.8
19	47.5	11	74	6.0	40.7	62.4	54	4	0.339	53.4
18	45.0	7	81	3.8	44.5	57.4	52	5	0.200	52.0
17	42.5	4	85	2.2	46.7	54.4	52	5	0.060	50.6
16	40.0	6	91	3.3	50.0	51.6	51	5	-0.079	49.2
15	37.5	9	100	4.9	54.9	47.5	50	5	-0.218	47.8
14	35.0	7	107	3.8	58.8	43.1	49	5	-0.357	46.4
13	32.5	12	119	6.6	65.4	37.9	47	6	-0.496	45.0
12	30.0	7	126	3.8	69.2	32.7	46	6	-0.636	43.6
11	27.5	9	135	4.9	74.2	28.3	45	6	-0.775	42.3
10	25.0	12	147	6.6	80.8	22.5	43	7	-0.914	40.9
9	22.5	15	162	8.2	89.0	15.1	40	7	-1.053	39.5
8	20.0	6	168	3.3	92.3	9.3	37	8	-1.193	38.1
7	17.5	7	175	3.8	96.2	5.8	35	8	-1.332	36.7
6	15.0	4	179	2.2	98.4	2.7	31	9	-1.471	35.3
5	12.5	2	181	1.1	99.5	1.1	28	9	-1.610	33.9
4	10.0	1	182	0.5	100.0	0.3	23	9	-1.750	32.5

จุฬาลงกรณ์มหาวิทยาลัย

### HISTOGRAM OF SCORE DISTRIBUTION



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## ITEM ANALYSIS

ITEM NO.	RESP-ONSE	NUMBER RESPONDING			DIFFICULTY INDICE				CORRELATION COEFFICIENTS					MEAN CRITERION SCORE		
		UPPER	MIDDLE	LOWER	UPPER	LOWER	TOTAL	DELTA	DISC.INDEX	BISERIAL RBIS	POINT-BISERIAL t	RPB	t	T-SC		
1	1	9	33	25	0.184	0.510	0.368	14.39	-0.327	-0.367	-5.30	-0.295	-4.14	13.8	46.14	
	2	7	10	7	0.143	0.143	0.132	17.51	0.000	-0.032	-0.42	-0.022	-0.29	16.2	49.44	
	3	4	17	14	0.082	0.286	0.192	16.52	-0.204	-0.209	-2.87	-0.155	-2.10	14.3	46.83	
	*	4	29	24	2	0.592	0.041	0.302	15.11	0.551	0.605	10.20	0.476	7.27	21.8	57.24
	ERROR	0	0	1	0.000	0.020	0.005	23.21	-0.020	-0.435	-6.49	-0.109	-1.48	6.0	35.29	
2	1	2	5	11	0.041	0.224	0.099	18.19	-0.184	-0.327	-4.64	-0.216	-2.96	11.9	43.49	
	2	4	16	16	0.082	0.327	0.198	16.44	-0.245	-0.271	-3.78	-0.199	-2.72	13.7	46.00	
	*	3	38	52	13	0.776	0.265	0.566	12.30	0.510	0.474	7.21	0.379	5.50	19.0	53.32
	4	5	11	9	0.102	0.184	0.137	17.41	-0.082	-0.191	-2.61	-0.129	-1.75	14.2	46.76	
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00	
3	1	4	8	3	0.082	0.061	0.082	18.59	0.020	0.015	0.21	0.010	0.13	16.8	50.33	
	2	16	31	8	0.327	0.163	0.302	15.11	0.163	0.097	1.31	0.076	1.03	17.4	51.16	
	3	12	30	30	0.245	0.612	0.396	14.10	-0.367	-0.340	-4.85	-0.272	-3.79	14.2	46.64	
	*	4	17	15	8	0.347	0.163	0.220	16.13	0.184	0.303	4.26	0.230	3.17	19.7	54.33
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00	
4	1	2	14	22	0.041	0.449	0.209	16.28	-0.408	-0.436	-6.49	-0.325	-4.61	12.0	43.68	
	2	10	35	14	0.204	0.286	0.324	14.86	-0.082	-0.156	-2.12	-0.123	-1.67	15.3	48.22	
	*	3	30	21	3	0.612	0.061	0.297	15.18	0.551	0.562	9.11	0.445	6.66	21.5	56.84
	4	7	14	10	0.143	0.204	0.170	16.85	-0.061	-0.050	-0.67	-0.036	-0.48	16.0	49.21	
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00	
5	1	6	4	10	0.122	0.204	0.110	17.95	-0.082	-0.173	-2.36	-0.116	-1.56	14.2	46.71	
	2	8	29	11	0.163	0.224	0.264	15.57	-0.061	-0.096	-1.29	-0.075	-1.01	15.7	48.75	
	3	8	23	12	0.163	0.245	0.236	15.91	-0.082	-0.166	-2.26	-0.127	-1.71	14.9	47.72	
	*	4	27	27	15	0.551	0.306	0.379	14.27	0.245	0.322	4.56	0.257	3.57	18.9	53.29
	ERROR	0	1	1	0.000	0.020	0.011	22.20	-0.020	-0.044	-0.59	-0.016	-0.21	15.5	48.52	
6	1	6	12	9	0.122	0.184	0.148	17.27	-0.061	-0.051	-0.68	-0.035	-0.47	16.0	49.16	
	*	2	30	37	13	0.612	0.265	0.440	13.65	0.347	0.317	4.49	0.254	3.52	18.6	52.87
	3	8	23	10	0.163	0.204	0.225	16.06	-0.041	-0.130	-1.75	-0.097	-1.31	15.3	48.19	
	4	5	12	17	0.102	0.347	0.187	16.60	-0.245	-0.250	-3.46	-0.187	-2.55	13.8	46.10	
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00	
7	1	4	8	8	0.082	0.163	0.110	17.95	-0.082	-0.173	-2.36	-0.116	-1.56	14.2	46.71	
	2	3	17	10	0.061	0.204	0.165	16.94	-0.143	-0.222	-3.06	-0.161	-2.19	14.0	46.38	
	*	3	30	25	4	0.612	0.082	0.324	14.86	0.531	0.669	12.07	0.527	8.33	22.0	57.61
	4	12	33	27	0.245	0.551	0.396	14.10	-0.306	-0.394	-5.76	-0.316	-4.46	13.8	46.10	
	ERROR	0	1	0	0.000	0.000	0.005	23.21	0.000	0.183	2.49	0.046	0.62	21.0	56.17	
8	1	4	20	8	0.082	0.163	0.176	16.77	-0.082	-0.093	-1.25	-0.069	-0.92	15.5	48.52	
	2	4	12	13	0.082	0.265	0.159	17.03	-0.184	-0.240	-3.31	-0.168	-2.29	13.8	46.14	
	*	3	33	41	12	0.673	0.245	0.473	13.32	0.429	0.350	5.01	0.279	3.90	18.7	52.95
	4	8	11	16	0.163	0.327	0.192	16.52	-0.163	-0.178	-2.42	-0.132	-1.78	14.6	47.30	
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00	



