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Efficient reading in standardized tests for EFL learners

---- a case study of reading strategies used by Chinese English major students
in TEM-4

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Abstract:

The aim of this study is to investigate the reading strategies used by Chinese English major students in the reading component in standardized national tests of TEM-4 with regard to reading efficiency. The research questions include: 1) what strategies are used by the students in TEM-4 test context; 2) whether there is a significant correlation between strategy use and efficient reading in the test; 3) what kinds of reading problems are revealed in the students' use of processing strategies; 4) what can teachers do to promote efficient reading in classrooms. The data were collected from 25 English major students, including their reading efficiency indicated in the test performance, a reading strategy checklist and a questionnaire about the students' perception of reading strategy and obstacles to their efficient reading. Both qualitative and quantitative analyses were used for comparisons between proficient students and non-proficient students.

The findings indicate that the students in general rely on metacognitive and test-wisness strategies in their reading practice. There is a prevailing question-directed reading and an ignorance of text types which may influence their global understanding. There is no significant relationship between strategy use and test performance either when the total number or a specific strategy is concerned. The difference between proficient and non-proficient students lies in the automaticity and fluency at lower-level skills rather than a mere use of metacognitive strategies. The reading problems common students are facing include inadequate language proficiency with limited vocabulary and a lack of automaticity, low reading speed and a lack of background knowledge. Suggestions are given for future reading teaching to promote efficient reading in these aspects.

Key words: reading strategy, efficient reading, TEM-4

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1. Introduction

Reading proficiency is one of the most important aspects to be assessed when it comes to second language learners. It indicates a learner's overall language competence, and decides whether he will meet the requirements for advanced study, for a job, or for gaining access to massive information. That is also the reason for the reading component to constitute a large percentage in all the standardized English tests in China.

The Test for English Majors, Grade Four (TEM-4) is a national test administered annually to second year English majors at the end of the foundation stage of their language study. The reading component has always been an important part of TEM-4 which is designed in accordance with the national English Language Teaching syllabus. However, test records show that this is a part where great differences exist. Skilled students can get most of the marks within the required testing time, sometimes even ahead of the time, while others fail to read efficiently, which may become an obstacle in their further language study. Why such variance exists and how to read efficiently is what both students and teachers are concerned about.

Besides second language knowledge, fluent reading also calls for the proper use of various reading strategies. Reading is actually "a strategic process" (Grabe 2009: 15), because readers have to make efforts to choose among many skills to reach their various reading goals. This is typical of what a reader does in a reading test. Knowledge about this process is needed. It is important to know how students search for meaning, what they reflect on and what they associate with after reading a passage. Tests can be used for research into the nature of first or second language acquisition (Bachman and Palmer 1996: 99). The study of the reading process of students in a standardized test will be a valuable reference and basis for teachers to adapt their reading courses in order to help solve students' reading problems.

Previous studies have been conducted on students' reading strategies, but as Grabe (2009: 289) mentions, little has been done on efficient reading or fluent reading, which is indicated by the reading rate. In China, not enough research can be found with regard to Chinese English

major students in standardized test situations with reading rate taken into account. What is more, the reading component in TEM-4 has been changed. Before 2005, the reading part used to consist of two sections, Section A, Reading Comprehension, that consists of four passages and Section B, Skimming and Scanning, consisting of one passage. After 2005, Section B is no longer included in the test separately, which means that the fast reading skills are to be tested in the reading comprehension part along with other skills. This further requires the students to make judgment and choose strategy according to the reading text and the questions they encounter. This research attempts to compare the strategies that are used by English major students in TEM-4 so as to throw light on the correlation between strategy use and efficient L2 reading.

1.1 Aim

The aim of the present study is to investigate (1) what strategies the students utilize in the reading component in the standardized test setting of TEM-4; (2) whether there is a significant relationship between reading strategies and efficient reading; (3) existing reading problems that are revealed in the students' use of processing strategies. Finally, the study also attempts to bring about suggestions to promote efficient reading in classrooms.

1.2 Material and Methods

This investigation involves a standardized reading test and two questionnaires. All twenty five students in one class were selected to participate in both the reading test and the questionnaires. The data collected were analyzed both qualitatively and quantitatively to investigate how reading strategies were used by the students in the test context and what reading problems the students encountered.

1.2.1 Participants

The participants for this research are twenty five English major sophomore students from a Chinese university. Five are males and twenty are females. However, in this study, the gender factor is not analyzed. What they have in common is that they are of the same age and share the same cultural and educational background. They had learned English for ten years before

entering the university and have already got one year and nine months' intensive training in English as English majors at the university. The students have two consecutive reading courses every week, namely twelve hours of intensive reading and one and a half hour of extensive reading.

These students were chosen firstly because they are assumed to have acquired certain reading skills and have their own way of processing a reading text, based on their previous reading experience either in the class or in tests. Those students may well represent common English major students in China because the university is ranked in the middle among Chinese higher education institutions. Secondly, they have the self-knowledge to monitor their own behavior and reflect on the strategies they use in the test. Thirdly, they had been in the researcher's reading class for one year, and have a positive attitude toward the researcher, which enables the investigation. Finally, when the research was conducted, they were to take the annual TEM-4 test next month, so they were willing to participate in the research and take it seriously. Therefore, the results of the study may be reliable.

1.2.2 The reading comprehension test

The standardized reading comprehension test (see Appendix 1) used in this study is from the reading component in TEM-4 model test (2011). No participant is reported to have seen or done it before, so the data elicited from the test is valid and reliable. Altogether, there are four passages in the test labeled Text A, Text B, Text C and Text D varying in length from 334 words to 505 words, with a total of 1657 words, which complies with the test syllabus that stipulates a total of around 1800 words. These passages discuss general topics such as social or cultural issues and hence they are accessible for the English major students because of their intermediate level of difficulty. This reading component conforms well to the new TEM-4 test syllabus (2005).

Every passage is followed by five questions or unfinished statements, each with four suggested answers marked A, B, C and D. The students were asked to choose the one that best fits the context. The questions are related to literal comprehension, reorganization or

reinterpretation of the text information, inference and evaluation, answers to which call for different strategies. The cognitive validity is established when the reading tasks are designed to activate the test-takers' comprehensive cognitive processes (Khalifa & Weir 2009: 6).

The total score for the reading comprehension test is 20 marks, with one point for each choice. The time limit for this test is 25 minutes, with a reading rate of no less than 120 words per minute, as required by the TEM-4 test syllabus.

1.2.3 Questionnaires

Questionnaires have long been adopted to investigate learner factors such as learning styles and learning strategies. It is an efficient way to get to know the participants' attitudes, beliefs, and feelings toward a specific aspect in a research (Teddlie 2009: 232). Two questionnaires are used in the study to elicit the students' use of reading processing strategies and their perception of obstacles to efficient reading in test contexts.

Questionnaire 1

Questionnaire 1 (see Appendix 2) includes a checklist of reading strategies for participants to complete after finishing the reading comprehension test. This questionnaire (referred to in the Analysis and Discussion section as the reading strategy checklist or the checklist) is based on the checklist designed by Zou (2005) who used both Cohen's (1998) list of reading processing strategies and Nevo's list of multiple choice strategies as a starting point. His checklist was comprised of 12 reading strategies (language use strategies) and 8 test-wiseness strategies in accordance with the TEM-4 syllabus, with the 12 reading strategies further regrouped into cognitive, metacognitive and affective strategies. However, as Zou's study aimed to find out the different strategy use by students between the reading comprehension section and the fast reading section, which is not the focus of the current study, minor alterations were made to tailor it to the needs of the present study. Three items were removed and more items related to language use strategies were added for a closer look at the students' adoption of reading strategies. The added items were chosen from the questionnaire used by Tsai (2010), which was built upon those deployed by Block (1986), Taillefer and Pugh (1998), and Taraban, et al.

(2000). To eliminate any possibility of misunderstanding that may arise due to language difficulty, students were provided with the checklist in L1 (Chinese) as well. Special instructions were also given as to how to complete the checklist.

Questionnaire 2

Questionnaire 2 (see Appendix 3) is about students' own evaluation of negative factors that hinder their reading comprehension in the test context. This questionnaire (referred to in the Analysis and Discussion section as the questionnaire) is adopted on the assumption that there may exist certain connections between reading strategies and obstacles to efficient reading. Questions are asked about the specific aspect that the students feel weak at in their reading process. Their understanding of reading strategy is also touched upon. There are six questions with choices offered for the students. The students were also encouraged to give different answers if there were factors not listed in the choices.

1.2.4 Procedure

Test papers with answer sheets were distributed to participants with the aid of a teacher in China. Meanwhile two questionnaires together with an additional answer sheet for the test were sent to every participant via email so that they could complete online and send back their responses to the researcher very quickly.

All the students were asked to set a timer and finish the 20 reading comprehension questions within 25 minutes. Answers were marked on an answer sheet as is required by the TEM-4 test. In a standardized test setting, time should be strictly taken into account. When they finished the test in less than 25 minutes, actual time taken was recorded. They were asked to stop answering questions or reviewing texts if the timer ringed even when they had not finished all the tasks.

Afterwards, the participants' answers were to be copied on the online answer sheet with the previously recorded time. They were then asked to review the four passages again and think about the strategies that they used for the four passages and complete the first questionnaire

(the checklist) accordingly. Finally, they were asked to finish the second questionnaire about their own reflections on reading difficulty. The three kinds of data were sent back to the researcher via email immediately.

Both qualitative and quantitative analyses about the data were performed. The first analysis was about the most frequently used reading strategies by all the students in order to gain a general idea of their reading process. For further comparison in efficiency study, the 25 students were ranked according to the total score and the time taken. Seven students on the top of the list and seven from the bottom were chosen for case study, with one group (Group A) representing efficient readers and another one (Group B) poor readers. In the second part, a detailed comparison of strategies used by group A and group B was conducted with the purpose of finding out the relationship between the use of reading strategy and efficient reading. Tables were given to show the difference in the total number and the specific strategies orchestrated by efficient readers and poor readers. Finally, the participants' own evaluations were taken into consideration to find out the common problems that hinder Chinese English major students from efficient reading.

2. Theoretical Background

Before conducting a research into efficient reading in standardized test for EFL learners, a literature review is needed about the nature of reading as well as the previous researches on strategy use in second language reading. This part begins with a discussion of well recognized studies on L2 reading processes from a cognitive perspective including the bottom-up and top-down reading models as well as the lower-level and the higher-level processing theories. A review of theories about reading strategies is then presented with respect to cognitive strategies, metacognitive strategies, and social affective strategies, followed by previous researches on reading fluency, an essential part of efficient reading. Finally, an overview of studies on L2 reading strategy use is also conducted.

2.1 L2 reading process theories

Reading is “a complex combination of processes” (Grabe 2009: 14) in which a reader is to

fulfill a fundamental goal of comprehension by processing linguistic information, using a number of skills for specific reading purposes and making evaluations about the reading text as well as how well that reading is conducted. This process involves the deciphering of printed information, the activation of prior knowledge, the evaluation of the text, and a monitoring of the reader's own comprehension (Alderson 2000: 3). Understanding the reading process is expected to throw light on efficient reading and the teaching of efficient reading. Over the past thirty years, much has been done on the general reading processing approaches. There is, for example, a discussion of the bottom-up approach and the top-down approach; another discussion concerns the concept of lower-level and higher-level processes.

