PASSAGE DEPENDENCE OF MULTIPLE-CHOICE ITEMS IN READING COMPREHENSION COMPONENT OF ENGLISH ACADEMIC TEST OF GUANGDONG PROVINCE

by

Lihong Liang

A thesis submitted to the Graduate Program in Education

In conformity with the requirements for the

Degree of Master of Education

Queen's University

Kingston, Ontario, Canada

July, 2019

Abstract

With the deepening of the reform in examination and enrollment system in China, the English Academic Test plays an increasingly important role in selecting the secondary school graduates for institutions of higher vocational education. Therefore, it is of great significance to ensure the quality of the test. A substantial body of research has shown that test takers are able to correctly respond to reading comprehension (RC) multiple-choice (MC) items without reading or comprehending the accompanying passage (Hannon & Daneman, 2001; Katz, Blackburn, &Lautenschlager, 1991; Lifson, Scruggs, & Bennion, 1984), confirming that the passage dependence issue does exist in the testing of RC. The term passage dependence refers to the extent to which students can correctly answer the RC questions depending on whether they have read the accompanying passage. This study seeks to determine the extent to which the RC MC items in the English Academic Test is passage-dependent from the perspective of passage types and item types.

A quantitative analysis (descriptive statistics, Independent-Samples T Test, One-Sample T Test, Chi-Square Test) of performance in RC component of the English Academic Test 2017 and 2018 were conducted on 343Grade 11 students in two senior secondary schools in Guangzhou, China. The results of the present study are as follows：

(1) Participants' scores of the items for both narrative and expository passages under the with-passage condition were significantly higher than the scores obtained under the without- passage condition. Furthermore, the items associated with narrative passages were more passage-

dependent than the items associated with expository passages. (2) Factual item type was more dependent on the passage than the inferential item type. (3) There was a significant relationship between item types and Passage Dependence Index. In addition, the main idea item type and vocabulary-in-context item type were the least passage-dependent item types.

The result of passage types indicates that the RC component of the English Academic Test was with relatively high validity regarding passage dependence. Students and teachers are advised to be aware of the fact that it is impossible to gain success in the RC test simply by applying test-wise strategies. Emphasis should be made on the development of students' RC ability. Meanwhile, the result of item types provides empirical evidence for the test designers for improving the quality of the test.

Acknowledgements

Most importantly, I own my deepest gratitude to my thesis supervisor Professor Kristy Timmons. You steered me in the right direction, and your mentorship brought me to this point. Working with you developed my skill, and it has been an unforgettable experience.

I would like to express my profound appreciation to my committee member Professor Liying Cheng for inspiring me to conduct this research. I am gratefully indebted to you for your very valuable comments on this thesis.

I would also like to acknowledge the teachers and students who were involved in the research. Without their participation and input, the research could not have been successfully conducted.

A very special gratitude goes out to my family members and friends for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this thesis.

Table of Contents

List of Tables

List of Abbreviations

RC	Reading Comprehension
MC	Multiple-Choice
L1	First Language
L2	Second Language
EFL	English as a Foreign Language
ESL	English as a Second Language
SPSS	Statistical Package for Social Science

Chapter 1

Introduction

As an introduction of the thesis, this chapter covers the context of the study, research purpose and questions, significance of the study, and the structural overview of the thesis.

Background

According to the Organization for Economic Cooperation and Development (OECD, 2016), the Chinese education system is one of the largest education systems in the world. At present, primary and secondary education in China can be divided into primary (Grade 1 to 6), junior secondary (Grade 7 to 9), and senior secondary (Grade 10 to 12) stages. In 1986, the Compulsory Education Law of the People's Republic of China (P. R. China) was promulgated, and it is still in effect today. This law regulates compulsory school attendance which lasts nine years—six years of primary school (age ranges from 7 to 12) and three years of junior secondary school (age ranges from 13 to 15). After completing junior secondary school, students start three-year academic study in senior secondary school, go to secondary vocational school or begin to work. In the last year of secondary education, any student who wants to be enrolled in colleges or universities must pass the National Higher Education Entrance Examination (NHEEE) as well as the Academic Test for Ordinary Secondary School Students (hereinafter called Academic Test).

For the NHEEE, the compulsory subjects are Chinese, Mathematics and Foreign Language (usually English, but can be substituted by other foreign languages, such as Japanese, Russian, German, French, and Spanish). English is chosen by more than 99% of foreign language candidates each year (Liu, 2010). Depending on the institutions that the candidates are applying for, they also need to be examined in humanities: Politics, History and Geography, or sciences: Biology, Physics and Chemistry. NHEEE is a norm-referenced test, and standard scores are assigned to candidates.

Besides the scores of NHEEE, the score of the Academic Test also decides which universities or colleges the students can be enrolled in. The Academic Test is a proficiency test to assess whether the students meet the standards of the course in secondary education, and it is administered by the provincial education examination authority. The candidates choose subjects included in humanities in NHEEE should choose the subjects in sciences in the Academic Test. The candidates choose subjects included in sciences in NHEEE should choose the subjects in humanities in the Academic Test. The Academic Test in Guangdong Province has a grading scale defined where the score below 24 has no grade, 25-49 is a D, 50-69 is a C, 70-84 is a B, and 85-100 is an A. The minimum requirement for senior college is 2 C and 1 D, while the minimum requirement for junior college is 1 C and 2 D.

With the implementation of the reform in the examination and enrollment system, the Academic Test became the main entrance examination for secondary school students who choose to receive higher vocational education (The State Council, 2014). In Guangdong Province, the

Academic Test officially became the entrance examination for higher vocational education from the year 2017 (The Education Examinations Authority of Guangdong Province, 2016).Three subjects (Chinese, Mathematics, and English) are added, and the test that assesses candidates' English proficiency is the Academic English Test. The scores of these subjects can be used to apply for the vocational educational institutions, which means that it is unnecessary for the candidates who aim to be admitted by vocational colleges to take the NHEEE if they have passed the Academic Test. According to the Education Examinations Authority of Guangdong Province (2016), the number of candidates that enrolled with the scores of the Academic Test should account for at least 50% of the total number of freshmen in vocational colleges in 2017.

The Academic English Test is the test that assesses candidates' English proficiency. For the purpose of saving time and human resources in grading the test papers, a 4-point MC scale is adopted in the English Academic Test. Based on its efficiency and objectivity, MC question is the most extensively used formats in the English Academic Test. By examining the English Academic Test 2017 and 2018, we can see that all the questions to test communicative ability, RC ability, and language use ability are written in MC format. In other words, 70% of test items were in the form of MC.

Despite the uptake of MC questions, there is a constant debate about the value of using MC format to assess RC (e.g., Cheng & Qi, 2006; Katz, Blackburn, & Lautenschlager, 1991; Sparfeldt, Kimmel, Löwenkamp, Steingräber & Rost, 2012). Some criticized the use of MC for assessing RC as test-takers may be able to correctly respond to the questions without reading or comprehending the passage (Hannon & Daneman, 2001). In Alderson (2000)'s opinion, students can learn how to answer MC items by eliminating the distractors or by a logical analysis of the question structure. If a test taker can correctly answer MC items without RC ability, the MC items may fail to test the ability it is designed to test. What is worse, such defect makes it possible for some students to achieve high or higher scores in an RC test without actually comprehending the material. It is unfair for those students who are truly competent in RC, thus challenging the validity of the test results. This study seeks to determine whether the passage independence issue can be found in the English Academic Test of Guangdong Province. The results aim at contributing to the understanding of passage dependence and improvements in the quality of the English Academic Test.

Research Purpose and Questions

The purpose of the study is to investigate the extent to which the RC MC items in the English Academic Test is passage-dependent within different passage types and item types. Correspondingly, the research questions are:

(1) How is Grade 11 students' performance on RC MC items for the narrative and the expository passages influenced by with- or without-passage condition?

(2) According to Grade 11 students' performance on the RC MC items, which type of item tends to be more passage-dependent, factual items or inferential item?

(3) What is the relationship between item types and Passage Dependence Index with regard to the Grade 11 students' performance on the RC MC items?

Rationale

With the deepening of the reform of examination and enrollment system in Guangdong Province, the Academic Test is becoming the primary choice for secondary school students who aspire to be enrolled in higher vocational colleges (Tao, 2017). The number of candidates taking the English Academic Test in Guangdong Province in 2017 was 169, 000. In 2018, there were 231,700 students taking the English Academic Test in Guangdong Province, China (Liu, 2018). The number of students entering higher vocational colleges with the scores of the Academic Test was 137,700 in 2019. It has increased by 65.1%, compared with the year of 2018 (Lin, 2019).