## ITEM ANALYSIS

ITEM NO.	RESP-ONSE	NUMBER RESPONDING			DIFFICULTY INDICE				CORRELATION COEFFICIENTS					MEAN CRITERION SCORE	
		UPPER	MIDDLE	LOWER	UPPER	LOWER	TOTAL	DELTA	DISC.INDEX	BISERIAL RBIS	POINT-BISERIAL t	RPB	t	T-SC	
9	1	9	14	10	0.184	0.204	0.181	16.68	-0.020	-0.007	-0.10	-0.005	-0.07	16.5	49.89
	2	5	13	9	0.102	0.184	0.148	17.27	-0.082	-0.179	-2.44	-0.123	-1.67	14.4	47.05
	*	3	23	25	0.469	0.347	0.357	14.50	0.122	0.153	2.07	0.122	1.64	17.7	51.63
	4	12	32	13	0.245	0.265	0.313	14.99	-0.020	-0.034	-0.45	-0.027	-0.36	16.3	49.60
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
10	1	3	11	9	0.061	0.184	0.126	17.61	-0.122	-0.298	-4.19	-0.198	-2.71	12.8	44.79
	*	2	27	20	0.551	0.082	0.280	15.37	0.469	0.553	8.90	0.435	6.47	21.6	56.97
	3	5	20	20	0.102	0.408	0.247	15.77	-0.306	-0.246	-3.40	-0.191	-2.60	14.2	46.67
	4	14	33	16	0.286	0.327	0.346	14.62	-0.041	-0.126	-1.70	-0.099	-1.34	15.6	48.64
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
11	1	8	13	7	0.163	0.143	0.154	17.12	0.020	0.045	0.61	0.032	0.43	17.1	50.75
	*	2	16	9	0.327	0.061	0.154	17.12	0.265	0.466	7.06	0.331	4.71	22.1	57.76
	3	23	49	35	0.469	0.714	0.588	12.07	-0.245	-0.277	-3.86	-0.222	-3.05	15.2	48.15
	4	2	13	4	0.041	0.082	0.104	18.07	-0.041	-0.112	-1.51	-0.072	-0.97	15.1	47.89
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
12	1	2	20	14	0.041	0.286	0.198	16.44	-0.245	-0.352	-5.05	-0.258	-3.58	12.8	44.80
	2	8	7	6	0.163	0.122	0.115	17.83	0.041	0.019	0.25	0.012	0.16	16.8	50.34
	*	3	35	48	0.714	0.347	0.549	12.46	0.367	0.406	5.96	0.325	4.61	18.7	52.94
	4	4	9	12	0.082	0.245	0.137	17.41	-0.163	-0.270	-3.77	-0.183	-2.49	13.3	45.42
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
13	1	0	9	5	0.000	0.102	0.077	18.74	-0.102	-0.276	-3.85	-0.169	-2.30	12.4	44.14
	2	3	28	23	0.061	0.469	0.297	15.18	-0.408	-0.429	-6.37	-0.339	-4.84	12.8	44.78
	3	20	18	7	0.408	0.143	0.247	15.77	0.265	0.200	2.74	0.155	2.11	18.5	52.71
	*	4	26	29	0.531	0.286	0.379	14.27	0.245	0.344	4.91	0.274	3.83	19.1	53.51
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
14	1	0	11	7	0.000	0.143	0.099	18.19	-0.143	-0.330	-4.70	-0.218	-3.00	11.8	43.41
	2	3	13	8	0.061	0.163	0.132	17.51	-0.102	-0.206	-2.82	-0.142	-1.92	14.0	46.37
	*	3	32	44	0.653	0.306	0.500	13.00	0.347	0.419	6.19	0.334	4.76	19.0	53.34
	4	14	16	19	0.286	0.388	0.269	15.50	-0.102	-0.157	-2.14	-0.122	-1.65	15.1	47.99
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
15	1	2	5	3	0.041	0.061	0.055	19.43	-0.020	-0.135	-1.83	-0.073	-0.98	14.4	46.98
	2	0	11	10	0.000	0.204	0.115	17.83	-0.204	-0.392	-5.71	-0.256	-3.55	11.5	42.91
	*	3	31	35	0.633	0.265	0.434	13.70	0.367	0.451	6.79	0.362	5.20	19.5	54.13
	4	16	33	23	0.327	0.469	0.396	14.10	-0.143	-0.207	-2.84	-0.165	-2.25	15.1	47.96
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
16	1	17	33	21	0.347	0.429	0.390	14.16	-0.082	-0.073	-0.98	-0.058	-0.78	16.0	49.27
	2	7	13	7	0.143	0.143	0.148	17.27	0.000	-0.048	-0.64	-0.033	-0.44	16.0	49.21
	3	6	15	17	0.122	0.347	0.209	16.28	-0.224	-0.221	-3.04	-0.165	-2.24	14.3	46.79
	*	4	19	23	0.388	0.082	0.253	15.70	0.306	0.320	4.53	0.246	3.41	19.6	54.24
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00