2.1.1 Bottom-up and top-down reading models

The bottom-up model emphasizes taking in “stimuli from the outside world -- letters and words, for reading”, and deals with that information “with little recourse to higher-level knowledge” (Treiman 2001: 2). In this view, readers are “passive decoders of sequential graphic-phonemic-syntactic-semantic systems” (Alderson 2000: 17). Theorists such as Gough (1972), LaBerge and Samuels (1974), Jeanne S. Chall (1983; 1996), put emphasis on decoding skills, or, the transfer of printed information in the text into sound (Abraham 2000: n.p).

According to the bottom-up theory, a reader must master a “micro-level” of reading skills such as word recognition before moving on to more advanced and complex reading comprehension (McCormick 1994: 16). What is implied here is that reading comprehension can be improved by expanding vocabulary and learning complex syntactic structures. Bottom-up theorists also advocate phonics instruction when teaching so that spoken sounds and written words are related in decoding process.

On the other hand, the top-down reading model stresses the use of the reader's prior knowledge in the construction of new knowledge. Alderson quotes Schank (1978) when explaining the characteristics of the top-down approach:

We would claim that in natural language understanding a simple rule is followed. Analysis proceeds in a top-down predictive manner. Understanding is expectation based. It is only when the expectations are useless or wrong that bottom-up processing begins. (2000: 17)

According to the top-down model, the schemata, which are the world knowledge that a reader brings to the reading process are central to his or her understanding of the text. Just as Goodman (1982) puts it, reading is a “psycholinguistic guessing game” (qtd. Alderson 2000: 17), which means readers can guess or predict the text’s meaning with the least use of word processing. It seems that a good understanding of the reading text lies in the retrieval of contextual knowledge. Top-down theorists advocate whole-language teaching in which the teaching of reading focuses more on predicting the meaning from the context instead of translating the printed individual word to sound and processing it completely (Treiman 2001: 3).

Arguments occur mostly because advocates of the bottom-up theory claim that when readers decode information from the print, they process all the letters and words thoroughly and systematically, while advocates of the top-down theory contend that readers can guess what words are to come in the next part of the text and take in “only just enough visual information to test their hypotheses” (Treiman 2001: 3)

However, neither the bottom-up nor the top-down model is adequate in explaining the reading process. Both the reader and the text are important in the reading process. On the one hand, cognitive researches reveal that the schemata of a reader are indispensable to knowledge processing in that information is remembered and stored according to people’s existing knowledge about a subject. What is more, schemata are believed to be the basis of comprehension and memory and enable readers to make inferences (McCormick 1994: 19-21). All these arguments show the importance of world knowledge in the reading process. On the other hand, background knowledge alone does not enable reading comprehension. Treiman (2001: 4) points out that if reading were “a linguistically guided guessing game” as Goodman (1967) maintained, guessing ability could be counted to differentiate between good and poor readers. However, researches show that good readers and poor readers make use of almost the

same amount of context. Treiman's viewpoint is similar to earlier researchers Rayner and Pollatsek's claim (1989: 26) that reading process can be seen as a bottom-up model occasionally assisted by top-down processes.

As an alternative, researchers represented by Rumelhart (1977) and Stanovich (1980) use the concept of interactive to describe the reading process in a more adequate way, stressing that readers use both top-down and bottom-up skills (Abraham 2000: n.p). Both word recognition and the knowledge that the reader brings to the text work together. Every component in the reading process interacts with each other, whether it is "high up" or "lower down" (Alderson 2000: 18). All sorts of communication between the bottom-up and top-down processes are allowed in the interactive models.

In this view, it can be argued that one kind of knowledge may compensate for another, which is what students in reading tests are possibly making use of. Khalifa and Weir (2009: 41) mention that context can be used either to enrich understanding or to supplement inadequate decoding of information. They quote Stanovich (1980) and Perfetti (1985) to suggest the possibility for unskilled readers to use context clues for compensating for an incomplete bottom-up process. However, while the interactive model is good at explaining behavior, it is not adequate to predict behavior, and more empirical evidence is needed.

2.1.2 Lower-level and higher-level reading processes

Considering the complexity of the cognitive processes in reading, it is difficult to give an overall reading model that universally applies to every individual in every reading situation. However, researches have been done on the workings of component skills involved in reading. Grabe (2009: 21) discusses them by using two categories: the lower level skills and the higher level skills.

The lower level skills include "word recognition, syntactic parsing, meaning encoding" and "working memory" (Grabe 2009: 21). All the above skills contribute to the understanding of propositions at the sentence and the clause level, i.e. local comprehension, as mentioned by

Khalifa and Weir (2009: 44). Word recognition is the identification of words. Treiman (2001: 6) uses some examples to illustrate the relationship between printed words and their linguistic forms, such as meaningful morphemes and spoken syllables. Therefore, identifying the phonological (or sound) forms of words is involved in the recognition process. Although skilled readers are reading silently, this phonological activation also exists in a covert way. Fluent word recognition is only ensured when a reader can recognize the word forms on the page very quickly, associate the written form with the spoken form, link proper meaning to the structure of a sentence and activate his own mental lexicon (Grabe 2009: 23).

Syntactic parsing refers to how words are integrated to make sense in a sentence. Obviously, syntactic processing is important for reading comprehension. In this process, a reader is supposed to make use of classification of words, word ordering, clauses, tenses, etc. to process the information in a text. A reader is also required to process the transitional markers and discourse organizational markers to decide how important specific information is in the text. What should be noted is that this is where grammatical knowledge is brought into consideration. Reading processing time is certain to be extended when sentence structures become more complex and ambiguous while grammatical resources are limited (Grabe 2009: 29-30).

Meaning encoding involves the formation of semantic propositions. According to Grabe, semantic propositions are units almost equal to phrase and clause units. They are formed at the same time as word recognition and syntactic parsing occur. Researches find that the number of proposition units in a series of sentences decides the processing time for the sentences even when the sentences have the same number of words and clauses (Grabe 2009: 31). It can also be inferred that proposition decoding affects the automatization of semantic interpretation of words.

Higher level comprehension processing includes the building of both a text model network and a situation model of interpretation, the making of inferences, the focusing of attention and the processing of strategies (Grabe 2009: 39). The former represents a reader's

comprehension of the whole text by linking information derived from a newly formed proposition with already active information; the latter refers to “the understander’s representation of the circumstances to which a discourse refers” (Singer & Leon 2007: 13) and uses reader knowledge in comprehending the text. Higher level comprehension is also what Khalifa and Weir (2009: 45) refer to as global comprehension, i.e. an understanding of propositions from the sentence and clause level to the macro-structure of a text.

2.2 L2 reading strategy theories

Generally, second language learner strategies can be categorized into two groups, i.e. second language learning strategies and second language use strategies. Language learning strategies are strategies used in order to learn or acquire a language, while language use strategies are those used to improve language performance in a specific situation including a test context (Phakiti 2003: 28). Language learning strategies help store language knowledge in the long-term memory; language use strategies are responsible for the retrieval of knowledge in the long-term memory to fulfill a task. Although language test researchers focus more on language use strategies, which are directly related to the test taking process and are supposed to have great influence on test performance, it can be seen that language learning strategies and language use strategies are closely related in that both of these two types involve cognition, metacognition, and social affection.

The past research on reading processes has been centered round cognitive psychology (Venezky 1984: 4). Whatever model is proposed, it is a matter of cognition. The cognitive interrelations that are indispensable to language systems are prior verbal knowledge including syntax, semantics, pragmatics and propositions, and knowledge about the world which is referred to as schemes (Smith 2004: 20). Making use of Oxford’s definition of cognitive strategies (1990: 43-47), language learning strategies at the cognitive level can be identified as follows: repeating and practicing to remember, skimming or scanning to receive and send messages quickly, analyzing and reasoning or even translating to understand the target language, and using emphasis techniques to create structures for both input and output.

In the development of cognitive psychology, metacognition is gaining increasing attention to explain the learning process and learning efficiency. Following Flavell (1978), Baker and Brown explain metacognition in terms of two aspects – “knowledge about cognition and regulation of cognition” (1984: 353). The former refers to a learner’s knowledge about his own thinking and learning activities; the latter is his control over those activities. It is obvious that only when a learner is aware of what thinking process he is undergoing and what is required in that process for him to perform effectively, can he make appropriate decisions to fulfill any task effectively. When it comes to the problem solving process, an active learner is supposed to use self-regulation skills including checking the possible result, planning the next act, monitoring the effectiveness as well as checking, revising and assessing his learning strategies (Baker & Brown 1984: 354).

The awareness of ongoing cognitive activities help a learner find a learning problem while the strategies they choose determine how well the problem will be solved. Strategies differ in accordance with the specific goal. It is believed that the use of different strategies influence the efficiency in solving a problem. However, how much that efficiency is related to different strategy use in a specific context remains to be empirically proved.

Like other learning strategies, reading strategies can be grouped into cognitive strategies, metacognitive strategies and social-affective strategies (Oxford 1990: 8-9). Cognitive strategies deal with language information directly. In addition to the skills to identify information, to make classification, and to memorize language materials, which belong to language learning strategies, cognitive strategies also include language use strategies, such as the retrieval and interpretation of words, as well as phrases (Zou 2005: 4).

Metacognitive strategies are those related to the higher order processing skills that control and monitor the lower level cognitive strategies. Following Brown (1980), some of the metacognitive skills are listed as follows by Baker and Brown (1984: 354): 1. making interpretation of the reading purpose and reading tasks; 2. discerning the important information; 3. focusing on main idea instead of unimportant details; 4. monitoring the

reading process and be conscious of any comprehension failure; 5. making self-questioning to keep track on reading goals; 6. taking remedial action whenever comprehension failures arise. The last group is also what Oxford identifies as compensation strategies to guess intelligently when knowledge gaps arise (1990: 47). Alderson (2000: 60) further summarizes these strategies into specific aspects including the adjustment of reading speed, the use of skimming, previewing and the use of context to eliminate misunderstanding.

Both Baker and Brown and Alderson emphasize the same metacognitive ability of telling important messages from less significant ones and the monitoring of one's own cognition, including recognizing problems in understanding the text. The importance of "self-regulation strategies" (Alderson 2000: 60) are also agreed upon. It is assumed that good readers are to plan ahead of reading, test how much they have comprehended and to be conscious of the strategies being used so that reading strategies can be adjusted whenever possible.

Social affective strategies include the interaction with another person to enhance language learning and methods to control emotions, get high motivation and establish positive attitude. It is argued that besides the cognitive domain of information processing, motivation, goals, and interest are all exerting influence on the reading process and may possibly lead to differences in language task performance (Massaro 1984: 117).

In test contexts, the strategies a learner utilizes are referred to as test-taking strategies. Cohen (1998: 219) divides test-taking strategies into two types: the language use strategies that reflect the learner's mastery of the target language as well as his capability to use that language, and the test-wiseness strategies that are used by test-takers to solve test tasks according to their test-taking experience instead of drawing on their pre-stored language knowledge. Test-wiseness strategies are especially common in standardized tests where test-takers are to choose the only correct choice among all the given alternatives in multiple choice items.