Due to the selecting function of the English Academic Test, neither students nor teachers can afford to neglect the importance of the test. The higher vocational college entrance examination becomes relatively competitive, and to some extent, it determines the fate of several hundred thousands of young people each year. Therefore, it is imperative to ensure the quality of the English Academic Test. Unfortunately, there are relatively few studies regarding the analysis of the quality of the English Academic Test (Li, 2018; Li & Zhang, 2013).

One way to examine the quality of an RC test is to investigate it from the perspective of passage dependence. The issue of passage independence of RC MC items was widely discussed in the sixties and seventies (Preston, 1964; Pyrczak, 1975; Tuinman, 1973-74; Weaver &

Bickley, 1967). Many popular and prominent tests (e.g., the Scholastic Aptitude Tests; the Nelson–Denny Reading Test; the Davis Reading Test) have been shown to have some problems with passage-independent items, which is a threat to the quality of a test. The primary objective of RC test is to measure candidates' RC ability. If the candidates can obtain the correct answer by using background knowledge or guessing, rather than reading and comprehending the related passage, the test fails to pursue its purpose, and its validity is thus questioned. In the context of the high-stakes test, the use of passage-independent items in RC test may lead to unfair results among candidates. For this reason, understanding passage dependence will have implications for the validity of inferences from MC testing of RC. Moreover, if the influence of passage dependence on the quality of the English Academic Test is underlined, test designers will be motivated to continue to improve the content and structure of the RC test.

Nevertheless, the majority of the empirical studies on passage dependence were completed in the field of the first language (L1) education. The passage dependence research exploring the second language (L2) education is limited (Cheng & Gao, 2002; Tian, 2006). Moreover, most passage dependence research in L2 context produced conflicting results with the research in an L1 context. Thus, the passage dependence within the L2 context represents a crucial area for research.

Definitions of Key Terms

Passage dependence and passage independence. Passage dependence refers to "the extent to which success in answering RC questions depends on having read the passages with which they are associated" (Powers & Wilson, 1993, p.1). Green and Langhorst (1986) defined passage independence as "the degree to which the item can be answered correctly when the passage is absent" (p.2).

With passage and without passage. With passage refers to the original form of RC tests, which contains three elements: a passage, test items (a question stem or uncompleted statement) and four options. In the normal RC test conditions, students are required to choose one of the options after reading the related passages. Without passage refers to the condition in which the passages are not included in the presentation of RC tests. Students are asked to answer the test items without the help of passages.

Structural Overview

This thesis consists of 5 chapters with its structure outlined as follows.

Chapter One serves as an introduction to the whole thesis. It contains the context of the study, research purpose and questions, significance of the study, as well as the overview of the thesis.

Chapter Two offers a literature review on the relevant studies. The area of research reviewed includes: 1) models of RC; 2) RC testing; 3) nature of RC in the second language (L2) context; 4) previous empirical studies on passage dependence in tests for RC.

Chapter Three presents the methodology adopted in the present study. At first, the participants and instrument are introduced. Afterwards, the pilot study is described. Finally, the data collection methods and analysis procedures are elaborated.

Chapter Four reports the results of the research and discusses the findings in relation to the literature.

Chapter Five draws a conclusion on the present study. Major findings are summarized, and some pedagogical implications are provided. Additionally, the limitations of the study are acknowledged, and some recommendations for future research are proposed.

Chapter 2

Literature Review

This study intends to investigate the passage dependence of RC MC items in the English Academic Test. The literature review begins with the introduction of three approaches of RC, which establishes an appropriate foundation for this study. The first section depicts the RC testing as well which is followed by a section focusing on RC in English as an L2 context. The last section reviews empirical research on passage dependence which is further categorized into two parts. First, three commonly used quantitative ways to examine passage dependence (mean score, chance level, and Passage Dependence Index) are focused on. Second, different item types (factual and inferential item type, main idea item type, and vocabulary-in-context item type) are elaborated.

Reading Comprehension Approaches

In today's society, reading is vital in our daily life which transfers a large amount of information to readers. In the academic area, RC ability is an essential academic skill for students to gain enrichment and obtain achievement. The conceptualization of RC has undergone several changes regarding the approach that is employed. There are three approaches of the RC processing: the bottom-up approach, the top-down approach, and the interactive approach.

Bottom-up approach. The 1940s and 1950s saw a growing body of research using the bottom-up approach to RC. Using this approach, readers start with identifying the small parts of a text, such as "letters, sounds, syllables, words, phrases, sentences, and paragraphs" (Puri & Kaur, 2013, p. 338), and then decode meaning. It is generally accepted that the decoding process is necessary for readers to go beyond the high-intermediate stages because readers have to recognize the basic parts of the text in order to comprehend the information that the writer wants to convey.

However, some scholars adopted a critical attitude towards the bottom-up approach. Rayner and Pollatsek (1989) considered the bottom-up approach as a passive and mechanical process as it gives priority focus on the linguistic factors instead of context. It doesn't encourage the readers to use the information cognitively in the processing. What is more, using the bottom-up approach is likely to cause problems such as fragmentation and memory overload (Carrell, 1988). Some poor readers may only store the separate pieces of information, instead of building a relationship between those pieces of information with their high order thinking. On the other hand, if a reader focuses too much of his attention on linguistic knowledge, he will not have enough brainpower to comprehend the materials. Realizing these problems with the bottom-up processing models, Smith (1978) and Goodman (1976) developed the top-down approach.

Top-down approach. Assuming that the reader plays the fundamental part in constructing the ultimate meaning of the text, advocates of the top-down approach also called this approach "the reader-driven approach". Xia (2011) put forward that the top-down approach highlights the value of previous experience and background knowledge in understanding literary work. Readers apply their background knowledge and personal experience that serves their own purpose of reading and construct meaning with the help of clues from a text. Since the readers play an active role, top-down theorists have "given rise to the active versus passive distinction in explaining comprehension" (Farr & Carey, 1986, p. 68). Pearson and Johnson (1978)'s description of comprehension summaries the top-down strategy:

> Comprehension is building bridges between the new and the known. Comprehension is active, not passive; that is, the reader cannot help but interpret and alter what he reads in accordance with prior knowledge about the topic under discussion. Comprehension is not simply a matter of recording and reporting verbatim what has been read. Comprehension involves a great deal of inference making. (p. 24)

Johnson (1973) contended that RC was viewed as "the process of using the clues provided by the author and one's prior knowledge to infer the author's intended meaning" (p. 9).

As discussed above, the emphasis on the bottom-up approach is on the text-based information and decoding process while the top-down view is centered on the already-existing knowledge which is above the textual level. Lesgold and Perfetti (1978) asserted that "both viewpoints are needed, but both must proceed from a common general interactive model of the reading process" (p. 325).

Interactive approach. This approach was designed by Rumelhart (1977). He held that the interactive approach enables the information shift between the bottom-up and the top-down approach, according to the context and reader. Compared with the bottom-up and the top-down theory, the interactive model of reading is a compromised view. The process involves more than the recognition of letters with sounds and less than the total meaning construction. Alvermann, Unrau, and Ruddell (2013) summed up three aspects that the interactive approach takes into consideration: “the perception of words in their semantic environment, the selection of syntax depending on the semantic context, and the interpretation of dependent clauses and complete sentences depending on context” (p. 64-65).

The interactive approach was defined as a dynamic process. Wixson and Peters (1984) pointed out that reading is a dynamic interaction process of constructing meaning among the reader's background knowledge, the information provided by the written language, and the context. Reading is “a search for meaning that combines a focus on comprehension with the use of word recognition skills” (Farr & Carey, 1986, p. 68). In the RC process, readers are “interpreting text and constructing meaning in light of background knowledge, and within a social context that helps to determine the readers' goals, purposes, and expectations” (Anthony, Pearson, & Raphael, 1993, p. 284). Reading Study Group (RAND, 2002) viewed RC as the interaction process of extracting and constructing meaning simultaneously.

Reading Comprehension Testing

The English Academic Test contains an RC component. RC test is a reading proficiency assessment to “understand students’ overall reading abilities and to determine if students are appropriately prepared for further learning and educational advancement” (Grabe, 2009, p. 353). The proficiency assessment is referred to as high-stakes standardized testing, and various formats are employed in the standardized reading assessment, such as cloze, MC, and sentence completion (Hughes, 2002; Weir & Milanovic, 2003). Wixson (2017) mentioned that RC is frequently measured in terms of a student's ability to answer open-ended, MC, or true-false questions following the reading, or their ability to recall the content of a passage they have read (p. 77). The fact that “many modern approaches to the assessment of reading comprehension are one dimensional” and “some tests rely almost exclusively on multiple choice, others on fill-in-the-blank (cloze), and others on retells” (p. 323) was revealed by Fletcher (2006). The situation that the RC test highly relies on MC items can also be found in the English Academic Test. In Chapter One, the extensive use of RC MC items in the English Academic Test has been illustrated.