## ITEM ANALYSIS

ITEM NO.	RESP-ONSE	NUMBER RESPONDING			DIFFICULTY INDICE				CORRELATION COEFFICIENTS					MEAN CRITERION SCORE	
		UPPER	MIDDLE	LOWER	UPPER	LOWER	TOTAL	DELTA	DISC.INDEX	BISERIAL RBIS	POINT-BISERIAL t	RPB	t	T-SC	
17	1	3	8	12	0.061	0.245	0.126	17.61	-0.184	-0.305	-4.30	-0.203	-2.78	12.7	44.67
	2	11	31	11	0.224	0.224	0.291	15.24	0.000	-0.013	-0.17	-0.010	-0.14	16.5	49.84
	*	3	29	10	0.592	0.204	0.352	14.56	0.388	0.390	5.69	0.312	4.41	19.6	54.24
	4	6	20	15	0.122	0.306	0.225	16.06	-0.184	-0.222	-3.06	-0.167	-2.27	14.3	46.90
	ERROR	0	0	1	0.000	0.020	0.005	23.21	-0.020	-0.394	-5.75	-0.099	-1.33	7.0	36.68
18	1	3	17	7	0.061	0.143	0.148	17.27	-0.082	-0.132	-1.79	-0.091	-1.23	15.0	47.82
	2	1	8	7	0.020	0.143	0.088	18.45	-0.122	-0.259	-3.60	-0.160	-2.17	12.9	44.86
	*	3	24	18	0.490	0.163	0.275	15.43	0.327	0.411	6.04	0.317	4.48	20.3	55.14
	4	21	41	27	0.429	0.551	0.489	13.04	-0.122	-0.160	-2.17	-0.128	-1.73	15.6	48.70
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
19	1	0	11	2	0.000	0.041	0.071	18.90	-0.041	-0.177	-2.41	-0.105	-1.42	13.8	46.21
	2	11	19	14	0.224	0.286	0.242	15.84	-0.061	-0.080	-1.08	-0.061	-0.81	15.8	48.93
	3	3	19	21	0.061	0.429	0.236	15.91	-0.367	-0.423	-6.26	-0.323	-4.58	12.4	44.19
	*	4	35	12	0.714	0.245	0.451	13.54	0.469	0.477	7.29	0.382	5.55	19.6	54.22
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
20	1	4	9	9	0.082	0.184	0.121	17.72	-0.102	-0.161	-2.19	-0.109	-1.47	14.5	47.06
	2	7	19	17	0.143	0.347	0.236	15.91	-0.204	-0.298	-4.19	-0.228	-3.13	13.6	45.91
	3	4	31	18	0.082	0.367	0.291	15.24	-0.286	-0.264	-3.68	-0.205	-2.82	14.3	46.80
	*	4	34	5	0.694	0.102	0.352	14.56	0.592	0.591	9.82	0.472	7.19	21.2	56.41
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
21	1	5	5	10	0.102	0.204	0.110	17.95	-0.102	-0.118	-1.60	-0.079	-1.06	15.0	47.75
	2	12	36	15	0.245	0.306	0.346	14.62	-0.061	-0.089	-1.20	-0.070	-0.94	15.9	49.04
	3	10	19	17	0.204	0.347	0.253	15.70	-0.143	-0.194	-2.66	-0.150	-2.03	14.7	47.43
	*	4	21	7	0.429	0.143	0.286	15.30	0.286	0.337	4.80	0.263	3.66	19.6	54.17
	ERROR	1	0	0	0.020	0.000	0.005	23.21	0.020	0.224	3.08	0.056	0.76	22.0	57.57
22	* 1	38	40	16	0.776	0.327	0.516	12.79	0.449	0.552	8.88	0.441	6.58	19.6	54.26
	2	6	19	11	0.122	0.224	0.198	16.44	-0.102	-0.229	-3.16	-0.168	-2.28	14.1	46.62
	3	3	15	17	0.061	0.347	0.192	16.52	-0.286	-0.382	-5.55	-0.283	-3.96	12.4	44.20
	4	2	10	5	0.041	0.102	0.093	18.32	-0.061	-0.225	-3.10	-0.144	-1.95	13.4	45.53
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
23	1	8	14	10	0.163	0.204	0.176	16.77	-0.041	-0.041	-0.55	-0.030	-0.41	16.1	49.34
	*	2	26	10	0.531	0.204	0.346	14.62	0.327	0.388	5.64	0.306	4.31	19.6	54.21
	3	4	21	19	0.082	0.388	0.242	15.84	-0.306	-0.386	-5.62	-0.293	-4.11	12.8	44.81
	4	11	22	10	0.224	0.204	0.236	15.91	0.020	-0.027	-0.36	-0.020	-0.27	16.3	49.63
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
24	* 1	26	40	9	0.531	0.184	0.412	13.93	0.347	0.309	4.36	0.248	3.43	18.7	52.96
	2	7	10	15	0.143	0.306	0.176	16.77	-0.163	-0.191	-2.62	-0.141	-1.91	14.4	46.95
	3	7	16	14	0.143	0.286	0.203	16.36	-0.143	-0.172	-2.34	-0.129	-1.75	14.7	47.44
	4	8	17	11	0.163	0.224	0.198	16.44	-0.061	-0.072	-0.97	-0.053	-0.71	15.8	48.94
	ERROR	1	1	0	0.020	0.000	0.011	22.20	0.020	0.121	1.63	0.043	0.58	19.5	54.09