2.3 Efficient reading in L2

Grabe uses the words *rapid* and *efficient* (Grabe 2009: 14) to describe fluent reading. As early as in 1991, he proposed six components in fluent reading process, namely, automatic recognition skills, vocabulary and structural knowledge, formal discourse structure knowledge, content/world background knowledge, syntheses and evaluation skills/strategies, metacognitive knowledge and skills monitoring. Efficient reading not only refers to a high reading rate, but also to integrated application of different reading skills to recognize words and syntax, to form a meaning, to get text comprehension, to infer, to evaluate critically, and to link to previous background knowledge. In addition, efficient reading calls for flexibility. A fluent reader can adjust reading processes to fit different reading purposes. Grabe's idea echoes Alderson's summarization of a fluent reading process as being "rapid", "purposeful", "motivated", "comprehending" and "flexible". (Alderson 2000: 14)

It is obvious that both higher level and lower level processing are involved in efficient reading ability. Automaticity in lower level skills and conscious strategies in comprehension processes are two important factors contributing to efficient reading. Efficient reading is displayed by studying skilled readers' reading process. Evidence shows that skilled readers' recognition skills are accurate and automatic (Treiman 2001: 4), while less proficient readers seem to be restricted by words, and are not efficient enough in bottom-up processing (Alderson 2000: 19). For efficient reading to occur, automaticity should be developed to improve the speed of recognition, including the essential word recognition process. Grabe argues that the strong use of context in word recognition hinders efficient reading because processing contextual information takes time and thus slows down the whole reading process (2009: 28-29). The same argument can be found in Abraham's proposal (2000: n.p) that in efficient reading, words are supposed to be decoded automatically in order to save the time for text comprehension. Skilled readers are supposed to depend more on word identification skills than on the slow top-down prediction (Khalifa & Weir 2009: 41). Grabe and Stoller (2002: 186) propose that skilled readers need to immediately recognize around 95% of the vocabulary in a text, and the faster they can retrieve from their mental lexicon, the more efficient their reading will be.

Automatic recognition points to the importance of language proficiency considering the fact that reading processing time is also greatly influenced by the complexity of structures and grammatical resources involved in syntactic parsing. Based on a comparative study carried out on practiced readers (students who are expected to read adequately for their tertiary education) and unpracticed readers (those who are at a comparatively disadvantageous level in reading), Cooper finds that one major difference between these two groups is the ability to use linguistic clues for the understanding of words, lexical cohesion, and the understanding of sentence relationships (1984: 133). Researches show there is a language threshold for efficient L2 reading (Alderson 1984: 4). The threshold of L2 proficiency is commonly assumed to be a precondition for readers to transfer their L1 higher-level reading skills to L2 (Walter 2004: n.p).

As far as higher level skills are concerned, Alderson (2000: 60) stresses that whether a reader can use metacognitive skills effectively also decides whether he can read fluently. The overall knowledge and the comprehension strategies are what make skilled readers different. Since reading is characterized as a cognitive process, effective readers must have a good knowledge about their cognitive activities and can well control those activities. A good reader has “metacognitive awareness” as to how and when to use reading strategies (Grabe 2009: 53). It follows that effective readers can make good use of planning and monitoring skills to help solve any problems that they meet with in reading tasks. Specific requirements in higher-level domain include background knowledge and knowledge about text organization (Walter 2004: n.p). Efficient reading is elicited when the readers are familiar with the topic as well as the rhetorical organization of the text so that they know unconsciously what to expect next, which facilitates the reading process.

Just like good language learners, efficient readers are supposed to know how to keep under control their emotions and attitudes in order to get the most out of their reading material. Brown (1976) compares a student’s self-image to the foundation upon which maximum reading proficiency is built, and he uses empirical data to support his view point. Efficient reading is more likely to be facilitated when a reader has high self-esteem, positive emotions

and attitudes (Oxford 1990: 140). In conclusion, reading success are influenced by both affective factors and reading skills; the overall development of reading is sure to increase reading speeds and help attain the final goal of efficient reading, which is substantially proved by Carver (Alderson 2000: 13).

2.4 Previous research on L2 learner reading strategy

Contemporary reading research shows a great interest in the reader and put more emphasis on how information is actively processed by a reader (Kamil 1984: 39). One topic that is often touched upon concerns the strategies L2 readers are utilizing. Motivated by the assumption that L2 reading performance is correlated to L1 reading ability, L2 language proficiency (a threshold of language knowledge) and L2 strategy use, some studies have been done with an emphasis on differences between L1 and L2 strategies use in reading comprehension (Schoonen & Bossers 1998; Tercanlioglu 2004). It has been found that reading strategy use does not exert as much influence on L1 reading as it does on L2 reading. Therefore, L2 language proficiency is more closely related to L2 reading ability than L1 reading is; efficient L2 readers generally use more strategies to help understand the reading material, among which the most frequently used strategy categories involve textual content, reader response, concrete technique and problem-solving (Tsai 2010: 15).

Other studies focus solely on cognitive processing. Phakiti (2003) makes an empirical study on 384 students in a fundamental English course at a Thai university trying to find out the nature of cognitive and metacognitive strategies with reference to the EFL (English as a foreign language) reading test performance. He finds statistically salient differences in the use of cognitive and metacognitive strategies among the successful readers and the unsuccessful readers in their achievement reading test. Considering the fact that whether a strategy is cognitive or metacognitive is actually decided by the purpose in using that strategy, he qualitatively evidenced that metacognitive strategies were more significantly used by the successful test-takers than the unsuccessful ones. However, his study may not be comprehensive enough without taking into consideration the affective factors.

After identifying 24 reading strategies in term of cognitive, metacognitive, and social affective, used by Iranian students, Fotovatian and Shokrpour (2007) make a further investigation about how those strategies are influencing the test-takers' test performance. They finally conclude that metacognitive strategies have positive effects on reading comprehension. What is important is that their study distinguishes effectiveness and efficiency among reading strategies. It is pointed out that some strategies, like simplification, translation, or paying attention to single words, may be effective but not contributive to efficiency because they take time.

In China too, contemporary reading strategy studies indicate a growing interest in metacognition. Chern (1994) reports that Chinese students use metacognitive strategies more efficiently in L1 reading than in L2 reading. They rely more on local strategies in L2 when comprehension fails to occur, which may be a consequence of Chinese students' dictionary-dependent and accuracy-oriented reading style. In contrast, evidence shows that experienced readers in Chern's study are more aware of their use of strategy and focus more on global strategies. Situations are changing with time passing. A recent study done by Zhang (2009) reveals that Chinese high school students are now generally metacognitively aware about the use of reading strategies, and the high-proficiency students use more global and problem-solving strategies.

It is at the tertiary education level that the reading strategy research is usually put in the standardized test context because of the existence of different well-established national tests in China. In Shanghai Jiao Tong university, Xia (2008) did a research on non-English major students' use of reading strategies. His empirical study shows that the least used strategy among Chinese students is to make use of text structure and textual organization. Prediction and deducing are used most frequently by Chinese students. In addition to investigating what strategies non-English major students use, his research puts more emphasis on reading strategy instructions. Xia points out that direct instructions on reading strategy can increase Chinese students' use frequency of reading strategies; however, use frequency does not have a direct influence on their reading performance. Reading performance is more closely related to

how effectively the strategies are used. It is important to give Chinese students explicit instructions on reading strategies as early as in high school, and textual organization is an aspect that should not be ignored.

As far as the English major students are concerned, Zou (2005) analyzed the strategies used in TEM-4 by students in the College of English Language and Literature, Shanghai International Studies, assessing the validity of the reading component in TEM-4 as well as finding out the most frequently used strategies in different reading sections. Considering the fact that the TEM-4 test has made alterations in the reading component and proves to be more scientific and valid than before, and that the participants in Zou's study are from a key foreign language university in China who are supposed to represent students of higher language proficiency, further study is needed to investigate what strategies common English majors are adopting in terms of cognitive, metacognitive and affective aspects in the new format of TEM-4 context.

3. Analysis and Discussion:

In this section, the data collected from the reading test, the checklist and the questionnaire are analyzed in three steps. First, a figure is given to show the use frequency of each strategy based on the students' responses to the checklist. A closer look is then taken to see the general trend for the students to use reading strategy in terms of cognitive, metacognitive and affective strategies as compared to test-wiseness strategies. An analysis is also given about the use of strategies on occasions when the students are blocked in doing reading tasks. Second, according to the scores on the reading test with reference to the time taken, the most proficient students and the least proficient ones were chosen for comparison about their use of strategies. The aspects to be discussed are similar to those in the first step. Finally, an analysis of the questionnaire is made to display the students' perception of reading strategies and their opinions on current reading problems in standardized tests.

3.1 The analysis of the reading strategy checklist

The checklist including 30 strategies was presented to the students via e-mail. The students were asked to complete the checklist by ticking the number of the strategies according to the

use frequency right after finishing the reading test. 25 students in one class participated in this part and all 25 checklists were collected immediately for analysis.

3.1.1 An overview of strategy use

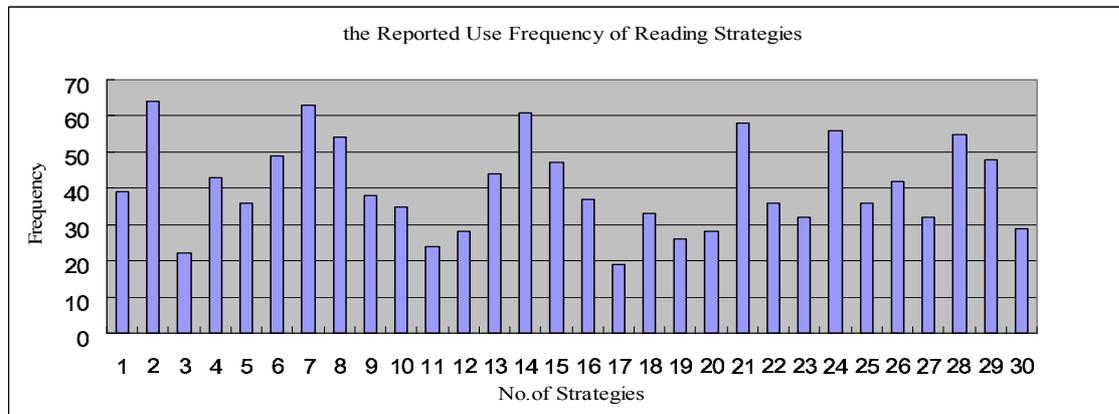
The 30 strategies in the checklist are clustered into language use strategies (reading strategies) and test-wiseness strategies for analysis. Language use strategies consist of ten cognitive strategies, namely, No. 1, 3, 4, 7, 10, 11, 14, 17, 18, 19; nine metacognitive strategies, namely No. 5, 6, 8, 9, 13, 21, 22, 34, 24; one affective strategy No. 16. There are also ten test-wiseness strategies, namely, No. 2, 12, 15, 20, 25, 26, 27, 28, 29, 30. This classification of the cognitive, metacognitive and affective strategies in the checklist are made according to Oxford (1990) as well as Baker and Brown (1984: 354). The test-wiseness strategies are grouped with reference to Cohen (1998: 219). The checklist also requires the students to identify the strategies that they used when reading comprehension was blocked. Since strategies No. 22, 23, 24 are put under the condition when the students are blocked in reading, the use of these strategies is a remedial action and can be considered as metacognitive strategies though they are related to lower level skills. According to Baker and Brown (1984), metacognitive strategies include the compensation strategies. This is in agreement with Phakiti's (2003: 44) argument that the definition of cognitive or metacognitive strategy is actually decided by the purpose in using that strategy.

Figure 1 shows the use frequency of each strategy when the students were reading and completing the comprehension questions. Generally, the most frequently used strategies are No.2, 7, 14. -- reading the questions first so that the reading of the passage is directed at finding answers to those questions; trying to underline when reading in order to remember the text; paying attention to headlines, titles, italicized words, underlined words, etc. The first strategy falls into the category of test-wiseness strategies, while the next two are cognitive strategies.

Instead of the strategy 30 -- making a blind guess, the least used strategies are No. 17, 3, 11 -- trying to understand the meaning of each sentence first; briefly skimming the text for main

idea before reading; making use of knowledge about types of writing -- e.g. patterns of exposition, narration, etc. All of these three strategies belong to the cognitive category.