The real problem in testing RC is to infer how well a reader comprehends (RAND, 2002). In order to make inferences about students' reading abilities, some information has to be gathered. Grabe (1991) brought forward six components that RC tests should measure from the interactive views of RC: automatic recognition skills, vocabulary and structural knowledge, formal discourse structure knowledge, background knowledge, synthesis and evaluation strategies, as well as metacognitive ability and monitoring. Similarly, Alderson (2000) affirmed some categories of information that contribute to the diagnosis of reading abilities: word identification skills and reading rate, linguistic knowledge, synthesis and evaluation skills, metacognitive knowledge and monitoring. An appropriate construct of RC test should include all of these measurements.

In taking a closer look at what is measured in the RC component in the English Academic Test, it can be detected that the design of this reading proficiency test is based on the interactive approach. An interactive view of RC “begs for assessment systems that include different types of assessments designed to serve different purposes” (Wixson, 2017, p. 78). As stated in the specifications of the RC component of the English Academic Test 2017, the readers are to master linguistic skills such as phonological, vocabulary and grammar knowledge, which is in keeping with the bottom-up approach. Secondly, background knowledge is also measured as the readers are required to apply topic knowledge in comprehending. Furthermore, it tests higher-level understanding and skills such as identifying the main idea, understanding the authors’ viewpoint, making inferences and judgments. That is to say, readers need information “flowing downwards from the top to the bottom to understand the meaning successfully” (Birch, 2002, p. 2). Therefore, the RC component of the English Academic Test is based upon the interactive perspective that RC is blended with both bottom-up and top-down processes.

To sum up, the reading proficiency test in the English Academic Test widely adopts the MC format, and it tests the multidimensional skills of readers with the interactive approach.

Reading Comprehension in English as an L2 Context

This section focuses on the nature of RC in the L2 context. Evidence has shown that there are similarities between L1 and L2 reading process (e.g., Droop & Verhoeven, 2003; Genesee, Geva, Dressler, & Kamil, 2006; Lesaux, Rupp, & Siegel, 2007). Differences also exist between

L1 readers and L2 readers in regard to English RC development (Li, 2012). The two major characteristics of RC in L2 context, vocabulary and background knowledge, are discussed below.

Vocabulary. On the basic level, vocabulary is crucial to the process of RC (Drucker, 2003). There is a common belief in the association between vocabulary knowledge and RC (Alderson, 2000; Koda, 2005; Stanovich, 2000), especially for the advocates of the bottom-up approach who put primary emphasis on the linguistic knowledge in the RC process. In reality, L1 readers have greater vocabulary power. They have already been able to recognize 5,000 to 7,000 words before receiving reading instruction in schools (Singer, 1981). Fluent L1 readers who graduate from secondary school know 40,000 words on average (Stahl & Nagy, 2006).

Nevertheless, L2 readers struggle from their limited vocabulary. According to the specifications of the RC component of the English Academic Test 2017, L2 secondary school graduates are required to know 3,000 to 3,500 words, which is dramatically less than the amount that L1 readers comprehend. L2 readers perform less efficiently in RC in L2 context because they may not able to develop the low-level processing strategies as the L1 readers do (Birch, 2002). For L2 readers, a large pool of vocabulary requires a tremendous investment of time, resources, and practice (Grabe & Stoller, 2002). Another obstacle for L2 readers is “they lack knowledge of the social, political, or religious connotation that words have” and they “need to be able to process and understand metaphor, discard inappropriate meanings for polysemous words and resolve lexical ambiguity problems” (Birch, 2002, p. 137).

In order to gain better achievement in RC, L2 readers try to overcome the vocabulary-related difficulties in RC, because vocabulary has been shown to be a significant predictor of RC in L2 context (Chen, Fen, Nguyen, Hong, & Wang, 2010; Geva, & Siegel, 2000; Geva & Wang, 2001). One assumption is that it is unnecessary for readers to understand every word in order to comprehend the text (Birch, 2002). Following this line of thinking, Day and Bamford (1988) stated that "part of fluent and effective reading involves the reader ignoring unknown words and phrases" (p. 93). Skipping the words they do not know will not exert a significant effect on readers' comprehension of the text. The other presumption is that "greater background knowledge of a particular subject could compensate somewhat for a lack of syntactic control over the language" (Coady, 1979, p. 11). Readers can come up with the approximate meaning of new words with their previous experience and clues in the context. As Reid (2009) proclaimed, readers' previous knowledge can make up for problematic decoding, despite having a problem with understanding a word.

Background knowledge. As the very core of the top-down approach, background knowledge strongly affects readers' RC (Grabe, 2014; Mandler, 1978; Meyer, 1975). In Carrell and Eisterhold's (1983) explanation, readers' background knowledge is the knowledge that they previously acquired, and the background knowledge structures are called a schema. Anthony, Pearson, and Raphael (1993) elaborated the schema theory in this way: Schema theory is based on the notion that an individual's stored knowledge, what we frequently call long-term memory, is the systematic personal organization of that individual's total experiences. How we make sense of incoming information is influenced by what we already know. (p. 3)

Unfortunately, the schema that L2 readers have already developed from reading in their native language, in most cases, is different from the schema in their target language. L2 readers struggle with developing RC in L2 context because of the culturally different schema (Iwai, 2010). For L1 readers, the information associated with a stored schema can facilitate their RC (Woolley, 2011). L2 readers have to undergo more processing, such as using extra sources of knowledge related to their native language, culture, and rhetoric to comprehend a text (Gantzer, 1996). As noted by Grabe (2014),

> L2 readers rely on different combinations of general background knowledge when reading in the L2. Drawing on information about "how the world works" sometimes varies between L1 and L2 reading experiences. L2 readers will encounter distinct social and cultural assumptions in L2 texts that they may not be familiar with or find somewhat hard to accept. (p. 11)

Also, it is not very likely for L2 readers to accumulate long-term memory of the English vocabulary. Unlike L1 readers who begin reading at an early stage, most L2 readers do not begin reading until they are teenagers or adults (Choi, 1999). Moreover, L1 readers use English in their daily life, but L2 readers do not have many opportunities to use English.

In brief, there exist considerable distinctions between L1 and L2 RC development. Two great challenges posed for L2 readers in the building of comprehension are the insufficiency in vocabulary and background knowledge.

Empirical Studies of Passage Dependence

Passage dependence is the degree to which RC questions depend on the passage. This issue has long been acknowledged as early as the 1930s (Eurich, 1931; Imus, Rothney, & Bear, 1938) and the topic was studied extensively in the 1970s (Preston, 1964; Tuinman, 1973-74; Weaver & Bickley, 1967). In the 1980s, there was a dramatic decrease in the research on passage dependence. Nonetheless, the topic received considerable attention again in the following decade. In the 1990s, studies have certified that problems that had to do with passage dependence still existed in the RC testing (e.g., Hannon & Daneman, 2001; Katz, Blackburn, & Lautenschlager, 1991; Katz, Lautenschlager, Blackburn, & Harris, 1990; Lifson, Scruggs, & Bennion, 1984). Therefore, even today, attention should be directed towards the use of passage dependence to see whether such a phenomenon can be observed in other RC tests.

In this section, passage dependence literature is carefully reviewed along these two lines: the ways to examine passage dependence and the perspective of item types.

Studies used mean score method. Calculating the mean score of a test under without-passage condition against the mean of a test under with-passage condition can clarify the influence of the passages on the readers' RC performance. Multiple studies have adopted this approach to explore the issue of passage independence in RC MC items. The results, in general, supported that the test items were not passage-dependent (e.g., Charland et al., 2017; Preston, 1964; Pyrczak, 1974; Tuinman, 1973; Weaver & Bickley, 1967).

Unlike much of the research showing items as not dependent on passages, Cheng and Gao (2002)'s research demonstrated that performance on the tests without passage was significantly lower than the performance on the tests with passage. Using a sample of 205 sophomores, Cheng and Gao (2002) administered with-passage version and without-passage version of the College English Test (CET). The data from the Independent-Samples *T* Test uncovered that the passages contributed significantly to the performances on CET RC tests. Moreover, they revised Powers and Leung's (1995) strategy checklist to explore the strategy employed in CET. It was reported that the strategies involving reasoning were most frequently used, which was consistent with Powers and Leung's finding. More specifically, the strategy was "trying to reconstruct the theme or main idea of the missing passage by reading all the questions and answer choices of the item set" (p. 70). It should be acknowledged that Cheng and Gao (2002)'s study is the major source of inspiration for this study. It was the first study examining the passage dependence of RC test conducted in China, and this research has shown different results compared with the results of the most research conducted in other countries. It inspired me to conduct a passage dependence study with another large-scale test in China.