## ITEM ANALYSIS

ITEM NO.	RESP-ONSE	NUMBER RESPONDING			DIFFICULTY INDICE				CORRELATION COEFFICIENTS					MEAN CRITERION SCORE	
		UPPER	MIDDLE	LOWER	UPPER	LOWER	TOTAL	DELTA	DISC.INDEX	BISERIAL RBIS	POINT-BISERIAL t	RPB	t	T-SC	
25	1	8	18	17	0.163	0.347	0.236	15.91	-0.184	-0.314	-4.44	-0.240	-3.32	13.5	45.68
	2	4	19	11	0.082	0.224	0.187	16.60	-0.143	-0.182	-2.48	-0.136	-1.84	14.5	47.16
	3	2	17	13	0.041	0.265	0.176	16.77	-0.224	-0.246	-3.40	-0.181	-2.47	13.8	46.08
	*	4	35	8	0.714	0.163	0.401	14.04	0.551	0.572	9.36	0.457	6.89	20.6	55.58
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
26	1	5	15	16	0.102	0.327	0.198	16.44	-0.224	-0.292	-4.10	-0.214	-2.94	13.5	45.69
	*	2	31	14	0.633	0.286	0.445	13.59	0.347	0.427	6.33	0.342	4.88	19.3	53.82
	3	10	24	13	0.204	0.265	0.258	15.63	-0.061	-0.200	-2.74	-0.153	-2.08	14.7	47.40
	4	3	9	6	0.061	0.122	0.099	18.19	-0.061	-0.090	-1.21	-0.059	-0.80	15.3	48.21
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
27	1	4	19	14	0.082	0.286	0.203	16.36	-0.204	-0.265	-3.69	-0.199	-2.73	13.7	46.05
	2	4	16	17	0.082	0.347	0.203	16.36	-0.265	-0.275	-3.84	-0.207	-2.84	13.6	45.90
	*	3	36	6	0.735	0.122	0.374	14.33	0.612	0.653	11.58	0.523	8.23	21.4	56.77
	4	5	23	12	0.102	0.245	0.220	16.13	-0.143	-0.284	-3.98	-0.215	-2.96	13.7	45.94
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
28	1	8	19	11	0.163	0.224	0.209	16.28	-0.061	-0.105	-1.41	-0.078	-1.05	15.5	48.48
	2	7	17	12	0.143	0.245	0.198	16.44	-0.102	-0.166	-2.26	-0.122	-1.65	14.8	47.55
	3	10	10	7	0.204	0.143	0.148	17.27	0.061	0.109	1.47	0.075	1.01	17.9	51.79
	*	4	24	19	0.490	0.388	0.445	13.59	0.102	0.135	1.82	0.108	1.46	17.4	51.21
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
29	1	1	9	13	0.020	0.265	0.126	17.61	-0.245	-0.451	-6.77	-0.299	-4.21	10.9	42.13
	*	2	47	6	0.959	0.122	0.566	12.30	0.837	0.830	19.98	0.665	11.94	20.7	55.82
	3	0	13	17	0.000	0.347	0.165	16.94	-0.347	-0.473	-7.20	-0.342	-4.89	11.0	42.30
	4	1	12	12	0.020	0.245	0.137	17.41	-0.224	-0.418	-6.18	-0.283	-3.95	11.5	42.92
	ERROR	0	0	1	0.000	0.020	0.005	23.21	-0.020	-0.312	-4.40	-0.078	-1.05	9.0	39.47
30	1	3	15	8	0.061	0.163	0.143	17.72	-0.102	-0.245	-3.39	-0.155	-2.10	13.8	46.21
	2	11	24	15	0.224	0.306	0.275	15.43	-0.082	-0.136	-1.85	-0.105	-1.42	15.3	48.29
	*	3	28	13	0.571	0.265	0.423	13.82	0.306	0.319	4.51	0.255	3.53	18.7	52.97
	4	7	9	13	0.143	0.265	0.159	17.03	-0.122	-0.097	-1.30	-0.068	-0.91	15.4	48.44
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
31	1	1	10	11	0.020	0.224	0.121	17.72	-0.204	-0.421	-6.23	-0.285	-3.99	11.0	42.31
	2	2	10	15	0.041	0.306	0.148	17.27	-0.265	-0.398	-5.82	-0.274	-3.82	11.9	43.44
	*	3	43	14	0.878	0.286	0.582	12.13	0.592	0.636	11.07	0.509	7.93	19.7	54.31
	4	3	15	9	0.061	0.184	0.148	17.27	-0.122	-0.248	-3.43	-0.171	-2.32	13.6	45.91
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
32	1	2	10	13	0.041	0.265	0.137	17.41	-0.224	-0.362	-5.22	-0.245	-3.39	12.2	43.87
	2	3	14	21	0.061	0.429	0.209	16.28	-0.367	-0.420	-6.22	-0.313	-4.43	12.2	43.90
	*	3	36	4	0.735	0.082	0.434	13.70	0.653	0.532	8.44	0.426	6.33	20.1	54.87
	4	7	20	10	0.143	0.204	0.203	16.36	-0.061	-0.035	-0.47	-0.026	-0.36	16.2	49.48
	ERROR	1	1	1	0.020	0.020	0.016	21.57	0.000	0.215	2.96	0.086	1.16	21.3	56.64