Figure 1



In order to ascertain the trend of the students in choosing strategies for the reading test, analysis was made to compare the use frequency of each strategy category. Since the strategies in each category are not evenly grouped, a proportion score was used to make them comparable, a method that is similar to that used by Fotovatian and Shokrpour (2007).

Table 1. Students' use frequency of each category of strategies

Processing	Number of items	Items used	Use frequency (%)
Cognitive	10	1,3,4,7,10,11,14,17,18,19	48.7
Metacognitive	9	5,6,8,9,13,21,22,34,24	59.7
Affective	1	16	49.3
Test-wiseness	10	2,12,15,20,25,26,27,28,29,30	54.5
Total	30		

From table1, it can be seen that on the whole, the students used metacognitive strategies more often than other categories. Metacognitive activities prevailed in their reading processes. Test-wiseness strategies rank the second, which indicates that the students may be fully aware of the nature and the purpose of the reading tasks in a standardized test, and did all they can to produce response to corresponding questions.

Table 2. Students' use frequency of language use strategies and test-wiseness strategies when comprehension failure arises

Processing	Number of items	Items used	Use frequency (%)
Language use	3	22,23,24	55.1
Test-wiseness	6	25,26,27,28,29,30	53.8

Table 2 is intended to elicit the students' use of strategies when they are blocked. The strategies listed in the checklist are of two types, three language use strategies that belong to the metacognitive category in this case and six test-wiseness strategies. It seems there is not a great difference in the use frequency of these two categories. When the students were unable to get comprehension of the text, they relied on test-wiseness strategies almost as frequently as language use strategies, with language use strategies used slightly more often than test-wiseness strategies.

3.1.2. A comparison of strategy use between proficient and non-proficient students

For the purpose of illuminating how effectively the students were using different strategies, the 25 participants were ranked according to the scores that they got on the reading test with reference to the time taken. The same number of students was chosen from the top of the list as well as from the bottom of the list. Comparisons were made to see whether there are different strategy processes between proficient and non-proficient students in the reading test, and whether certain strategies decide the test performance and distinguish those two groups of test-takers.

3.1.2.1 Data from the reading test

Reading test papers were distributed to the 25 students with the aid of one colleague of the researcher in China. All the students were asked to spend no more than 25 minutes on the test. They were then told to copy their answers to the comprehension questions and write down the exact time this reading test took if they finished in less than 25 minutes. If they were unable to complete the test within 25 minutes, they should stop where they were and make a note of *unfinished*. The time also included that the students took for self-checking if they felt it

necessary. All the information was uploaded online and sent back to the researcher once available. Each test result was carefully checked and scored with one correct answer getting one mark. Altogether there are 20 marks. The final test performance was also decided by the time taken, that is, the more marks a student got and the less time he or she spent, the more proficient that student is.

Revealed from the data given back, two students used less than 25 minutes, eight students used up that 25 minutes but left the test unfinished. One student completed all the comprehension questions but recorded 30 minutes which is not a figure needed. This reduced the valid test results for analysis to 24. Individual students were ranked according to their test scores as well as the time taken. Reading efficiency is reading speed multiplied by comprehension rate (reading efficiency = reading rate \times percentage of correctness) (ReadingSoft 2000). Finally seven students from the top were chosen as the proficient students (Group A) with a mean efficiency value of 64, while another seven students from the bottom were chosen as the non-proficient students (Group B) with a mean efficient value of 36. The result indicates that the test actually differentiates non-proficient students from proficient ones and is proved valid for making comparison between these two groups of students.

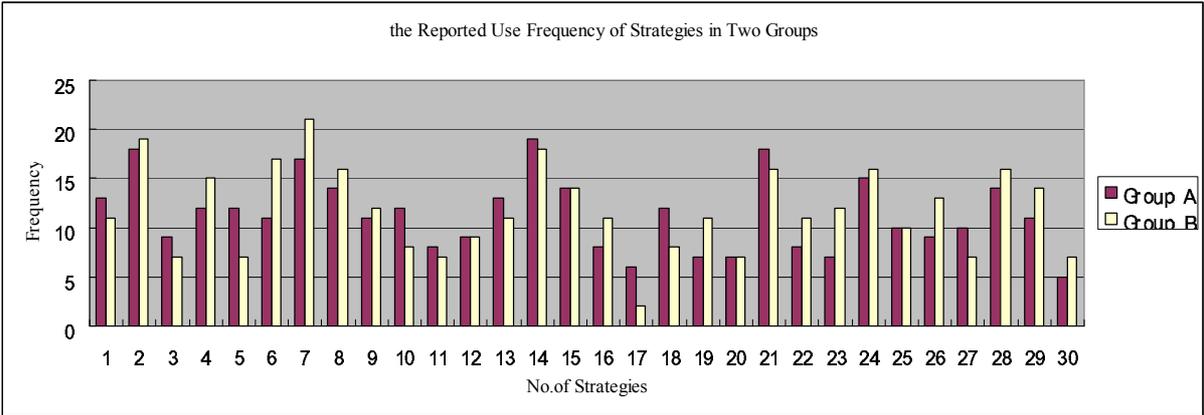
3.1.2.2 An overview of strategy use by the two groups

Figure 2 displays the frequencies of different processing strategies that were adopted by proficient students and non-proficient students. It is assumed that the strategies highly used by group A students but rarely chosen by group B students are strategies that contribute to test performance. In contrast, those significantly used by group B students but seldom adopted by group A students can be regarded as strategies that have negative effects. Just as Kamil (1984: 48) argues, correlation may not point to definite cause and effect, but high correlation values can reveal causal relationships.

For group A students, the most frequently used strategies are No. 14, 2, 21, 7, while for group B students, the most frequently used include No. 7, 2, 14, 6. Though there is a slight

difference in the way these strategies are ranked in each group, it seems both groups relied on almost the same essential strategies in their reading process. The strategies that are least used are exactly the same for these two groups, namely strategy 17 and 30. This result shows that in general, there is not an obvious relationship between the use of a specific strategy and test performance.

Figure 2



3.1.2.3 A comparison of cognitive strategies used by the two groups

To get an insight into the cognitive reading process conducted by different groups, a detailed comparison is made to see how the students were making use of cognitive strategies when fulfilling reading tasks in the test.

Table 3 shows the use frequency of each cognitive strategy by proficient students (Group A) and non-proficient students (Group B). It indicates that group A students used a higher number of cognitive strategies than group B students overall. For almost half of the cognitive strategies, students of each group used them in a similar way, with a small difference between one or two points. Comparatively great disagreement exists in the use of strategy No. 7 -- trying to underline when reading in order to remember the text. Group A students are less likely to underline when reading. They are also less likely to read aloud every word in the mind, as indicated by the use of strategy No. 19. This may illustrate a fact that proficient students are fluent in reading and do not need deliberate efforts to force themselves remember and overtly activate every word in the mind.

Table 3 Cognitive strategy use frequency in two groups

No. of strategy	Group A (p)	Group B (p)
1	13	11
3	9	7
4	12	15
7	17	21
10	12	8
11	8	7
14	19	18
17	6	2
18	12	8
19	7	11
Total	115	108

(p) represents the points that the students give to each strategy in accordance with the use frequency. It applies to all the following tables.

Proficient students also made more use of strategy No. 10 and 18. Their answers are more likely to be based on the understanding of the text, as shown by the choosing of No. 18 -- trying to produce your own answer to the question before you look at the options that are provided in the test, which helps avoid the risk of making blind guesses. They are also more likely to use No. 10 -- transfer of the target language to native language in order to initiate understanding. Although Group A students declared to use strategy No. 17 more often than non-proficient students -- trying to understand the meaning of each sentence first, this is actually the last strategy both groups of students will resort to in a reading test, and that is why No. 17 is ranked almost the last by both groups.

3.1.2.4 A comparison of metacognitive and affective strategy use by the two groups

Table 3 reveals the use frequency of metacognitive strategies between each group. Contrary to common belief that proficient students use more metacognitive strategies, the non-proficient students reported to use more metacognitive strategies compared with proficient students. The

salient contrast lies in the use of strategy No. 6 -- always looking for main ideas while reading and overlook details if they are not important. It is the incompetent students who are always looking for main idea. Another difference exists when it comes to the use of grammatical knowledge to help make up for the inadequacy in comprehension, as shown in strategy No. 22, 23. Proficient students are less likely to use these two methods to solve a comprehension problem. The likely cause may be that they do not come across this kind of problem very often, or they prefer to use background knowledge for help.

Table 3 Metacognitive strategy use frequency in two groups

No. of strategy	Group A (p)	Group B (p)
5	12	7
6	11	17
8	14	16
9	11	12
13	13	11
21	18	16
22	8	11
23	7	12
24	15	16
Total	109	118

However, proficient students used No. 5 more often to make a guess about what is to come in the next part of the text. Just as Smith (2004: 25) says, prediction is the core to reading. This points to a hypothesis that proficient students are doing well in self-regulation and monitoring when trying to make sense of the text, which can also be supported by the fact that Group A used more similar kinds of strategies like No. 13, 21 -- to change reading speed and to return to the passage to look for or confirm an answer rather than relying solely on memory of what is in the text. Yet the difference here is not very dramatic.

Generally, both groups put a very similar emphasis on strategy No. 9, 24. They use almost the

same frequency of self-monitoring strategy of altering reading style. Both the proficient students and the non-proficient are likely to choose between skimming and scanning for different section of the text. They make the same use of context to help understand unfamiliar words or phrases.

As far as the only affective strategy No. 16 is concerned, it is interesting to note that the proficient group is less likely than the non-proficient group to enjoy reading the passages. The use frequency is 8 in Group A against a 11 in Group B. It is also worth noting that generally both groups did not approach the reading passages in the test with interest, and No. 16 is not ranked very high on the strategy list.

3.1.2.5 A comparison of test-wiseness strategy use by the two groups

What makes reading in a standardized test different from other reading tasks is the possibility to use test-wiseness strategies, esp. for the multiple-choice items. According to Cohen (1998), test-wiseness strategies are those used to complete the reading task without relying on the prior language knowledge. Students of different reading proficiency are also assumed to differ in their adoption of test-wiseness strategies.

Table 4 compares the test-wiseness strategy use by the two groups of students. This table shows a striking similarity between the two groups in choosing test-wiseness strategy, with strategies No. 2, 28, 15, 29 topping the list in both groups. Both proficient and non-proficient students seem to be fully aware of the test situation, and make their reading directed at finding answers to the questions. The use of the process of elimination is the first choice for them to decide on an answer that they are not sure about. They also reported to take advantage of clues appearing in other questions in order to answer the question under consideration. When facing understanding problems, all the students were making efforts to make intelligent guesses instead of guessing blindly, which explains why strategy No. 30 -- guessing with no particular consideration, is the last in both groups.

Table 4 Test-wiseness strategy use frequency in two groups

No. of strategy	Group A (p)	Group B (p)
2	18	19
12	9	9
15	14	14
20	7	7
25	10	10
26	9	13
27	10	7
28	14	16
29	11	14
30	5	7
Total	107	116

Differences appear in the use of strategy No. 26. Proficient students reported to postpone dealing with an item or selecting a given option until later less frequently than non-proficient ones. Considering the fact that this strategy is put under the label of comprehension failure situation, it is not hard to understand that the fewer uses of No. 26 in proficient students are just because they do not need to. On the whole, non-proficient students use test-wiseness strategies more often probably because that is one way to compensate for their inadequate language knowledge.