Studies used chance level. Chance level is used to evaluate RC performance under without-passage condition. This process is further explained by Owen (1985):

> One has only to administer the RC test items without the passages. If the task requires the passages, performance on the passageless task should not exceed what would be expected by chance alone. Examinees, after all, would have no way of obtaining information necessary to answer items correctly. On the other hand, if performance

> depends only partly on the passages, that is, passage content is not a necessary source of relevant information for all items. Then performance ought to exceed chance. (as cited in Katz et al.,1990, p. 122)

Katz et al. (1990) remarked that better-than-chance performance without the passage would imply that “test items can be answered correctly for reasons having nothing to do with passage comprehension. The items, therefore, would not be functioning according to test purposes” (p. 122). Using these test items will threaten the validity of the test because the scores fail to give accurate inferences of students’ RC ability.

The first empirical study on passage dependence using chance level was conducted by Preston (1964). The sample was 128 college freshmen, and they were required to take 30 comprehension items without the passages. Each item had five options, thus the chance score for the total items was 6. The score actually obtained was 8.34, which was significantly higher than the chance score. A recent study by Charland, Colangelo, Foglia and Reguigui (2017) also shown better-than-chance performance among thirty-nine undergraduate students. Three common standardized RC tests were examined: the Wechsler Individual Achievement Test (WIAT), the Canadian Adult Achievement Test (CAAT), and the Nelson–Denny Reading Test (NDRT). Open-ended questions were included in WIAT, while the other two tests were composed of MC questions. Without access to the related passage, participants were still able to answer the questions accurately at a higher rate than by chance, both for the MC items and the open-ended questions. It seemed that the passage dependence problem existed not only in MC items but also in open-ended questions. This research broadened the study of passage dependence to other question formats and brought more attention to the issue of passage independence. In the end, Charland et al. (2017) suggested that educators “modify the problematic questions, and thoroughly review all standardized tests to ensure their validity” (p. 1444).

The largest study on the passage dependence of RC tests is Tuinman’s (1973-74) study, with 9451 students equally divided over Grade 4, 5 and 6. The participants were administered five major standardized RC tests under the with-passage condition and without-passage condition. The expected chance score was .25, but the average score participants gained with no passage available ranged between .32 and .50. It was concluded the test items in all those tests were lack of passage dependence. Another interesting finding was that it was the fourth graders that had the highest accuracy scores on the passage-independent items under without-passage condition. However, the authors failed to explore the reason. It may be due to the poor design of the test. Logically, the fourth graders are the youngest ones with the least background knowledge and weakest reasoning skills. It would be harder for them to achieve the correct answer when the passages are not included.

Until fairly recently, chance level was utilized to assess the performance of the students that were diagnosed with learning disability or learning disorders. Coleman et al. (2009) investigated the performance of university students with and without at-risk status for learning disorders in the comprehension section of NDRT. All participants were instructed to complete

NDRT. Accuracy rates of both groups in the without-passage situation were consistently above chance level. Another interesting finding was that the participants achieved a particularly high level on the science questions. The authors surmised that the reason lies in the content, which was adapted from secondary school textbooks. Results from Ready, Chaudhry, Schatz, and Strazzullo's (2012) study echoed Coleman et al.'s (2009) finding. In this study, participants were 115 undergraduates, and 25% of them were diagnosed with learning disabilities (LD). One of the instruments was Form G and Form H in NDRT, each comprised 38 MC questions. They were presented under without-passage condition. The chance level was about 8, while the correct response rates were doubled. The research results indicated that the participants with LD answered NDRT items as successfully as the participants who did not have LD and science questions were answered correctly more often than other items. One limitation of this research is that the authors did not unpack the reasons for the science question being the most passage independent. Similarly, Keenan and Betjemann (2006)'s hypothesis that children with reading disability (RD) might perform as well as children with no RD on the passage independent items has been confirmed. This research found that 86% of the questions in the Gray Oral Reading Test could be answered accurately above chance by undergraduates when the passages were excluded for children with RD and with no RD. Children with RD performed as well as children with no RD on passage-independent items, whereas they performed worse than children with no RD on passage-dependent items. Keenan and Betjemann (2006) considered passage dependence as a major problem.

Another attempt was made to gain a deeper understanding of passage dependence, that is, to create more than one condition for participants to explore whether there were any differences when the extent of passage dependence varies. In an experimental study of sixty-one undergraduates, Katz et al. (1990) chose the RC questions from the Scholastic Aptitude Test (SAT). There were three conditions in this study: with passage; no passage/with coaching and no passage/without coaching. Participants under all three conditions performed well above chance. The authors inferred the reason why the second and third condition did not differ significantly was that the 15-minute coaching was too short to bring effects. However, the authors did not clarify how they implement the coach session with participants. A similar study was done by Sparfeldt et al. (2012). Three versions of MC items from the Progress in International Reading Literacy Study RC test were provided to 764 fourth graders. They were: the original version (text, questions, MC-answers), the version without text (questions, MC-answers), and the version without text and without questions (only MC-answers). Sparfeldt et al. (2012) found that in the two narrative fictional texts presented, the students' performance of the version without text was not better than chance. Conversely, in the informational (fictional) text, the students' performance of the version without text was better than chance. In the third condition, students' performance was never better than chance.

The findings of all these studies indicated that many RC tests were notably passage-independent and measured factors unrelated to RC. Yet, very few researchers have discussed what, precisely, constitute the "no-passage" factors. One of these studies was conducted by

Powers and Leung (1995). Besides comparing the mean scores of the items to the chance score, they employed a strategy checklist to determine what strategies the participants used when the related passages were missing. Powers and Leung (1995) reported that the participants heavily depended on reasoning strategies instead of using their background information. It seems contradictory to the top-down perspective in RC, which underlines the readers' background information. Furthermore, it appears to be in conflict with Weaver and Bickerly (1967) and Pyrczak (1972)'s assumptions that background information plays a substantial role in answering MC RC tests without passages. The findings of the reasoning strategies, nevertheless, were consistent with the argument that reasoning is an inseparable strategy in RC (Alderson, 2000; Johnston, 1983; Thorndike, 1917).

The study by Katz, Johnson, and Pohl (1999) provided evidence about the issue of passage independence in the new SAT and the factors that helped participants obtain correct answers in the RC MC tests when the passages were deleted. The finding replicated what is found in the older version of the SAT, indicating that the participants performed much better than would be expected by chance. Through a regression analysis, the authors thought that it was the outside knowledge that contributed to the better-than-chance performance. They also specified that the outside knowledge, which included "prior knowledge of specific, subject matter of the passage, broader knowledge of the social and physical world, and testing skills unique to the multiple-choice format", was independent of the reading process (p. 1162).

Studies used Passage Dependence Index (PDI). PDI is an index that "indicates the extent to which correct answers to such items can be identified in the absence of the reading passages to which they refer" (Pyrczak, 1972, p. 62). This concept was introduced by Pyrczak to examine the quality of an RC test. The exact way to calculate this index is: I = Pe - Pm, where I = extent to which a comprehension item can be answered correctly in the absence of the reading passage, Pe = proportion of examinees who are expected to answer correctly on the basis of chance alone, and Pm = proportion of examinees who actually answer correctly. (p. 66)

It appears that this index is simple, but it was criticized by Tuinman (1973-1974) who stated that "it does not take into consideration the relationship between the proportion of correct responses under the passage-in condition and that under the passage-out condition" (p. 219). Tuinman (1973-1974) revised this problematic index and proposed a new version: PDI = 1 – dpo / dpi, in which PDI= passage dependence index for a comprehension item, dpo = the proportion of correct responses to the item under the passage-out (PO) condition and dpi = the proportion of correct responses to the item under the passage-in (PI) condition. (p. 219)

The interpretation of PDI is expressed as "the larger the PDI, the better the item in terms of passage dependence" (p. 219). Most of the research that adopted PDI to assess passage dependence computed PDI as suggested by Tuinman.

In 1977, Scherich and Hanna provided evidence of passage independent items in the Nelson Reading Skills Test (NRST) with the help of PDI. The sample for this study was comprised of approximately 1600 Grade 4 and Grade 6 pupils. The test booklet contained two subtests: one RC subtest that included passages and one subtest with questions about passages that had been deleted. The researchers computed PDI for each item and used it to locate the flawed items. It was clearly shown by PDI data that NRST lacked passage dependence. They argued that the items seemed difficult for pupils and their performance did not improve even though the passages were available.

Tian (2006) studied the passage dependence of the General English Proficiency Test (GEPT) and the Test of English as a Foreign Language (TOEFL). A total of ninety-three university students were selected to complete the RC items selected from the two tests under both without-passage and with-passage conditions. The results of the data analysis were presented in two ways: test type and item type. Regarding the test type, although no significant differences existed between the two tests, the items in TOEFL were less passage-dependent than those in GEPT. When comparing the item type, the detailed items were more dependent on the passages than the inferential items. The author also noted that all three items with low passage dependence were vocabulary-defining items, and she deemed that the possible causes were: (1) Students only focused on the sentence in which the word appeared instead of the expanded context. (2) Students failed to use real-world knowledge to assist comprehension. (3) Students didn't have adequate knowledge of word usage.