## ITEM ANALYSIS

ITEM NO.	RESP-ONSE	NUMBER RESPONDING			DIFFICULTY INDICE				CORRELATION COEFFICIENTS					MEAN CRITERION SCORE	
		UPPER	MIDDLE	LOWER	UPPER	LOWER	TOTAL	DELTA	DISC.INDEX	BISERIAL RBIS	POINT-BISERIAL t	RPB	t	T-SC	
33	1	1	10	7	0.020	0.143	0.099	18.19	-0.122	-0.233	-3.22	-0.154	-2.09	13.2	45.34
	2	3	18	14	0.061	0.286	0.192	16.52	-0.224	-0.277	-3.87	-0.205	-2.82	13.5	45.79
	3	13	22	14	0.265	0.286	0.269	15.50	-0.020	-0.048	-0.65	-0.037	-0.50	16.1	49.38
	* 4	32	33	13	0.653	0.265	0.429	13.76	0.388	0.377	5.47	0.303	4.26	19.1	53.50
	ERROR	0	1	1	0.000	0.020	0.011	22.20	-0.020	-0.167	-2.27	-0.060	-0.80	12.5	44.34
34	1	7	13	10	0.143	0.204	0.165	16.94	-0.061	-0.182	-2.49	-0.132	-1.79	14.4	47.03
	2	2	22	12	0.041	0.245	0.198	16.44	-0.204	-0.295	-4.14	-0.216	-2.97	13.4	45.65
	* 3	39	33	13	0.796	0.265	0.467	13.37	0.531	0.596	9.96	0.477	7.28	20.2	55.09
	4	1	16	14	0.020	0.286	0.170	16.85	-0.265	-0.383	-5.57	-0.274	-3.82	12.2	43.96
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
35	1	4	7	9	0.082	0.184	0.110	17.95	-0.102	-0.232	-3.20	-0.155	-2.10	13.4	45.59
	2	4	17	10	0.082	0.204	0.170	16.85	-0.122	-0.150	-2.03	-0.107	-1.44	14.9	47.64
	* 3	37	41	16	0.755	0.327	0.516	12.79	0.429	0.427	6.34	0.341	4.87	18.9	53.30
	4	4	19	14	0.082	0.286	0.203	16.36	-0.204	-0.270	-3.76	-0.203	-2.79	13.7	45.98
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
36	1	4	10	15	0.082	0.306	0.159	17.03	-0.224	-0.362	-5.21	-0.254	-3.52	12.4	44.17
	* 2	37	44	11	0.755	0.224	0.505	12.96	0.531	0.508	7.91	0.405	5.95	19.4	54.01
	3	2	13	9	0.041	0.184	0.132	17.51	-0.143	-0.222	-3.06	-0.153	-2.07	13.8	46.08
	4	6	17	14	0.122	0.286	0.203	16.36	-0.163	-0.192	-2.62	-0.144	-1.96	14.5	47.14
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
37	* 1	40	38	10	0.816	0.204	0.484	13.21	0.612	0.651	11.49	0.519	8.15	20.4	55.37
	2	3	20	15	0.061	0.306	0.209	16.28	-0.245	-0.370	-5.34	-0.276	-3.85	12.7	44.63
	3	2	18	6	0.041	0.122	0.143	17.72	-0.082	-0.203	-2.79	-0.128	-1.74	14.3	46.86
	4	4	8	18	0.082	0.367	0.165	16.94	-0.286	-0.382	-5.54	-0.276	-3.86	12.1	43.78
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
38	1	2	7	10	0.041	0.204	0.104	18.07	-0.163	-0.344	-4.92	-0.222	-3.06	11.9	43.50
	* 2	41	55	11	0.837	0.224	0.588	12.07	0.612	0.593	9.87	0.475	7.24	19.4	53.97
	3	5	16	17	0.102	0.347	0.209	16.28	-0.245	-0.317	-4.48	-0.236	-3.26	13.3	45.40
	4	1	6	11	0.020	0.224	0.099	18.19	-0.204	-0.354	-5.07	-0.234	-3.22	11.5	42.95
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
39	1	2	17	9	0.041	0.184	0.154	17.12	-0.143	-0.265	-3.69	-0.188	-2.57	13.4	45.58
	2	7	16	19	0.143	0.388	0.231	15.98	-0.245	-0.299	-4.20	-0.230	-3.17	13.5	45.80
	3	2	13	10	0.041	0.204	0.137	17.41	-0.163	-0.280	-3.91	-0.189	-2.59	13.2	45.26
	* 4	38	38	11	0.776	0.224	0.478	13.26	0.551	0.577	9.47	0.461	6.96	20.0	54.81
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00
40	1	2	9	13	0.041	0.265	0.132	17.51	-0.224	-0.351	-5.02	-0.241	-3.33	12.1	43.82
	* 2	43	45	9	0.878	0.184	0.533	12.63	0.694	0.664	11.91	0.531	8.40	20.1	54.97
	3	1	13	18	0.020	0.367	0.176	16.77	-0.347	-0.445	-6.67	-0.328	-4.66	11.5	42.90
	4	3	17	9	0.061	0.184	0.159	17.03	-0.122	-0.228	-3.14	-0.160	-2.17	13.9	46.33
	ERROR	0	0	0	0.000	0.000	0.000	0.00	0.000	0.000	0.00	0.000	0.00	0.0	0.00