3.1.2.6 A comparison of strategy use by the two groups in comprehension failures

To gain an insight into the reading processes of the students in test contexts, it is necessary to know the strategies that they use when they are blocked. In the checklist, nine strategies in the case of comprehension failure are provided for the students to choose from, among which three are language use strategies and six belong to test-wiseness strategies.

Table 5 shows that there is not much difference between the two groups in choosing strategies when comprehension fails to occur. Strategies No. 24, 28, 29 are the most frequently used

strategies for both groups. All the students are inclined to use context to deal with unfamiliar words and phrases, and they will also use test-taking techniques like elimination to obtain scores despite a lack of understanding. The non-proficient group even uses more grammatical knowledge as a tool, which is indicated by the adoption of No. 23 -- grammatically analyzing a difficulty within the sentence. All the students are likely to use reasonable guessing based on their prior language knowledge as well as experience in taking a test before guessing wildly. This is shown by the fact that in both groups, strategy No. 30 -- guessing without any particular considerations is ranked lowest.

Table 5 Use frequency of each strategy in the two groups when comprehension failure arises

No. of strategy	Group A (p)	Group B (p)
22	8	11
23	7	12
24	15	16
25	10	10
26	9	13
27	10	7
28	14	16
29	11	14
30	5	7
Total	89	106

Table 6 Frequency of language use strategies and test-wiseness strategies when comprehension failure arises

Processing	Number of items	Items used	Group A		Group B	
			(p)	(%)	(p)	(%)
Language use	3	22,23,24	30	48	39	62
Test-wiseness	6	25,26,27,28,29,30	59	47	67	53

(p) represents the points that the students give to each strategy in accordance with the use frequency. (%) is the use frequency in terms of percentage. It applies to all the following tables.

Table 6 shows that generally Group B students have reported more use of strategies when comprehension failure arises, which may be due to the fact that they came cross difficulty more often than the students of the other group. The non-proficient students used language use strategies much more than the test-wiseness strategies, while proficient students' chances to use the two kinds of strategies were almost equal, with a likelihood of 48% as against 47%. However, the effects of more strategy uses, especially those connected with the aid of linguistic knowledge are not obvious enough to help group B students fulfill the reading tasks satisfactorily.

3.2 The analysis of the questionnaire

The questionnaire was designed to get more information about the students' knowledge of reading strategies, and their own perception of the negative factors that hinder their efficient reading. It was sent to the students after they had finished the reading test and after they had completed the strategy checklist.

3.2.1 Students' knowledge of reading strategies

It is assumed that whether a reader is conscious about the reading strategies may influence their reading process and decides whether they are to use the strategies effectively.

Table 7 the students' response to knowledge of reading strategies

No. of question	1			2			3			4			5			
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	D
N (n)	0	21	4	12	5	8	24	0	1	19	2	4	1	18	5	1
P (%)	0	84	16	48	20	32	96	0	4	76	8	16	4	72	20	4

N (n) refers to the number the students who choose a particular item, and P (%) is the percentage of the students. It applies to all the following the tables.

As shown in table 7, 84% of all the students in this study reported to know more than 50% of the reading strategies that are listed in the checklist. It can be seen that all the students have a generally good understanding of reading strategies. But as to the use of them, not every

student use the strategies consciously. 12 students out of 25 (48%) are likely to use the strategies consciously, while 5 students (20%) reported to have never used these strategies consciously before. 32 students (32%) reported to use the strategies consciously sometimes.

A vast majority of the students (96%) hold positive attitudes toward reading strategies, believing that the proper use of reading strategies is helpful for efficient reading. Only one student expressed his doubt about the effectiveness of reading strategies. When it comes to the teaching of reading strategies, 76% think that spending time in the reading class teaching reading strategies is necessary while only two students (8%) hold the opposite opinion. Another four students are just not sure about the necessity in strategy teaching.

Of all the 25 students, most see themselves as fair readers. One student assesses that her reading efficiency is at a good level. Five students classify themselves as poor readers. Generally, it seems that the students are not very confident about their reading efficiency and this points to a reading problem commonly existing in English major students, despite a possibility for some students to undervalue themselves. One student chose D, which shows she is not sure about her reading efficiency in test situations. She explained that her correctness is not at a stable level, which may be dependent on the types of the text. She thinks she is good at dealing with narrative passages, and ascribes it to the background knowledge that she can use, which is what the researchers refer to as schemata.

Table 8 and table 9 represent proficient students' and non-proficient students' attitudes toward reading strategies respectively. It is interesting that all the non-proficient students are aware of more than 50% of the listed strategies, while as for proficient students, there are two out of seven students who admit that they only know less than 50% reading strategies. More students in group B (71%) are consciously using those strategies, while in group A, only 43% of the students are consciously using them, with the same percentage of the students (43%) using the strategies occasionally. All the non-proficient students believe the proper use of strategies can promote efficient reading; however, there is one student in the proficient group who chose the *not sure* alternative. Consequently, all the students in group B agree that there

is a necessity of strategy teaching in the class, while different opinions arise in group A, though the students who are not resolute about strategy teaching only constitute a minority.

Table 8 The students' response to knowledge of reading strategies in Group A

No. of question	1			2			3			4			5			
Items	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	D
N (n)	0	5	2	3	1	3	6	0	1	5	1	1	0	5	1	1
P (%)	0	71	29	43	14	43	86	0	14	71	14	14	0	71	14	14

Table 9 The students' response to knowledge of reading strategies in Group B

No. of question	1			2			3			4			5			
Items	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	D
N (n)	0	7	0	5	1	1	7	0	0	7	0	0	1	5	1	0
P (%)	0	100	0	71	14	14	100	0	0	100	0	0	14	71	14	0

Whether in group A or group B, most of the students perceive themselves as being at the intermediate level in reading efficiency. Surprisingly, one student in group A judges himself as a poor reader and another one thinks it is hard to make an assessment about her reading efficiency considering the fact that her performance will vary with different text types. It is in group B that one student makes a high evaluation of her reading efficiency level. Despite the accidental nature of one test performance, this may suggest that students in group A have somewhat underrated themselves because Chinese students tend to be modest when making a self-evaluation. Group B students are comparatively more confident about their reading ability, which is not reflected in their real performance. A possible explanation is that they are not reading fast enough to be efficient. Indeed, six out of seven students in group B did not finish their reading tasks within 25 minutes and left some questions unanswered.

3.2.2 Students' perception of reading obstacles

The last item in the questionnaire is to find out the largest problems that the students are facing in all the reading model tests. It is believed that L2 reading is influenced by L2 language proficiency as well as L2 reading strategy. English majors in the second year are assumed to have sufficient L2 knowledge to deal with L2 reading. However, if they are below the average level they are supposed to be at, which means they do not possess the threshold of the target language, the only use of L2 reading strategies may not prove to be as efficient as expected. If language problems are seen to be the largest obstacle, the teaching of reading should reconsider the course book being used and design a systematic program to improve the students' reading ability while teaching reading strategies.

Table 10 The students' perceived reading obstacles

No. of question	6											
Items	A	B	C	D	E	F	G	H	I	J	K	L
N (n)	17	10	6	7	2	12	10	13	4	2	6	1
P (%)	68	40	24	28	8	48	40	52	16	8	24	4

Table 10 shows that 17 out of 25 students (68%) chose A, which makes the vocabulary problem tops the obstacle list. Almost half of the students (52%) also chose H, believing that they can understand the text and complete the comprehension questions satisfactorily, but their reading speed is not high enough to finish all the tasks, which affects their test performance. 48% students choose F, indicating a problem with unfamiliar topics. Other common problems include B and G. Ten students feel there is a sentence level problem, and another ten students feel a lack of attention in reading. Interestingly, only two students choose J -- a problem with the proper application of reading strategies.

A closer look at the responses given by proficient students and non-proficient students shows that the situation is quite similar. As indicated by table 11 and 12, limited vocabulary constitutes the main problem for both groups, with 5 out of the 7 students choosing A in each group. Being unable to read fast is the next big problem for both groups, especially for the

non-proficient students. The fact that five students out of seven chose H evidences the assumption in 3.3.1 that the students in group B differ in their test performance from proficient students due more to their low reading speed than to a significant language knowledge problem.

Table 11 Perceived reading obstacles in Group A

No. of question	6											
Items	A	B	C	D	E	F	G	H	I	J	K	L
N (n)	5	3	2	2	0	4	2	4	1	1	0	1
P (%)	71	43	29	29	0	57	29	57	14	14	0	14

Table 12 Perceived reading obstacles in Group B

No. of question	6											
Items	A	B	C	D	E	F	G	H	I	J	K	L
N (n)	5	3	2	2	1	3	3	5	0	0	2	0
P (%)	71	43	29	29	14	43	43	71	0	0	29	0

The third problem with both groups is F and B -- unfamiliar topics of the passages and a failure to make sense of a long sentence. The non-proficient group shows a greater problem with attention span, with three students recognizing G as an obstacle to their efficient reading. One student in group B has a problem with text organization indicated by the choice of E, while in group A, no one regards this as an obstacle.

Students in both groups mention the problem of getting the main idea and making inferences of the reading passage, though the percentage (29%) is not very striking. No one in group A feels bored in reading; however, in group B, two students think they are bored and this attitude may affect their final test performance. One proficient student adds her opinion in L, expressing that sometimes it is the problem with the test itself because the options are too

obscure. Another student adds that there is a possibility for her to fail to follow the author's point of view and instead choose an answer that is from her own point of view.

From the above discussion, it can be seen that the students' problem mainly lies in the lower level with vocabulary and sentence structure problems being the most obvious. They have not developed automaticity in word recognition and sentence interpretation, which prevents them from reading fast and being efficient. The students' background knowledge is also not enough. They are more likely to be blocked in passages dealing with topics other than daily life.

3.3. Discussion and implications

Statistics from the current study help illuminate how reading is processed by a majority of English major students in the standardized test of TEM-4. The comparisons of strategy use between efficient and non-efficient readers also throw light on the relationship between strategy use and efficient reading reflected in the test performance. Since the participants represent average (i.e. the university is ranked in the middle among Chinese higher education institutions) English language students with Chinese educational background, their common problems revealed in the reading process may provide Chinese English teachers a direction for future teaching in the reading classroom.

3.3.1 Reading processing strategies in standardized test context

Generally, students use metacognitive strategies more often than other categories. This evidences the importance of metacognitive strategies in reading comprehension, especially for advanced readers. In a reading test where time is strictly constrained, the students are sure to meet with comprehension difficulties. Their substantial use of language use strategies as a compensation approach is a most common metacognitive control. Background knowledge is always used either to help understand the text or to make an educated guess. The reading tasks in the test force them to look for main ideas while reading and overlook unimportant details so as to save time. The checklist shows that most students are making efforts, consciously or unconsciously, to utilize higher-level comprehension skills.

As indicated by table 1, test-wiseness strategies are also what the students are relying heavily on, especially strategy 2. A majority of the students (17 out of 25) reported that they always read the questions first and make their reading of the passages directed at finding answers to the questions; five students use it very often; only three students report they use this strategy sometimes. It seems although the fast reading of section B is no longer contained in TEM-4, most students regard the reading component more as fast reading than as careful reading with an obvious reading purpose of finding answers. On the one hand, a proper use of this strategy helps improve reading speed, but on the other hand, it can be argued that putting too much attention to questions will interfere with a cohesion construction of the text and hence affect global understanding. Another prominently used strategy in this category is the process of elimination. When comprehension is blocked, most students are likely to make use of the options given and compare the logic as well as the meaning of the choices. They also take advantage of clues appearing in other questions in order to answer the questions under consideration. It shows that all the students draw on their previous rich test-taking experience to fulfill the test tasks.