Apart from examining passage dependence with different methods, researchers have also looked at this problem from the perspective of item type. In the following section, the literature of the four most frequently studied item types: factual and inferential item, main idea item, and vocabulary-in-context item are presented.

Studies on factual and inferential item. To a large extent, factual item and inferential item represent all the item types in RC tests, and they assess readers' factual comprehension ability and inferential comprehension ability respectively. Factual comprehension is a process of recalling the factual or detailed knowledge has been exposed to previously (Camp, 1981). Inferential comprehension is being able to analyze the information in the paragraph or passage, and then make judgement, decisions or conclusion (Bayles & Kaszniak, 1987).

Duffelmeyer (1980) compared these two types of item, with the aim to determine whether the factual question was easier for students to answer than inferential question when the passage was withheld. The eighty students were from Grade 1 through Grade 8, and they were evenly distributed in each grade. It is noteworthy that the instrument was the oral reading section of the Classroom Reading Inventory, which contained 10 passages. Each passage was followed by questions that labelled "F" (factual), "I" (inferential), or "V" (vocabulary). Each student was administered three to five questions individually and the students in different grades were given the different passages which were corresponding to students' level. As a result, around 67% of the factual items were shown to be passage-dependent, whereas approximately 50% of the inferential items were dependent on the passage. The data indicated that under without-passage condition, inferential questions were more vulnerable to be correctly answered. It was similar to

Tian’s (2006) finding which shown the items about details were more passage-dependent, compared with inferential items.

Studies on main idea item. As the most widely studied item type in the field of passage dependence, main idea item type is designed to measure readers' competence to understand the gist in the passage or in a given paragraph.

Pyrczak (1974) investigated the passage dependence of the main idea item in the Traxler High School Reading Test. Subjects were from an inner-city secondary school, comprising 71 junior and senior students. They were asked to answer the items in the absence of passages. Half of the subjects received the brief and general directions, indicating that they should respond to the questions according to their perceptions of the content and scope of the paragraphs. The others were given an extensive direction: “In questions of the type presented here, the correct choice is often the one that states a principle rather than a specific factor is a choice that is more inclusive or general than the other choices” (p. 345). In addition, an example was provided. The results demonstrated that 64 subjects scored above the chance level, which was 4.5. The difference between the means for the two groups was not significant at the.05 level. The subjects were able to correctly answer a large number of main idea items even though there was no specific direction to guide them. One interpretation of this result is that the students have been taught the test-taking skills to help them gain the correct answers without comprehending the passages.

Katz et al. (1991) took the RC main idea items from SAT and administered them to 126 undergraduates. The control condition in this study was no passage condition, and the experimental condition was a quasi-randomized condition, which means the items were presented in a quasi-randomized order to avoid the use of overlapping information. The finding indicated that the two conditions did not differ. The participants achieved better-than-chance performance on items in the absence of the passage, despite not obtaining access to the overlapping information among cognates (information from other items). Although some items were affected, the overall performance in main idea questions did not increase or decrease with the presence of cognates. Such results revealed the seriousness of the passage dependence problem as the clues were eliminated but the participants were still able to perform well. It is fair to say that the awareness of the gravity of the passage dependence problem should be raised.

Studies on vocabulary-in-context item. This item type is designed to test whether readers can understand the meaning of words with the help of the context. Pyrczak (1976) assembled thirty-two vocabulary-in-context items from published reading tests designed for use in junior and senior secondary school into two forms. Each student finished one form of the test, and all the items were presented without the associated passages. The result led to the generalization that, for the most part, the vocabulary-in-context items in published RC tests were not dependent on the context. The exception was the Davis Reading Test. The result was similar to the finding in Tian's (2006) research that the vocabulary items were passage independent. In the discussion part, Pyrczak (1976) expressed his concern with these items: "On logical grounds, it seems highly desirable that vocabulary-in-context items be highly context-dependent. Otherwise, the items may, in reality, measure simple word knowledge for some examinees" (p. 923).

Among the studies that were discussed above, a large majority of them were within the L1 context. A limited number of studies have been conducted in the context of L2. Apart from Cheng and Gao (2002)'s and Tian (2006)'s research, there was another study in the context of L2 conducted by Perkins and Jones (1985). They administered the Davis Reading Test (DRT) and the Cooperative English Tests (CET) to forty-four undergraduate foreign students. At the first time, the participants did not have access to the passages, and the second time, they were provided with the passages. The data shown that if the participants did not read the passage, there was only a 25 % loss in the performance of DRT and 13% loss for CET RC. Apparently, the MC test items in DRT and CET RC were not highly passage-dependent.

In Connor and Read (2006)'s experiment, the purpose was to measure passage dependence in the RC section of the Michigan Test of English Language Proficiency (MTELP). Thirty native speakers of English and thirty non-native speakers of varied language background were recruited in the study. Half received an ordinary version of the test, while the other half of completed the items without passages. In the data analysis procedure, the authors calculated both Tuinman's and Pyrczak's PDI and found that they were highly correlated (r = .95 for 20 items), meaning that the choice of the index would not affect the result of the experiment. The data indicated that many MTELP RC items were sufficiently passage-dependent. With only two items having extremely low PDI (.28 and .31), the results conflicted with previous studies. It should be noted that this study as well as Cheng and Gao (2002) research, which were both conducted in the context of L2, shared the same conclusion that the items in the RC tests were passage-dependent. These findings call for more passage dependence research to be conducted in the context of L2 to further understand if the conclusions can be generalized to other RC tests in L2 context.

Summary

This chapter reviews the pertinent literature on both RC and passage dependence.

Referring to RC, the three models are summarized as follows: (1) Based on the bottom-up approach, RC is a passive process that strictly associates with the text but neglects readers' characteristics and behaviours. (2) Based on the top-down approach, RC is an active process that values the role of the reader but attaches little importance to the text-related factors. (3) Based on the interactive approach, RC is under the influence of language skills as well as prior knowledge. As for the RC component in the English Academic Test, it can be observed that it tests the multidimensional skills of readers with the interactive approach. Moreover, the RC was also examined in the context of L2. Two major difficulties that L2 readers encounter are recognized, including vocabulary and background knowledge.

On account of the passage dependence, the main findings of the previous empirical literature are listed. Firstly, there is substantial empirical evidence that many RC MC items were passage-dependent. Secondly, the research paid closer attention to item types found that the main idea item type and vocabulary-in-context item type tended to be independent on passage. Compared to the inferential item type, the factual item type was more passage-dependent. Thirdly, the results of most passage dependence research conducted in the L2 context shown that the RC MC items were not suffered from the passage independence issue.

Some unsettled issues are elicited. Firstly, numerous studies regarding passage dependence were conducted in the L1 context, whereas research in the field of L2 education is limited. Very few China's research has tackled the issue of passage independence. Moreover, what should be noticed is that the findings from previous research concerning passage dependence in different contexts are not consistent. Most passage dependence research in L1 context supported that the RC MC items were highly passage-dependent, while in L2 context, passages played a necessary role in helping participants answer the RC MC items correctly. Thus, the passage dependence within the L2 context represents a crucial area for research. Secondly, most existing research probed into the passage dependence at the test level. Only a few research studies placed emphasis on item types, and no passage dependence research which examined the passage types of the passages can be found. Hence, an in-depth study on passage dependence on the item-type is needed.

Concerning the aforementioned research gap, this study attempted to take passage types and item types into consideration, and a detailed investigation on passage dependence in the Chinese context was conducted.

Chapter 3

Method

This chapter includes an overview of the participants, research instruments, description of a preliminary pilot study, procedures of data collection, and an explanation of the data analysis process.

Participants

The participants for this study were 343 Grade 11 students who were recruited in two senior secondary schools in Guangzhou, China. One of the schools is located in Yuexiu District, which is a developed district in Guangzhou City. This school is one of the top schools regarding the percentage of graduates that get accepted into universities or colleges each year in Guangzhou City. In total 168 students from 4 classes in this school participated in the research. The second secondary school is a middle-ranked school. It is also located in Guangzhou City, but in a less-developed district—Zengcheng District. There were 175 students from 4 classes in this secondary school. The gender distribution of participants is shown in Table 3.1.

Table 3.1

Gender Distribution of Participants

	Gender		Total
	Male	Female	
The School in Yuexiu District	91	77	168
The School in Zengcheng District	85	89	174

The participants are Chinese natives who use Chinese as their L1. They have been receiving English instruction in school since Grade 3. That is to say, they have been studying English for approximately 10 years. The participants have different English language proficiency levels. According to the official examination specification for the English Academic Test 2017, the test is designed for the secondary students who have finished *New Senior English For China Student's Book 1 to Book 5*, which are published by People's Education Press (The Education Examinations Authority of Guangdong Province, 2016). Therefore, every participant has completed Book 1 to Book 5 before taking part in this research.