## TEST SUMMARY

## TEST STATISTICS

	Mean	Min	Median*	Max	Std Devn	Var
Test Scores	16.566	4.000	21.500	39.000	7.182	51.584
Diff. Index	0.414	0.154	0.371	0.588	0.506	0.256
Delta	13.931	12.071	14.596	17.120	1.163	1.353
Disc. Index	0.434	0.102	0.469	0.837	0.161	0.026
Biserial (RBIS)	0.467	0.135	0.482	0.830	0.148	0.022
Point-Biserial (RPB)	0.370	0.108	0.386	0.665	0.119	0.014

## KUDER-RICHARDSON RELIABILITY STATISTICS

KR20 = 0.841    SEM20 = 2.861

KR21 = 0.833    SEM21 = 2.938

## CRONBACH ALPHA RELIABILITY STATISTICS

ALPHA = 0.841    SEM-ALP = 2.861

## SPLIT-HALF RELIABILITY STATISTICS

RTT = 0.842    SEMTT = 2.855

\* Approximate medians,  
if the distributions are not normal.

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## DISTRIBUTION OF DIFFICULTIES

Plotted over 20 equal intervals of 0.022

Min	Median*																		Max	
0.153	0.176	0.197	0.219	0.241	0.262	0.284	0.306	0.327	0.349	0.371	0.393	0.414	0.436	0.458	0.479	0.501	0.523	0.545	0.566	0.589
11	0	0	3	16	10	1	7	23	9	5	24	15	6	8	14	22	40	2	31	
0	0	0	0	0	18	4	0	0	17	13	25	30	19	34	37	35	0	12	38	
0	0	0	0	0	0	21	0	0	20	27	0	32	26	39	0	36	0	29	0	
0	0	0	0	0	0	0	0	0	0	0	0	33	28	0	0	0	0	0	0	
<b>Col Totals</b>	1	0	0	1	1	2	3	1	1	3	3	2	4	4	3	2	3	1	3	2

\*\* If any index is zero,  
its item no. is not plotted.





## DISTRIBUTION OF DISCRIMINATIONS

Plotted over 20 equal intervals of 0.037

Min	Median*																		Max	
0.101	0.176	0.249	0.322	0.396	0.469	0.543	0.616	0.690	0.763	0.838										
	0.139	0.212	0.286	0.359	0.433	0.506	0.580	0.653	0.727	0.800										
9	0	3	5	11	16	6	12	8	10	19	2	1	20	32	0	40	0	0	29	
28	0	0	13	21	30	14	15	35	22	0	7	4	27	0	0	0	0	0	0	
0	0	0	0	0	0	18	17	0	0	0	34	25	31	0	0	0	0	0	0	
0	0	0	0	0	0	23	33	0	0	0	36	39	37	0	0	0	0	0	0	
0	0	0	0	0	0	24	0	0	0	0	0	0	38	0	0	0	0	0	0	
0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Col Totals</b>	2	0	1	2	2	2	6	4	2	2	1	4	4	5	1	0	1	0	0	1

\*\* If any index is zero,  
its item no. is not plotted.