Although cognitive strategies are not the most used category as a whole in table 1, there are certain cognitive strategies that rank far above on the list, such as strategy 7 and 14. Students are inclined to underline when reading in order to remember the text, which is a highlighting strategy that helps the students focus on important information and create structure for visual input (Oxford 1990: 47). Besides emphasis techniques, they use a similar number of typographic features including headlines, titles, italicized words and underlined words, another way to keep focused on key information and improve reading speed.

As a contrast, cognitive strategies No. 17, 3, 11 are the least used by the students on the whole. The fact that strategy No. 17 is at the bottom shows that they do not base their understanding at the sentence level and the bottom-up reading model is less emphasized in a test situation. The students are unlikely to briefly skim the text for the main idea before reading. A possible reason is that they want to finish the task as soon as possible and will not spend time on repeated reading if not necessary. Many students expressed the idea to the researcher

afterwards that they think skimming the text before reading does not help answer the comprehension questions because they are unable to get detailed information or to get a clear idea about the whole text. Most students regard this strategy as a waste of time. Still another unfavored strategy is No. 11 – making use of knowledge about types of writing organization. It follows that the students do not pay much attention to the rhetorical organization of the text, an important higher level comprehension factor mentioned by Walter (2004: n.p). There are several reasons underlining this phenomenon. Firstly, textual organization is always a difficult part for Chinese English learners because it involves cultural differences. Secondly, in reading classes in China, more emphasis is put on local comprehension. When interpretation and inferences are made, they are conducted from one paragraph to another, without explicit discussion of the rhetorical organization of the whole text.

As explained below, it is worth noting is that strategy 30 -- guessing without any particular considerations -- is far from the bottom of the strategy use frequency list. Most students report they have used blind guessing once or even more when they are blocked in the reading test. This is usually the last resort in a test situation. It reveals that either the students have serious comprehension problems that eliminate all possible strategies, or they do not have enough time to finish the whole tasks.

3.3.2 Relationship between strategy use and test performance

The comparisons of strategy use between proficient and non-proficient students in this study show that the total number of strategy use is not related to test performance. As indicated by table 13, the number of the strategies reported by non-proficient students is higher than those used by proficient students. Even within each group, the reading proficiency in the test is not found to vary according to the number of strategies used. This fact disagrees with Fotovatian and Shokrpour's finding (2007) that skilled readers make use of a larger number of reading comprehension strategies than poor readers.

What is also surprising is that it is the non-proficient students who use more metacognitive strategies. It seems that they are metacognitively more aware and hold a more positive

attitude toward the reading passages, as shown by the reported use of the affective strategy. The only set of strategies that is used more often by the proficient group is the cognitive category.

Table 13 The total number of strategies used by individual students in two groups

Group A			Group B		
ID	TesE	TotS	ID	TesE	TotS
18	77	45	9	42	65
12	65	39	10	42	66
21	65	39	16	42	39
24	65	57	20	42	36
2	60	51	3	32	42
13	60	40	11	32	53
23	60	68	22	23	52
Total:		339	Total:		353

TesE represents test efficiency; TotS represents the total number of strategies reported.

This result indicates that important as it is, using metacognitive strategies alone does not lead to success in reading tests. From the questionnaires collected after the test, it is revealed that all the students in the non-proficient group know more than 50% of all the strategies, and they are reported to be consciously using these strategies, yet their test performance is lower than that of the proficient group students who do not have such a good knowledge about the strategies. Just as Anderson (1991) argues, knowing about strategies is not sufficient; a reader must know how to use them successfully.

The result also points to the importance of language proficiency, the language threshold theory. Although the proficient students do not use metacognitive strategies that often, their choice of cognitive strategies, such as No. 10 and No. 18, shows that they base their answers on understanding of the text instead of making guesses. Their reading process seems to be more fluent since they are less likely to use strategy No. 9 to underline the text in order to

remember the information and read aloud every word in the mind. They may have acquired a certain automaticity that saves more time for comprehension than for word identification. Their fluency also enables the use of metacognitive strategy No. 5, to make a guess about what is to come in the next part of the text.

Fotovatian and Shokrpour (2007) mention that low target language proficiency prevents poor readers from getting metacognitive strategic knowledge. In this study, it can be concluded that low L2 language proficiency forbids students to apply metacognitive strategies in an efficient way. The non-proficient group reported to look for main ideas while reading, but whether they always effectively discern the most important from the less important remains to be seen. Metacognitive strategies are often used when comprehension fails. According to Oxford (1990: 49), less proficient language learners use more compensator strategies, because they are more likely to run into difficulties than do proficient learners.

There is also no individual processing strategy that considerably contributes to a good test performance. Both groups of students seem to have used a similar frequency of most of the strategies, with only a slight difference between the preferences. Both groups reported a similar inclination to make use of headlines, titles, italicized and underlined words, and will make their reading directed at finding answers to the comprehension questions. The least used strategies for both groups are blind guessing and trying to understand each sentence first. The lack of significant statistic correlation does not provide evidence for the relationship of a specific strategy and the test performance.

However, students from the proficient group prefer to focus on typographic features more often than on emphasis techniques like underlining. Another comparatively obvious difference lies in the use of analysis techniques in case of comprehension failures. Students of the proficient group seem to use fewer such strategies. Although analyzing expressions is believed to be helpful in reading, it takes time. Both the checklist and the questionnaire prove that the non-proficient students know about the strategies quite well and can apply them when necessary, so the problem is whether they can use them effectively. As to some of the

strategies, even when they are proved to be effective, they are not sufficiently efficient in a text context, if time is taken into account. It is worth noting that of the seven students in group B, only one finished the test within the allocated time. Half of them indicated in the questionnaire that if given time, they would finish the reading tasks satisfactorily. It evidences Grabe's viewpoint (2009: 290) that L2 students may read with fair comprehension, yet they have problem in fluency. This again points to the same problem of language proficiency.

One explanation is that they do not have the large amount of vocabulary necessary to achieve fluency. This is echoed in the questionnaire when most students choose vocabulary problem as one of the obstacles in their previous reading tests. Khalifa and Weir (2009: 47) point out that for less skilled readers, they cannot make the automatic connection between written word and mental representation because of their limited sight vocabulary in the target language. On the other hand, readers who can decode accurately and automatically are less likely to go back to the previous information and can devote more of their working memory to comprehension.

3.3.3 Obstacles to efficient reading, and their pedagogical implications

The study of the processing strategies used by the students together with the questionnaire indicates that there are three main problems existing in reading. One is inadequate language knowledge, including a limited vocabulary; another one is the low speed in reading, and still another is related to a lack of topical knowledge. The three aspects are interacting with each other because a limited vocabulary and inadequate language proficiency influence the formation of automaticity in decoding and slow down the reading process while a lack of topical knowledge makes it impossible to compensate for linguistic inadequacy. A low speed in reading is also an indication of inefficient use of skimming and scanning.

Since this research aims to find out what teachers can do to promote efficient reading in classrooms, a translation of the research findings into instructional practice is worthwhile. On the one hand, considering the fact that for average English major students, inadequate language proficiency poses a most serious problem that potentially hinders the students from reading efficiently in test contexts, the development of lower-level skills should not be

ignored in reading class. It is shown that the students are able to choose most of the well-recognized reading strategies, yet a limited vocabulary and slow decoding processes in the lower-level comprehension negatively affect the successful use of those strategies, especially that of metacognitive category.

TEM-4 is an achievement test designed to measure how successful the students have been in achieving course objectives (Hughes 1989: 10), and a commonly existing vocabulary problem indicates a neglect in that aspect in reading teaching. Regulated by the test syllabus, the general objectives of extensive reading course for English majors at the end of the foundation stage (the second year) include a vocabulary requirement of about 5,500-6,000 words. Considering the fact that a college student usually has acquired only about 2600 English words (regulated in the Zhejiang provincial college entrance examination syllabus in 2006) when they are accepted by the university, systematic training is necessary for English major students to fulfill the reading requirements. However, the course book they use is not designed to increase their vocabulary in a progressive way. Another cause is related to the previous learning style. Most Chinese students are used to a class-centered study, and are less likely to spend time on further reading other than the course book, which also leads to a limited lexicon.

To solve the above lower-level problem, course books should be carefully chosen and more practices on vocabulary are needed either in the classroom or outside the classroom. Just as Walter (2004) proposes, teachers are to provide overt targeted teaching of the most common words in a language followed by words that belong to specific topics and study fields. For most Chinese students, they do not remember words with reference to the meaningful morphemes and spoken syllables, which either slows down or hampers them from activating the pre-acquired vocabulary, so a phonics instruction should be used, as the bottom-up theorists advocate. Teachers are also responsible for guiding students to consistent reading practices outside the classroom. What is emphasized here is the development of automaticity. Grabe suggests that reading skill development should aim to build word-recognition automaticity with highly used words and develop a large recognition vocabulary (2009: 37). This

automaticity is also to be developed at the sentence and syntax level.

On the other hand, there is a necessity of explicit teaching of reading strategies. Although a large majority of the students (86%) know most of the strategies, less than half of them are consciously using these strategies. What they lack is an awareness of how to use these strategies effectively. Oxford (1990: 12) mentions that it is necessary to help learners be aware of the strategies they are using and to make assessment of that use. Strategy training is also possible, because strategies are easier to teach and modify than learning style and personality. The necessity of strategy teaching is explicitly expressed by most of the students in the questionnaire. The following two aspects are to be emphasized in strategy training.

Firstly, more exercise on skimming and scanning to improve the reading speed. Once the students get sufficient language proficiency on which higher-level comprehension skills can be built, special training on skimming and scanning is necessary. Khalifa and Weir (2009: 46) repeat a problem detected by many researchers that reading quickly, selectively and efficiently is more problematic than reading carefully and efficiently for many readers. Inefficient skimming and scanning prevent the students from getting accuracy and a high reading speed. This is especially true for Chinese students since they usually pay an overriding attention to careful reading. It can be argued that the by far greater number of intensive reading classes may have potentially strengthened this kind of reading style. The non-proficient students' unsatisfactory test results show that they are actually influenced by an intense word-by-word manner which slows them down. Even when they try to make a guess from the context, the guessing from minimal clues does not lead to automaticity.

Secondly, more activation of background knowledge and explicit instructions on the organization of different text types. Data analysis shows that besides vocabulary, the students commonly see inadequate topical knowledge as another problem. Although TEM-4 does not include reading passages involving special knowledge of a specific field, the students still feel frequently frustrated by unfamiliar topics. This forces all the teachers to wonder how much background knowledge do English major students possess and whether the reading materials

given in the classroom cover a sufficiently wide range.

Smith (2004: 51) believes that predictions are made possible when idioms, cohesion and register work together. The ignorance of any one of them potentially impedes accurate prediction and therefore influences comprehension efficiency. However, data show that most students are not likely to make use of the knowledge about the types of writing. They are not aware of the importance of rhetorical organization of the text, and do not regard it as an important strategy to help comprehension. It is true that a lack of rhetorical organization knowledge may not negatively influence a reader's understanding, but it influences the reading efficiency to some degree (Anderson 1999: 15). Another result that it possibly brings is the difficulty in reading tasks dealing with general understanding of the text. A review of the test performance shows this is not a problem pertaining to group B students only. Group A students mention that sometimes they fail to follow the author's idea, which reveals the consequence of the lack of an understanding of the text organization. Another student's explicit expression that her reading efficiency seems to vary in accordance with text types can be seen as an additional proof of it.