Instrument

The instrument for this study is an RC MC test whose test items were taken from the RC component of the English Academic Test 2017 and 2018. In the English Academic Test, candidates' communicative ability, RC ability, language use ability, grammar and writing ability are tested. Among these five abilities, RC ability is highly valued with a percentage of 30% of the total scores (30 marks out of the total 100), one of the largest components. Candidates are suggested to complete the reading component within 35 minutes (see Table 3.2).

Table 3.2

Information of the English Academic Test

Component	No. of Questions	Marks	Timing (minutes)
Situational Communication	5	10	5
Reading Comprehension	15	30	35
Grammar	15	30	20
Cloze	10	15	15
Writing	1	15	15
Total	46	100	90

The official examination specification for the English Academic Test 2017 addresses that RC component aims to test whether candidates are able to understand brief passage, announcement, statement, and advertisement of general topics. It also assesses whether candidates can derive information from various sources, such as books, newspaper, and magazines. Specifically, candidates should be able to identify the main idea, comprehend the specific information in the reading material, make inferences of the meaning of words or phrases based on the context, make judgment and inferences, understand the basic structure of the passage, and comprehend authors’ viewpoint, attitude and intention. In the RC component, 3 to 4 passages and 15 MC items are included. Each passage contains 600 words at least. The passage types in RC components of English Academic Test 2017 and 2018 are shown in Table 3.3 and Table 3.4. The passages were examined by me and my supervisor in South China Normal University Professor Xu, and then the classification was made. Professor Xu is one of the leaders that take charge of the scoring process of the National Matriculation English Test (NMET) of Guangdong Province.

Table 3.3

Information of Passages in RC Component of English Academic Test 2017

Passage	Passage Type
A	Narrative
B	Expository
C	Expository

Table 3.4

Information of Passages in RC Component of English Academic Test 2018

Passage	Passage Type
A	Narrative
B	Expository
C	Narrative

The RC test was administered in 2 conditions: with and without passage. A simple way to determine the extent to which passages contribute to the RC test scores is to administer an RC test under without-passage condition, and to compare the scores with those gained with passage (Katz et al., 1990; Powers & Leung, 1995; Pyrczak, 1975). Thus, the RC test in this study had two sections. In section 1, there were three passages, and each passage was presented with 5 accompanying MC items. In section 2, the passages were deleted and only the MC items were provided. Each section had 15 test items, and each form had 30 test items in total. To ensure the validity of the data, one MC item asking participants whether they have read the passage or practiced the test items beforehand was included in each set of items. Only the answers of those participants who chose "have neither read the passage nor practiced the items before" in Section 1 and "have not practiced the items before" in Section 2 were used in the data analysis.

For efficiency purpose, two forms of the RC test were designed. Both forms had two sections, as explained above. In Form A, Section 1 was the RC component of the English Academic Test paper of 2017. Test items in Section 2 were the actual ones in the RC component of the English Academic Test 2018. Reversely, Section 1 in Form A contained the test items from the RC component of English Academic Test paper of 2018. Test items from RC component of the English Academic Test paper of 2017 were included in Section 2.

This research design has been selected for three reasons. Firstly, the design saves time by having participants complete the without-passage test and the with-passage test at the same time. In Perkins and Johns (1985)'s study, they administered the without-passage test first and administered the with-passage test several weeks later, which was found to be inefficient.

Secondly, this design could avoid the memory effect. If the participants answer the items with the help of passages after completing the items under without-passage condition, their memory of the item stems may help them gain good performance in the with-passage test. Thirdly, this design ensures that both groups of participants are tested under the same condition. Thus, the differences in the results can be assumed to be caused by the test design, to a large extent.

Pilot Study

In order to validate the instrument, a pilot study was carried out prior to the main study. The purpose of this pilot study was: 1) to ensure the instruction was clear and precise, 2) to examine whether 35 minutes for each section was an appropriate test length, and 3) to ensure sufficient valid data could be collected.

The two forms of RC tests were piloted among 20 Grade 11 students in a senior secondary school in Guangzhou, which was not involved in the main data collection. Ten students (6 female and 5 male) completed Form A, and ten students (5 female and 6 male) completed Form B. Section 1 was distributed to students at the beginning of the test. After 35 minutes, Section 1 was collected, and Section 2 was distributed. Thirty-five minutes later, Section 2 was collected.

According to the participants' feedback, the instruction did not cause any confusion, and the layout of the RC test paper was reader-friendly. However, changes to the test length and arrangement of the passage were necessary. Firstly, it was reported that the 35 minutes for Section 1 was too short. As suggested by the official examination specification for the English

Academic Test 2017, test takers should use 35 minutes to complete the 15 items in the RC component. As for the RC test in this study, participants' familiarity of the passage or the test items was consulted in each set of items, and the total number of items in Section 1 was 18. Thus, the test length for Section 1 was lengthened to 40 minutes in the main study. Secondly, four students gained full marks either in Section1or in Section2, and they reported that they have practiced the test items before. In order to gain more valid data, RC items from the English Academic Test 2017and 2018 in Section 1 and Section 2 were mixed. The structure of two modified forms of the RC test is given in Table 3.5.

Table 3.5

Structure of Two Forms of the RC Test

	Form A	Form B
Section 1	Passage B in the RC component of the English Academic Test 2018 Passage A in the RC component of the English Academic Test 2017 Passage C in the RC component of the English Academic Test 2017 3 passages and 15 test items	Passage B in the RC component of the English Academic Test 2017 Passage A in the RC component of the English Academic Test 2018 Passage C in the RC component of the English Academic Test 2018 3 passages and 15 test items
Section 2	Passage B in the RC component of the English Academic Test 2017 Passage A in the RC component of the English Academic Test 2018 Passage C in the RC component of the English Academic Test 2018 No passages and 15 test items	Passage B in the RC component of the English Academic Test 2018 Passage A in the RC component of the English Academic Test 2017 Passage C in the RC component of the English Academic Test 2017 No passages and 15 test items

Data Collection

Recruitment scripts were sent to the Grade 11 English teachers in two schools. Four teachers supported the data collection. Five days before the test, they distributed the letters of information and consent forms (in Chinese) to students. The Letter of Information provided necessary information about the study including details about voluntary participation, confidentiality policies, and withdrawal without penalty.

The students who have agreed to participate were informed of the date and time of the test. The research was conducted in their classrooms, and the test papers were distributed randomly based on their seating. The participants sitting in the row with the odd number were given Form A. Participants sitting in a row with an even number were given Form B. The random distribution of test papers ensured each group's participants were with different English language level, so their English language proficiency was evenly distributed among two groups.

Section 1, Section 2, and the scantron answer completion sheet were printed on separate booklets. The test lasted for 75 minutes, and there was no break between the two sections, which means the participants had to remain in the test room until the end of the testing period. The scantron answer completion sheet and booklets of Section 1 were handed out first. Participants were allowed to spend 40 minutes completing Section 1 and marking the answers on the answer completion sheet. When Section 1 was ended, the booklets of Section 1 were collected, and the booklets of Section 2 were distributed. For Section 2, they were encouraged to make the best of the given time and try to gain the correct answer without the help of passages. The time limit for this part was 35 minutes. Before each section ends, participants were reminded that there were 5 minutes left, and they had to make sure they provided one answer for each item.

Data Analysis

The data for this study includes 343 Grade 11 students' responses to two forms of the RC test. The scantron answer completion sheets were graded, and the results were entered into an excel document as 0 for a wrong answer and 1 for a correct answer. The tests were checked twice to ensure 100% accuracy. The test items were analyzed using SPSS Version 24.0.

Analysis of mean scores. Research question one: “How is Grade 11 students’ performance on the RC MC items for the narrative and the expository passages influenced by with- or without-passage condition?”

An Independent-Samples *T* Test was conducted to determine whether the presence of narrative and expository passages in the RC section of the English Academic Test contributes to the scores. To be more specific, for the narrative passages, the mean scores of items in three narrative passages in Section 1 (with-passage condition) of both forms were calculated. Next, the mean scores of items in the narrative passages in Section 2 (without-passage condition) of both forms were calculated. Finally, an Independent-Samples *T* Test was conducted to test the difference between these two mean scores. For the expository passages, the mean scores of the items in the three expository passages in Section 1 (with-passage condition) of both forms were first calculated. Second, the means scores of the items in the three expository passages in Section 2 (without-passage condition) of both forms were calculated. Third, an Independent-Samples *T* Test was conducted to test the difference between the two mean scores.