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**DISTRIBUTION OF POINT-BISERIALS**

Plotted over 20 equal intervals of 0.028

	Min		Median*																Max	
	0.107	0.164	0.219	0.275	0.331	0.386	0.442	0.498	0.553	0.609	0.666									
	0.136	0.192	0.247	0.303	0.359	0.414	0.470	0.526	0.581	0.637										
9	0	0	0	3	5	8	12	11	2	36	10	4	1	27	7	0	0	0	0	29
28	0	0	0	16	6	33	17	14	15	0	22	25	20	31	40	0	0	0	0	0
0	0	0	0	0	13	0	18	26	19	0	32	39	34	37	0	0	0	0	0	0
0	0	0	0	0	21	0	23	35	0	0	0	0	0	38	0	0	0	0	0	0
0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Col Totals</b>	2	0	0	0	2	6	2	4	4	3	1	3	3	4	3	2	0	0	0	1

\*\* If any index is zero,  
its item no. is not plotted.



**DISTRIBUTION OF BISERIALS**

Plotted over 20 equal intervals of 0.035

	Min		Median*																Max	
	0.134	0.204	0.274	0.343	0.413	0.482	0.552	0.622	0.691	0.761	0.831									
	0.169	0.239	0.309	0.378	0.448	0.517	0.587	0.656	0.726	0.795										
9	0	0	0	3	5	8	12	14	2	36	22	4	1	27	7	0	0	0	0	29
28	0	0	0	0	6	13	17	26	11	0	32	10	20	31	40	0	0	0	0	0
0	0	0	0	0	16	33	18	35	15	0	0	25	34	37	0	0	0	0	0	0
0	0	0	0	0	21	0	23	0	19	0	0	39	38	0	0	0	0	0	0	0
0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Col Totals</b>	2	0	0	0	1	6	3	4	3	4	1	2	4	4	3	2	0	0	0	1

\*\* If any index is zero,  
its item no. is not plotted.

The item analysis is successful.





**Appendix K**

**Results of the cloze test in the main study**

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## Narrative cloze text

### Case Processing Summary

		N	%
Cases	Valid	174	100.0
	Excluded( a)	0	.0
	Total	174	100.0

a Listwise deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.841	.842	20

### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
22.7759	71.817	8.47446	20

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
VAR00001	21.7241	66.189	.520	.433	.831
VAR00002	21.9655	66.450	.492	.456	.832
VAR00003	21.6437	63.895	.474	.401	.831
VAR00004	21.3678	66.153	.379	.383	.835
<b>VAR00005</b>	<b>21.6609</b>	<b>66.884</b>	<b>.248</b>	<b>.405</b>	<b>.843</b>
VAR00006	21.4310	66.385	.305	.319	.839
<b>VAR00007</b>	<b>21.8851</b>	<b>67.860</b>	<b>.245</b>	<b>.194</b>	<b>.841</b>
<b>VAR00008</b>	<b>22.5115</b>	<b>70.194</b>	<b>.112</b>	<b>.166</b>	<b>.844</b>
VAR00009	21.4195	64.696	.461	.463	.832
VAR00010	21.8908	65.358	.412	.489	.834
VAR00011	21.4540	61.405	.644	.638	.822
VAR00012	21.7356	62.901	.503	.572	.830
VAR00013	21.7931	64.951	.367	.307	.837
VAR00014	21.4310	65.206	.412	.353	.834
VAR00015	21.0862	66.634	.393	.424	.835
VAR00016	21.2759	64.860	.445	.484	.833
VAR00017	21.7816	61.998	.613	.552	.824
VAR00018	21.1207	64.800	.528	.450	.830
VAR00019	21.4080	63.434	.567	.496	.827
VAR00020	22.1552	66.895	.302	.265	.839

## Expository cloze text

### Case Processing Summary

		N	%
Cases	Valid	174	100.0
	Excluded(a)	0	.0
	Total	174	100.0

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.778	.765	20

### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
19.4195	54.106	7.35569	20

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
VAR00001	18.1609	47.858	.426	.466	.762
VAR00002	18.6092	51.881	.236	.348	.774
VAR00003	18.3276	45.482	.579	.520	.750
VAR00004	18.3276	49.678	.258	.288	.775
VAR00005	18.6782	46.890	.526	.454	.755
<b>VAR00006</b>	<b>19.2931</b>	<b>52.752</b>	<b>.218</b>	<b>.378</b>	<b>.776</b>
<b>VAR00007</b>	<b>17.6034</b>	<b>51.975</b>	<b>.215</b>	<b>.156</b>	<b>.775</b>
VAR00008	18.3391	48.503	.331	.379	.770
<b>VAR00009</b>	<b>17.8966</b>	<b>51.538</b>	<b>.153</b>	<b>.313</b>	<b>.781</b>
<b>VAR00010</b>	<b>18.9483</b>	<b>52.408</b>	<b>.079</b>	<b>.335</b>	<b>.785</b>
<b>VAR00011</b>	<b>19.1149</b>	<b>54.010</b>	<b>-.023</b>	<b>.375</b>	<b>.784</b>
VAR00012	18.4655	44.331	.657	.663	.743
VAR00013	18.1437	46.760	.499	.392	.757
VAR00014	18.3046	49.103	.287	.345	.773
VAR00015	17.9368	49.262	.330	.377	.769
VAR00016	19.1782	51.303	.312	.357	.771
VAR00017	18.7816	47.952	.542	.632	.757
<b>VAR00018</b>	<b>18.7241</b>	<b>50.895</b>	<b>.174</b>	<b>.403</b>	<b>.781</b>
VAR00019	18.2356	45.291	.596	.461	.748
VAR00020	17.9023	50.181	.262	.302	.774