In reading classrooms, teachers are supposed to put more emphasis on helping the students to grasp larger meaning relationship through a discussion of textual organization. Anderson suggests pre-reading discussions and the use of semantic maps (1999: 14-15) to activate and establish prior background knowledge. A discussion of the kinds of transition or linking words is also recommended, which the Chinese students usually pay little attention to. Another important activation strategy that can be used is to guide the students to monitor their use of activation strategy outside the classroom. All these methods are supposed to work together to facilitate reading comprehension and finally improve reading efficiency. How to introduce the social and cultural factors that influence the text organization remains to be considered.

4. Conclusion

The present study aims at investigating the processing strategies that common English major students in China are utilizing in test context and finding out whether there is a significant

relationship between the strategy use and their test performance in terms of efficiency. The findings in the research are to throw light on the reading problems that are common among Chinese English majors, so that pedagogical suggestions can be proposed on how to promote efficient reading in classrooms.

The findings show that generally, the students are making frequent use of metacognitive strategies. They base their reading comprehension on higher level skills rather than remaining at a sentence level. Test-wiseness strategies are also heavily used which indicates that Chinese students are quite aware of the characteristics of a test situation and know how to make use of a particular strategy such as elimination to get tasks done. However, their consistent focus on looking for answers in the text does not show there is a corresponding change of strategy use after the reform of the TEM-4 reading component. This, together with the ignorance of types of writing when reading, is assumed to curb the further development of their reading efficiency, especially when global understanding is concerned.

Comparisons of strategy use between proficient and non proficient students demonstrate that there is no significant correlation between the number of strategies used and the test performance which disagrees with Fotovatian and Shokrpour's finding (2007), but is in agreement with the research findings of Xia (2008). Nor is there a specific strategy that significantly contributes to efficient reading since the statistic differences are not prominent. This finding echoed the idea in Anderson's research (1991) that strategies per se are not intrinsically either successful or unsuccessful; a reader must know how to use the strategies efficiently. The minor differences in strategy use prove that the proficient readers are more fluent at lower-level skills, and automaticity enables them to get accuracy in shorter time and make better prediction. On the contrary, the non-proficient students' inadequate language proficiency is what hinders them from making the best of metacognitive strategies, though they report to have a good knowledge and a substantial use of those strategies.

The most obvious reading obstacle for English major students is found to be the poor language proficiency including a limited vocabulary, and a lack of automaticity in print

decoding at different levels. Another problem proves to be a low reading rate which is a possible consequence of the lack of automaticity and an indication of inefficient use of skimming and scanning skills. Finally, there is a problem of inadequate schemata construction that includes a lack of topical knowledge and textual organization awareness.

In view of the above facts, it is suggested that reading teachers should carefully choose course books suitable for the students' level, through the study of which a mental lexicon can be built in a systematical way. On the one hand, teachers are responsible for an overt targeted teaching of common words; on the other hand, explicit instruction on reading strategies should also be conducted. Emphasis is to be put on skimming and scanning skills and an activation of background knowledge, especially the ignored aspect of rhetorical organization.

However, since the present study is based on only one test because of time limitation, the test performance and the strategies used are likely to be influenced by chance factors. The samples used here are not substantial enough. The findings can reveal the average English major students' reading process and reading problems to a great extent, but it is not possible to draw too general conclusions. Further study is supposed to include more participants of similar education background, and more follow-up tests to increase the reliability. A detailed correlation analysis about the individual student's strategy use and test performance can also be added.

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Appendix 1

The Reading Comprehension Test

PART V READING COMPREHENSION

[25 MIN]

In this section there are four passages followed by questions or unfinished statements, each with four suggested answers marked A, B, C and D. Choose the one that you think is the best answer.

Mark your answers on ANSWER SHEET TWO.

Text A

Clothing was not in any way a practical necessity in Ancient Egypt. Egypt (and most of the rest of North Africa) was not the mainly desert country it is today, subject to the temperature extremes that a dry climate engenders. Then it was a lush, food-producing country, subject to annual flooding, and a warm, humid climate. Clothing was therefore a luxury item of no great practical value. Slaves and the poor in surviving ancient Egyptian art are therefore usually depicted in little more than loincloths. As people went up the social scale more clothing and jewelry was worn, but even then the fabric of the clothing is light and designed more to accentuate the shape of the body than conceal it. The most elaborate Egyptian clothing was worn by the Pharaohs and their queens as symbols of power.

It is thought by some that royal Egyptians practiced body modification by wrapping the skulls of infants and altering the head shape to be more egg-like than rounded in adulthood, others ascribe this to a natural genetic fluke in the royal family. Aristocratic Egyptians also often shaved their heads (and other body hair) and wore wigs instead of natural hair to formal occasions. Kohl eye makeup was worn by both sexes, as were perfumes and body oils. During banquets, guests wore small mounds of beeswax impregnated with perfumed oil on top of their wigs; these mounds would melt into the wigs with the heat of the room, releasing scent, during the course of the party. Jewelry was the dominant costume focus, worn by both sexes; numerous examples of ancient Egyptian jewelry survive in museums. Clothing has been less fortunate in survival, but linen textile scraps remain to indicate that the mostly white pleated materials that are shown in ancient drawings were probably fine linens. These pleated linen garments are usually depicted as straight pieces of cloth, pleated to give a body-hugging stretch that are wrapped in a variety of ways and tied or tucked in front.

81. As described in the passage, both sexes of ancient Egypt did the following things EXCEPT

- A. using perfumes.
- B. wearing jewelry.
- C. wearing eye makeup.
- D. wearing skirts.

82. According to the passage, which of the following statements is CORRECT?

- A. There is more clothing than jewelry in today's museums.
- B. The materials of ancient Egyptian clothes were of poor quality.
- C. Ancient Egyptians wore wigs on official occasions.
- D. In ancient Egypt, people wore clothes in order to cover their bodies.

83. In ancient Egypt, which of the following people did NOT wear more clothes than others?

- A. Upper class people.
- B. Old people.
- C. Richer people.
- D. Royal people.

84. Which of the following can be inferred from the passage?

- A. There is no definite explanation to the altering of royal Egyptians' heads when they grow up.
- B. Ancient Egyptians understood how to take care of their skins and hairs.
- C. Ancient Egyptians wore clothing in the same way as today's people.
- D. Wigs and jewelry were widely used among common people in ancient Egypt.

85. Which of the following is the most likely topic of the passage?

- A. Life style in ancient Egypt.
- B. Art of ancient Egypt.
- C. Trends in ancient Egypt.
- D. Ancient Egypt society.

TEXT B

There are two moments that Alice and Henry remember with exceptional poignancy. The first occurred near the beginning of their relationship, when they looked at each other with the full knowledge of loving and being loved. Years later, they looked into each other's eyes and suddenly saw a stranger; their attitudes shaped by hurt and anger.

This couple came to consult me because they wanted to learn if there was any possibility of reigniting the flame that had once burned between them. Both acted almost ashamed, as if they knew they once had something precious and had somehow betrayed it.

Alice and Henry asked me a question I hear many times in my counseling practice. Are there specific ways in which couples who remain happy in love behave differently from couples who do not? The answer, I told them, is yes. My own studies, as well as those of other marriage counselors, show that happy couples consistently exhibit these behaviors: they say, "I love you." Happy couples express their love in words. They do not say, "What do you mean, do I love you? I married you, didn't I?" "Saying the word," one woman remarked, "is a way of touching." They express their appreciation and admiration. Successful couples talk about what they like in each other.

"My husband had always been my best audience," one woman said to me. "Whether it's something I did at work that day, or a clever remark I made at party---he seems to notice everything. He lets me see his pride and delight. I feel like I'm standing in the most marvelous spotlight. I only hope I'm as good at expressing my appreciation of him, because I'll tell you something: being loved is the second-best thing in the world; loving someone is the best."

They reveal themselves to each other. Happy couples share their inner lives with each other more than with any other person. They share thoughts, feelings, hopes and aspirations as well as hurt, anger, longing, and memories of painful or embarrassing experiences. They offer each other emotional support. Couples who are happy are there for each other in times of illness, difficulty and crisis. They are best friends and *nurture* each other.

They express love materially. Happy couples give gifts on more than just routine occasions, or perform tasks in order to lighten the partner's burdens. The cost of such gifts is

not relevant. What is relevant is the underlying intention: to give pleasure to the partner. The reward is the expression of joy or satisfaction on the partner's face.

They accept demands and put up with shortcomings. Demands and shortcomings are integral to every happy relationship. So are the benevolence and grace with which successful couples respond to them. They do not torment themselves or each other over imperfections. Each knows he or she is not perfect. Both understand that their partner's virtues outweigh his or her flaws. They choose to enjoy the positives rather than drown the relationship in a preoccupation with the negatives.

86. Alice and Henry came to consult "me" because they
- A. did not know what had happened to them.
 - B. hoped to resume the affection they had for each other.
 - C. felt ashamed of their behaviors in their marriage.
 - D. wanted to know how to be on good terms with others.
87. A happy couple and an unhappy one may NOT differ in the way of
- A. showing one's affection.
 - B. expressing one's admiration.
 - C. caring for each other.
 - D. talking about their lives.
88. The word "**nurture**" in Paragraph 5 means
- A. feed.
 - B. love
 - C. sustain.
 - D. understand.
89. According to the passage, we can infer that
- A. happy couples try their best to maintain their good relationship.
 - B. happy couples can enjoy their marriage for their whole life.
 - C. unhappy couples take their relationship for granted.
 - D. unhappy couples just want to separate from each other.
90. The passage aims to tell people
- A. how to be kind to others.
 - B. how to get along with others.
 - C. how to save one's marriage.
 - D. how to live happy.

TEXT C

The average young American now spends practically every waking minute---except for the time in school, though reluctantly---using a smart phone, computer, television or other electronic devices, according to a new study.

Those ages 8 to 18 spend seven and half hours a day with such devices, compared with less than six and a half hours five years ago. And that does not count the hour and a half that youths spend texting, or the half hour they talk on their cellphones. And because so many of them are multitasking---say, surfing the Internet while listening to music---they pack on average nearly 11 hours of media content into that seven and a half hours.

The study's finding shocked its authors, who had conclude in 2005 that use could not possibly grow further, and confirmed that fears of many parents whose children are constantly tethered to media devices. It found, moreover, that heavy media use is associated with several

negatives, including behavior problems and lower grades.

Dr. Michael Rich, a pediatrician at Children’s Hospital Boston who directs the Center on Media and Child Health, said that with media use so *ubiquitous*, it was time to stop arguing over whether it was good or bad and accept it as part of children’s environment, “like the air they breathe, the water they drink and the food they eat.”

Contrary to popular wisdom, the heaviest media users reported spending a similar amount of time exercising as the light media users. Nonetheless, other studies have established a link between screen time and obesity.

While most of the young people in the study got good grades, 47 percent of the heaviest media users---those who consumed at least 16 hours a day---had mostly C’s or lower, compared with 23 percent of those who typically consumed media three hours a day or less. The heaviest media users were also more likely than the lightest users to report that they were bored or sad, or that they got into trouble, did not get along well with their parents and were not happy at school. The study could not say whether the media use causes problems, or, rather, whether troubled youths turn to heavy media use.

“This is a stunner,” said Donald F. Roberts, one of the authors of the study. In the second report, I remember writing a paragraph saying we’ve hit a ceiling on media use, since there just aren’t enough hours in the day to increase the time children spend on media. But now it’s up an hour.”