Analysis of chance level. Research question two: “According to Grade 11 students’ performance on the RC MC items, which type of items tends to be more passage-dependent, factual item type or inferential item type?” This question aims to explore which type of RC MC item is easier for students to answer without the help of passages. In this study, the test items were categorized into two groups: factual item type and inferential item type. Factual item type refers to the item whose answer can be found in the passage. The answer to an inferential item is not given in the passage directly. Therefore, test takers have to use the clues from the passage and their thinking skills or background knowledge to gain the key. The distribution of these two item types is shown in Appendix 8. The items were classified by me first, and the classifications were revised by Professor Xu, my supervisor in South China Normal University.

To answer research question two, two sets of analysis were conducted, and the first one was related to chance level. Passage dependence of the RC test items with chance level (i.e., what would be expected from random guessing) was evaluated. The above-chance performance under the without-passage condition is seen as evidence of passage independence. Firstly, the percentages of the items that were answered correctly in each item type under without-passage condition were calculated. Secondly, chance level, which is the probability of guessing an item correctly, was determined. Four options were given for each test item, so the chancel level was 25%. Thirdly, One-Sample *T* Test was conducted to test the without-passage performance of each item type against chance level. The One-Sample *T* Test was used because it is designed to test whether the mean of distribution differs significantly from a certain preset value. For these analyses, the preset value was chance level. The item type with the higher above-chance level was considered as more passage-independent, and it was easier for students to respond correctly when the passage was unavailable. The item type with the lower above-chance level was less passage-independent, and it was more difficult for students to respond correctly when the passage was absent.

Analysis of Passage Dependence Index. In the second set of analysis for research question two, PDI of each item was calculated. The equation for PDI is PDI = 1 - (dnp / dp), in which PDI = passage dependency index for a comprehension item, dnp = the proportion of correct responses to an item under the without-passage condition, and dp = the proportion of correct responses to an item under the with-passage condition. Then the means of PDI for each item type were calculated and compared. A lower PDI indicates a weaker item in terms of passage dependence. Thus, the item type with the lowest PDI was susceptible to passage independence, and it was easier to be answered correctly under the without-passage condition. The item type with the highest PDI was more difficult to be answered correctly without the help of passage.

PDI was also analyzed in the Chi-Square Test to answer the last research question. Research question three asked "What is the relationship between item types and PDI with regard to the Grade 11 students' performance on the RC MC items?" The purpose of this question is to find out how the item types affect PDI. Each item's PDI was calculated. The mean of PDI of the total 30 items was 0.37. Therefore, the PDI above or equal to 0.37 was considered a high PDI. The PDI below 0.37 was low PDI. The 30 items were classified into inferential items and factual items. The numbers of factual items with high and low PDI were calculated respectively. Likewise, the numbers of inferential items with high and low PDI were calculated respectively.

The relationship between item types and PDI was examined by the Chi-Square Test. Even though the sample size was small (30), the results in the Chi-Square Test reported that all the expected count was more than 5. That is to say, the Chi-Square Test was an appropriate method to explore the association between item types and PDI. If the *p* value was less than .05, a significant relationship existed.

Chapter 4

Results and Discussions

In this chapter, the results from the analysis of the performance on the RC MC items and a discussion in relation to previous literature are presented.

Passage Dependence of Passage Types

Firstly, students' performance on each passage in Form A and Form B of the RC test are presented in Table 4.1 and Table 4.2.

Table 4.1

Overall Performance on Form A

Section	Passage	*N*	*M*
1	A	149	3.53
	B	147	3.54
	C	154	3.03
2	A	142	1.80
	B	150	2.05
	C	147	2.08

Table 4.2

Overall Performance on Form B

Section	Passage	*N*	*M*
1	A	159	2.91
	B	158	4.31
	C	164	3.68
2	A	150	2.40
	B	147	2.56
	C	158	1.99

The mean scores of Section 1 and Section 2 in the two forms are displayed in Table 4. 3.

Table 4.3

Mean Scores of Section 1 and 2 in Form A and Form B

	Form A	Form B
Section 1	10.1	10.9
Section 2	5.93	6.95

As mentioned in Chapter 3, the six RC passages were classified as either narrative or expository. Their influence on students' performance in the RC test was examined respectively.

Results of narrative passage. The descriptive statistics are shown in Table 4.4. The mean score of narrative passages in the with-passage condition was 4.26, and the standard deviation was 1.71. The mean score of narrative passages in the without-passage condition was

2.44, and the standard deviation was 1.407. It was observed that participants' performance on the items in narrative passages under with-passage condition was higher, compared with the without-passage condition.

Table 4.4

Descriptive Statistics of Performance on Narrative Passages

Condition	*N*	*M*	*SD*
With Passages	480	4.26	1.171
Without Passages	470	2.44	1.407

Independent-Samples *T* Test was conducted to delve into the influence of the narrative passages on participants' performance. The mean of test items in narrative passages under with-passage condition was tested against those under without-passage condition. The results are shown in Table 4.5.

Table 4.5

Independent-Samples T Test for Performance on Narrative Passages

	Levene's Test for Equality of Variances		T-Test Equality of Means	
	F	*Sig.*	*t*	*Sig.* (2-tailed)
Equal Variances Assumed	35.991	0.000	21.717	0.000
Equal Variances Not Assumed			21.675	0.000

The *Sig.* in "Levene's Test for Equality of Variances" row was .000, which was lower than .05. In other words, the variances of the two conditions were not equal. Thus, the "Equal Variances Not Assumed" row was examined. The *Sig.* (2-tailed) was .000, lower than the .05 significance level. It was concluded that the mean of narrative passages in the test under without-passage condition was significantly lower than the mean of narrative passages in the test under with-passage condition. These results demonstrated that the performances on the narrative passages under without-passage condition were significantly lower than the performances on the narrative passages under with-passage condition.

Results of expository passage. The descriptive statistics are shown in Table 4.6. The mean score of expository passages in the test under with-passage condition was 3.52, and the standard deviation was 1.304. The mean score of narrative passages in the test under without-passage condition was 2.20, and the standard deviation was 1.326. It indicated that participants' performance on the items in expository passages under with-passage condition was better, compared with the without-passage condition. This result was similar to that of narrative passage.

Table 4.6

Descriptive Statistics of Performance on Expository Passages

Condition	*N*	*M*	*SD*
With Passages	471	3.52	1.304
Without Passages	480	2.20	1.326

Likewise, Independent-Samples *T* Test was conducted to explore the influence of the expository passages on participants' performance. The means of test items in expository passages under with-passage condition were tested against those under without-passage condition. The results are shown in Table 4.7.

Table 4.7

Independent-Samples T Test for Performance on Expository Passages

	Levene's Test for Equality of Variances		T-Test Equality of Means	
	F	*Sig.*	*t*	*Sig.* (2-tailed)
Equal Variances Assumed	.323	.570	15.552	0.000
Equal Variances Not Assumed			15.555	0.000

The *Sig.* in "Levene's Test for Equality of Variances" row was .570, much higher than .05. Therefore, the variances of the two conditions were equal, and the "Equal Variances Assumed" row was examined. The *Sig.* (2-tailed) was .000, lower than .05 significance level. It was concluded that the mean of expository passages in the test under without passage condition was significantly lower than the mean of expository passages in the test under with passage condition. These results indicated that the expository passages contributed significantly to the performances on the RC tests.

Discussion. Narrative and expository are two common passage types in academic reading, and they are the only two passage types that appear in the English Academic Test 2017 and 2018. These two passage types are different "in the ways the texts are structured, the causal coherence of information, the presence of a protagonist and the circumstances under which readers normally read these texts (Wolfe, 2005, p. 360). Generally, narrative passage consists of characters and settings related by cause or theme, describing events and actions over time (Grabe, 2002; Wolfe & Mienko, 2007; Sanford & Emmott, 2012). In terms of expository, it is a topic-oriented text that focuses on the fact or claims and designed to inform (Katzenberger, 2004; Williams, 2009).

Previous literature indicates that considering the difference of passage dependence of items in narrative and expository, the item associated with expository might be more passage-dependent. Narrative conveys human characteristic and interaction, which is more familiar to readers. Moreover, prior studies established that expository poses challenges for readers to make inferences with their background knowledge (Eason et al., 2012; Kraal et al., 2017). In the situation in which the passage is withdrawn, the possibility for participants to gain correct answers in expository with background knowledge and inferential skills is even less. It leads to the hypothesis that item related to expository is more dependent on passage.

The finding in this study, nevertheless, was contradictory to this hypothesis. For the narrative passages, the mean scores gained under the with-passage condition was 4.26, and the mean scores gained under the without-passage condition was 2.44. The *Sig.* of the two means were tested and the p value was less than .05. For the expository passages, the mean scores gained under the with-passage condition was 3.52, and the mean scores gained under the without-passage condition was 2.20. The *Sig.* of the two means were tested, and the p value was less than .05. Thus, the margins of mean scores for narrative (1.82) was larger than that for expository (1.32). This finding suggested that the items in narrative passages were more dependent on the associated passage.