**Anova: Two-Factor With Replication**

SUMMARY	Narrative text	Expository	Total
<i>High group</i>			
Count	58	58	116
Sum	1636	1399	3035
Average	28.2069	24.12069	26.16379
Variance	31.99153	26.80974	33.35555
<i>Average group</i>			
Count	58	58	116
Sum	1296	1055	2351
Average	22.34483	18.18966	20.26724
Variance	70.05445	42.47217	60.12796
<i>Low group</i>			
Count	58	58	116
Sum	1028	901	1929
Average	17.72414	15.53448	16.62931
Variance	58.55414	60.39353	60.16574
<i>Total</i>			
Count	174	174	
Sum	3960	3355	
Average	22.75862	19.28161	
Variance	71.42117	55.68324	

**ANOVA**

Source of Variation	SS	df	MS	F	P-value	F crit
Sample	5371.195	2	2685.598	55.51134	<b>0.00</b>	3.022127
Columns	1051.796	1	1051.796	21.74064	<b>0.00</b>	3.868792
Interaction	72.16092	2	36.08046	0.745784	<b>0.48</b>	3.022127
Within	16545.71	342	48.37926			
Total	23040.86	347				

The Wilcoxon sign ranked tests for the narrative cloze

**Test Statistics(b)**

High reading ability group	Test 1	Test 2	Test 3	Test 4	Test 5
Z	-2.041(a)	-2.236(a)	-2.121(a)	-2.060(a)	-2.041(a)
Asymp. Sig. (2-tailed)	.041	.025	.034	.039	.041
Exact Sig. (2-tailed)	.063	.063	.063	.063	.063
Exact Sig. (1-tailed)	.031	.031	.031	.031	.031
Point Probability	.031	.031	.031	.031	.031

a Based on positive ranks.

b Wilcoxon Signed Ranks Test

**Test Statistics(b)**

Average reading ability group	Test 1	Test 2	Test 3	Test 4	Test 5
Z	-2.121(a)	-2.070(a)	-2.070(a)	-2.236(a)	-2.070(a)
Asymp. Sig. (2-tailed)	.034	.038	.038	.025	.038
Exact Sig. (2-tailed)	.063	.063	.063	.063	.063
Exact Sig. (1-tailed)	.031	.031	.031	.031	.031
Point Probability	.031	.031	.031	.031	.031

a Based on positive ranks.

b Wilcoxon Signed Ranks Test

Low Reading ability group	Test 1	Test 2	Test 3	Test 4	Test 5
Z	-2.060(a)	-1.732(a)	-2.121(a)	-2.041(a)	-2.060(a)
Asymp. Sig. (2-tailed)	.039	.083	.034	.041	.039
Exact Sig. (2-tailed)	.063	.250	.063	.063	.063
Exact Sig. (1-tailed)	.031	.125	.031	.031	.031
Point Probability	.031	.125	.031	.031	.031

a Based on positive ranks.

b Wilcoxon Signed Ranks Test

## The Wilcoxon sign ranked tests for the expository cloze

High reading ability group	Test 1	Test 2	Test 3	Test 4	Test 5
Z	-2.070(a)	-2.121(a)	-2.000(a)	-2.070(a)	-2.070(a)
Asymp. Sig. (2-tailed)	.038	.034	.046	.038	.038
Exact Sig. (2-tailed)	.063	.063	.125	.063	.063
Exact Sig. (1-tailed)	.031	.031	.063	.031	.031
Point Probability	.031	.031	.063	.031	.031

a Based on positive ranks.

b Wilcoxon Signed Ranks Test

Average reading ability group	Test 1	Test 2	Test 3	Test 4	Test 5
Z	-1.732(a)	-2.060(a)	-2.121(a)	-2.060(a)	-2.121(a)
Asymp. Sig. (2-tailed)	.083	.039	.034	.039	.034
Exact Sig. (2-tailed)	.250	.063	.063	.063	.063
Exact Sig. (1-tailed)	.125	.031	.031	.031	.031
Point Probability	.125	.031	.031	.031	.031

a Based on positive ranks.

b Wilcoxon Signed Ranks Test

Low reading ability group	Test 1	Test 2	Test 3	Test 4	Test 5
Z	-2.070(a)	-2.070(a)	-1.732(a)	-2.060(a)	-2.060(a)
Asymp. Sig. (2-tailed)	.038	.038	.083	.039	.039
Exact Sig. (2-tailed)	.063	.063	.250	.063	.063
Exact Sig. (1-tailed)	.031	.031	.125	.031	.031
Point Probability	.031	.031	.125	.031	.031

a Based on positive ranks.

b Wilcoxon Signed Ranks Test

## BIOGRAPHY

Nantawan Senchantichai received her bachelor's degree majoring in English from Maharakham Teachers' College. She obtained her master's degree majoring in English from the Faculty of Arts, Chulalongkorn University. She has been working at the Faculty of Humanities and Social Sciences at Khon Kaen University since 1985. Her research interest is in the areas of language assessment, cross cultural education, and literature.

Her article “ A Study of Reading Strategies and Effects of Reading Ability levels and Text Types on Rational Deletion Cloze Test Performance of EFL University Students” has been accepted for publication in the journal, **rEFLlections**, Vol. 15, July 2011.



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