91. It can be inferred that young Americans probably
- A. are not allowed to use electronic devices in school.
 - B. prefer a smart phone to a computer or television.
 - C. want to buy the newest electronic devices.
 - D. are all very good at sending texting.
92. As to the time youngsters spend on electronic devices, they spend _____ hours a day altogether.
- A. 6.5 B. 7.5 C. 9.5 D. 11
93. Which of the following statements is NOT true?
- A. The researchers’ prediction several years ago proved to be wrong.
 - B. The overuse of media devices can do harm to youngsters.
 - C. Many children became addicted to media devices in 2005.
 - D. Many parents worried about their children’s use of media devices.
94. The word “*ubiquitous*” in Paragraph 4 is close to in meaning to
- A. prevailing. B. obvious. C. notorious. D. disastrous.
95. It seems that the time children spend on media
- A. has been unexpectedly increasing.
 - B. is sure to be on the decline soon.
 - C. is not able to increase any more.
 - D. is reported to reach its climax.

TEXT D

Of greatest interest to those concerned with the environmental aspects of solid waste management is the issue of---and the need for---resource recovery and recycling. To many Americans, there is perhaps no greater symbol of our imbalance with nature and our mal-adaptation to its realities than the fact that we discard millions of tons of wastes every year which do, in fact, have value. The American people realize now that trash need not be mere junk. It has the potential of becoming a significant vein or resources, a mother source of opportunity for men of vision who can see beyond the horizon.

The American people are right. And those who serve them can no longer view solid waste management solely in terms of collection and disposal. However, something more than the magic of science and technology is required to convert all this waste back into useful resources.

In fact, in proportion to consumption, resource recovery has been steadily losing ground in recent years in virtually every materials sector. Approximately 200 million tons of paper, iron, steel, glass, nonferrous metals, textiles, rubber, and plastics flow through the economy yearly---and materials weighing roughly the same leave the economy again as waste. In spite of neighborhood recycling projects, paper drives, anti-litter campaigns, local regulations banning the non-returnable bottle, and the emergence of valuable new technological approaches, only a little of the waste is today being diverted from the municipal dump.

The principal obstacles are economic and institutional, not technological. The cost of recovering, processing and transporting wastes is so high that the resulting products simply cannot compete, economically, with virgin materials. Of course, if the true costs of environmental impact associated with virgin materials use were reflected in production costs and if there were no subsidies to virgin materials in the form of depletion allowances and favorable freight rates, the use of secondary materials would become much more attractive. But they are not now. There are no economic or technological events on the horizon, short of governmental intervention, that would indicate the reversal of this trend. If allowed to continue to operate as it does now, the economic system will continue to select virgin raw materials in preference to wastes. This fact should be etched into the awareness of those who look to recycling as a way out of the solid waste management dilemma.

96. The author believes that Americans' lack of harmony with nature is best shown by their
- | | |
|--------------------------------------|------------------------------------|
| A. carelessness of wastes' recovery. | B. eagerness to recover resources. |
| C. maltreatment of solid wastes. | D. ignorance of waste management. |
97. We can conclude from the passage that the scientific means for recycling solid wastes
- | | |
|-------------------------------|---------------------------------|
| A. requires further research. | B. is available now. |
| C. remains to be developed. | D. is still being experimented. |
98. People prefer virgin materials to secondary ones NOT because
- | |
|--|
| A. the shipping cost of virgin materials is lower. |
| B. virgin materials are provided with subsidies. |
| C. using virgin materials can protect environment. |
| D. the costs of environmental impact aren't counted. |

99. What can be inferred from the passage concerning resource recovery?
- A. Solid waste management only involves collection and disposal.
 - B. Resource recovery has become a significant vein of resources.
 - C. The solid wastes can be cheaply recycled if dealt with correctly.
 - D. Government intervention is important to solve the problems of recycling.
100. What is the author's attitude toward recycling solid wastes?
- A. Opposed.
 - B. Indifferent.
 - C. Approved.
 - D. Optimistic.

Appendix 2

Reading Strategies Checklist (English version)

Dear Student,

This checklist is designed to elicit your thoughts on how you read the passages and complete the comprehension questions. Thank you for your participation.

Name: _____ No: _____

There are altogether 30 reading processing strategies, each followed by 4 numbers indicating the frequency of your use. Please tick the number of the strategies you used while you were reading and completing the comprehension tasks. 0 (never), 1 (sometimes), 2 (often), 3 (always)

1. Read the passage first and try to remember where different kinds of information are located in the passage.

0 1 2 3

2. Read the questions first so that the reading of the passage is directed at finding answers to those questions.

0 1 2 3

3. Briefly skim the text for main idea before reading.

0 1 2 3

4. Consciously link information in one sentence with information from the preceding one.

0 1 2 3

5. Make a “guess” about what is to come in the next part of the text.

0 1 2 3

6. Always look for main ideas while reading and overlook details if they are not important.

0 1 2 3

7. Try to underline when reading in order to remember the text.

0 1 2 3

8. Try to draw on background knowledge of the subject to help understand the text.

0 1 2 3

9. Change reading styles while reading -- e.g. skim or scan a section of the passage before

reading it carefully.

0 1 2 3

10. Translate a sentence into L1 (Chinese).

0 1 2 3

11. Make use of knowledge about types of writing organization -- e.g. patterns of exposition, narration, etc.

0 1 2 3

12. Estimate the time needed for answering the questions and don't spend too much on any given item.

0 1 2 3

13. Change reading speed while reading.

0 1 2 3

14. Pay attention to headlines, titles, italicized words, underlined words, etc.

0 1 2 3

15. Take advantage of clues appearing in other questions in order to answer the question under consideration .

0 1 2 3

16. Read the passages with interest because they offer new knowledge, new ideas, etc .

0 1 2 3

17. Try to understand the meaning of each sentence first.

0 1 2 3

18. Try to produce your own answer to the question before you look at the options that are provided in the test.

0 1 2 3

19. Read aloud every word in the mind.

0 1 2 3

20. Stop reading the options when you find the possible answer.

0 1 2 3

21. Return to the passage to look for or confirm an answer rather than relying solely on

memory of what is in the text.

0 1 2 3

Strategies that you used when you were blocked:

22. Analyze a word in itself

0 1 2 3

23. Grammatically analyze a difficulty within the sentence

0 1 2 3

24. Use context to help understand unfamiliar words, phrases, etc.

0 1 2 3

25. Look for a choice that seems special, different, or conspicuous

0 1 2 3

26. Postpone dealing with an item or selecting a given option until later

0 1 2 3

27. Select a choice that is longer / shorter than the others

0 1 2 3

28. Use the process of elimination —i.e. select a choice not because you are sure that it is the answer, but because the other choices don't seem reasonable, or they seem similar

0 1 2 3

29. Select the choice because it appears to have a word or phrase from the passage in it -- possibly a key word.

0 1 2 3

30. Guesses without any particular considerations.

0 1 2 3

Reading Strategies Checklist (Chinese Version)

亲爱的各位同学：

这张阅读策略检查表是用来回顾你阅读四篇文章并完成阅读理解题的过程。感谢你参与调查。

姓名: _____ 学号: _____

下面有30个阅读策略，每个后面有4个数字代表你在做前面的阅读练习过程中的使用频率。请在你用到的策略的相应数字上打钩。0 代表从未用过，1代表有时用，2代表用得比较多，3 代表每次这么用或每篇文章都用到

1. 先看文章，努力记住不同信息在文章的哪个位置出现（以备查找）。

0 1 2 3

2. 先看题目，然后有针对性地阅读，从文章中找问题的答案。

0 1 2 3

3. 正式阅读前先快速浏览一遍以了解文章大概内容。

0 1 2 3

4. 阅读时有意识地将上下句中的信息联系起来。

0 1 2 3

5. 猜测文章接下来要表达的信息。

0 1 2 3

6. 阅读中总是寻找主要信息，忽略不重要地细节。

0 1 2 3

7. 边阅读边划线标记帮助记忆文章内容。

0 1 2 3

8. 试着调用自己已有的背景知识来帮助理解文章。

0 1 2 3

9. 阅读中转换阅读方式，如在正式阅读文章某一章节前可能先略读了解大意，也可能先浏览一遍看是否有需要的信息。

0 1 2 3

10. 将句子翻译成母语（中文）。

0 1 2 3

11. 利用文章的结构体裁以帮助理解。比如看它是说明文还是叙述文结构，然后区别对待。

0 1 2 3

12. 估计完成全部问题需要的时间，不在任何题目上花过多时间。

0 1 2 3

13. 阅读中改变阅读速度。

0 1 2 3

14. 注意看大小标题，斜体字或划线的词。

0 1 2 3

15. 利用其他问题中可能出现的线索来寻找当前问题的答案。

0 1 2 3

16. 带着兴趣去阅读每篇文章，因为文章中有新知识，新思想。

0 1 2 3

17. 先弄清每个句子的意思（再思考问题）

0 1 2 3

18. 在看答案的选项前先用自己阅读得到的信息想一想自己的答案是什么。

0 1 2 3

19. 在脑子里将每个词都读出来。

0 1 2 3

20. 找到相关的答案后不再看后面选项。

0 1 2 3

21. 回到文章中再次寻找或确认某一个答案，而不是完全依赖记忆。

0 1 2 3

看不懂文章内容时，你会：

22. 分析一个生词。

0 1 2 3

23. 用语法知识分析句子。

0 1 2 3

24. 用上下文猜测生词和陌生词组

0 1 2 3

25. 选一个看起来与众不同、特别的选项。

0 1 2 3

26. 先跳过晚一点再做相关题目。

0 1 2 3

27. 选一个看起来比其他选项都要长或短的选项为答案。

0 1 2 3

28. 利用排除法，即不是因为对该选项有把握，而是因为其他选项看来没道理或很类似

0 1 2 3

29. 因为其中某个选项有一个词或词组是文章中出现的，可能是关键词，所以选为答案。

0 1 2 3

30. 没有什么特别考虑方面，只是猜测。

0 1 2 3

Appendix 3

Questionnaire about opinions on present obstacles that affect efficient reading in test context.

Dear Student,

This questionnaire is about your general perception of reading strategies and your opinion on the reading problems you have encountered in reading tests. For question 1 to 5, please tick **one answer** from the provided choices, while for question 6, you can choose **more than one** answer. Additional opinions are welcome and are to be added on the line at the end of question 5 and question 6. Thank you for your participation.

Name: _____

No: _____

1. To what percentage do you know about the reading strategies listed in the above Checklist?

A. 100%

B. more than 50%

C. less than 50%

2. Are you **consciously** using those strategies that you know?

A. Yes

B. No

C. Sometimes

3. Do you believe that proper reading strategies are helpful for efficient reading?

A. Yes

B. No

C. Not sure about that

4. Do you think reading strategies should be taught in reading class?

A. Yes

B. No

C. Not sure about that

5. If you are to make an assessment of your own reading ability, what level are you at?

A. Efficient

B. Fair

C. Poor

D. It's hard to say

The reason for you to choose D is that _____

6. In your own opinion, what have been the biggest obstacles in your reading tasks in all the model tests of TEM-4 so far?

- A. There are too many new words.
- B. I know most of the words, but the sentences are too long to make sense to me.
- C. I can not get the main idea of the text.
- D. I can not make correct inferences.
- E. I'm not clear about the organization of the text.
- F. The topic is unfamiliar to me.
- G. I can not focus on what I am reading.
- H. I can not read fast enough to finish all the reading tasks. If given time, I can finish them all satisfactorily.
- I. I'm unable to choose different reading strategies for different reading materials.
- J. I'm always nervous in tests.
- K. I always feel bored to do reading component in standardized tests.
- L. Other problems: _____