A possible explanation for the inconsistency is that the plot of the narratives in the RC test was not developed in the logical way, which made the participants fail to give the correct response to the items. The passage B in Form B Section 1 fits this description. The passage tells a story about smile cards. Logically, the helpers can receive smile cards. But in that story, the smile cards are given to those who receive help. For this passage, the mean scores gained under the with-passage condition was 4.31, and the mean scores gained under the without-passage condition was 2.05. The margin of this passage was the largest compared with that of the other passages. Thus, including the narrative passages whose plots are developed in a surprising way in an RC test may improve the MC items' vulnerability of being responded correctly under without-passage condition.

Passage Dependence of Item Types

All of the 30 items in the RC test were categorized into two types: factual item type and inferential item type. The passage dependence of these two item types was compared by two methods: chance level and PDI.

Results of chance level. In the RC test, four alternatives were provided for each item. The possibility of correct answers obtained by chance, which means the chance level, was 0.25.

The means of students' performance on the factual item and inferential item were tested against the chance level respectively. The results are demonstrated in Table 4.8.

Table 4.8

One-Sample T Test for Performance on Factual Items and Inferential Items

Item Type	*M*	*SD*	*t*	*Sig.* (2-tailed)
Factual Item	0.49	0.26	16.21	0.000
Inferential Item	0.44	0.21	15.58	0.000

As can be seen, there was a statistically significant difference between the chance level and the means of students' scores in factual item (t = 16.21, p < .05) as well as in inferential item (t = 15.58, p < .05). Without the help of passages, the percentage of accuracy for factual items was 49%. For the inferential items, students answered with 44% accuracy, without the passages. It indicated that participants obtained the correct answer at a significantly higher rate than by chance for the two item types. The above-chance performance in the factual item was more obvious than in inferential item. Thus, the inferential item was more passage-dependent.

Results of Passage Dependence Index. To compare which item type is more dependent on the passages, the PDI of each item was calculated. The equation is PDI = 1 - (dnp / dp). In this equation, the dnp means the proportion of correct responses to an item under the without-passage condition, and dp means the proportion of correct responses to an item under the with-passage condition. The descriptive statistics are shown in Table 4.9.

Table 4.9

Descriptive Statistics of Performance on Factual Items and Inferential Items

Item Type	*N*	*Min.*	*Max.*	*M*	*SD*
Factual Item	17	0.19	0.80	0.45	0.186
Inferential Item	13	0.03	0.63	0.28	0.159

It is believed that the larger the PDI of the item, the stronger the passage dependence of this item. The mean of PDI of factual item was .45, which was significantly larger than that of the inferential item (M = 0.28). Therefore, the factual item was more dependent on the passage compared with the inferential item.

Discussion. Chance level and PDI yielded different results. Chance level result demonstrated that inferential items were more passage-dependent, whereas PDI results supported the factual items to be more passage-dependent. Thus, the margin of two item types' means in the chance level results were compared with that in the PDI results. For chance level results, the means of percentage of accuracy for factual items (49%) was slightly larger than the means of percentage of accuracy for inferential items (44%). For the PDI results, the PDI for factual items had a remarkably larger means (0.45) than the PDI for inferential items (0.28).

Moreover, it should be noted that chance level (0.25) is based on four options are developed equally accurately. In order to examine whether all the MC choices in factual items and inferential items were designed correctly, the item difficulty level (percentage of students who answer an item correctly) was calculated. For the four-response MC items, the ideal difficulty is 74 (Lord, 1952). The results shown that the difficulty level of factual items was 76, and the difficulty level of inferential items was 57. Thus, the inferential items may not be designed accurately, and the chance level may not be a reliable method in determining which item type is more passage-dependent. Therefore, the results of PDI method was chosen. The assertion that factual item type was more passage-dependent than the inferential item type in line with the results of Duffelmeyer's (1980) and Tian's (2006).

In the RC component of the English Academic Test, factual item type and inferential item type were involved. These two comprehension tasks are the most prevalent types of low-level and higher-level tasks (Basaraba, Yovanoff, Alonzo, & Tindal, 2013). As the first level of understanding, factual comprehension, or literal comprehension, is dependent on lower word-level processing skills (decoding, recognizing, recalling) and requires reader to extract the explicit information from the passage (Carnine et al., 2010; Hudson, 2007; Perfetti, Landi, & Oakhill, 2005). In this sense, the low-level task in the RC test incorporates the bottom-up approach. In regard to the inferential comprehension, higher level skills (inferring, predicting, judging) are demanded so that readers can make logical inferences about the implicit meaning in the passage (Applegate, Quinn, & Applegate, 2002; Grabe, 2009). Embodying the top-down approach, inferential comprehension "focuses on something 'beyond the printed page', which demands readers' own thinking and imagination to infer ideas or information that is not explicitly stated in the text" (Moon & Luo, 2017, p. 67). Upon comparison with inferential item, the supposition is that the factual item requires the passage. In other words, if the passage is deleted, it is less likely for test takers to gain the correct answer of factual item. The finding that factual items were more passage-dependent supports such supposition. Accordingly, the inferential item, which was less passage-dependent, demands more attention. Further discussion on the inferential item follows in the next section.

Relationship between Item Types and Passage Dependence Index

PDI indicates to what extent an item is passage-dependent, and it may be affected by the item types. To understand the relationship between the item types and PDI, the two variables (item type and PDI) with classification data were identified.

Results. There were 11 factual items with high PDI, and 6 inferential items with low PDI. For the inferential items, 3 items were with high PDI and 10 items were with low PDI. The 2 × 2 classification table is displayed in Table 4.10.

Table 4.10

*Item types * PDI Crosstabulation*

		PDI		Total
		High	Low	
Item Types	Factual	11	6	17
	Inferential	3	10	13
Total		14	16	30

The Chi-Square Test was computed, and the results are presented in Table 4.11.

Table 4.11

Chi-Square Test for Relationship between Item Types and PDI

	Value	*df*	*Asymp. Sig.* (2-sided)	*Exact Sig.* (2-sided)
Pearson Chi-Square	5.129[a]	1	.024	0.33
Continuity Correction[b]	3.593	1	.058	
Likelihood Ratio	5.336	1	.021	0.33
Fisher's Exact Test				0.33
Linear-by-Linear Association	4.958[c]	1	.026	0.33
N of Valid Cases	30			

a. 0 cells (0. %) have expected count less than 5. The minimum expected count is 6.07.
b. Computed only for a 2×2 table
c. The standardized statistic is 2.227.

As can be seen, all 30 cases were valid in the analysis. The two-sided *p* value in the Pearson Chi-Square was .024, lower than .05. The conclusion can be reached that the PDI in narrative passages and expository passages differed, which indicated that there was a significant relationship between item types and PDI. Since the significant relationship between time types and PDI was confirmed, the items with the lowest five PDI were listed to further explore items that suffered most from the passage independence issue (see Table 4.12).

Table 4.12

Information of the Five Least Passage-Dependent Items

No.	PDI	Item Type
1	0.03	Inferential Item (vocabulary-in-context)
2	0.12	Inferential Item (main idea)
3	0.16	Inferential Item (main idea)
4	0.18	Inferential Item (main idea)
5	0.19	Factual Item

Among the five least passage-independent items, four of them were inferential item type. The main idea item took up 75% of these inferential items. The item with the lowest PDI was item #2 in Form B Section 2, which was a vocabulary-in-context item asking “what does the underlined word “sparking” mean in the second paragraph?” and both of them were had a low PDI. The stem of the item was, and the PDI of this item was 0.27. The stem was “What does the underlined word ‘sparking’ mean in the second paragraph?”, and the PDI of this item was 0.03, which was the lowest one. Such results were in accordance with those in Pyrczak’s (1976) and Tian’s (2006) study, which revealed that the vocabulary-in-context items, undesirably, were independent of the context.

Discussion. The results demonstrated that there was an association between item type and PDI. Nevertheless, Chi-Square Test is limited in the explanation of the relationship between the two variables. Therefore, the Item Types * PDI Crosstabulation (see Table 4.10) was examined. It was discovered that the majority of items with high PDI were factual items, but most of the items with low PDI belong to the inferential one. It was concluded that the factual items were more passage-dependent, which was consistent with the finding in research question two.

The items whose PDI were extremely low were examined. In Pyrczak's (1972, 1974) and Katz et al.'s (1991) studies, participants' performance on main idea item was above chance level in the absence of passage. In Pyrczak's (1972) explanation of this outcome, perhaps it was the general information and interrelationships among the items on a given passage that helped the students respond correctly to the main idea items without the presence of passage. This was similar to the assumption of Katz et al.'s (1990) that the factors contributing to the successful performance in the RC test without the help of passages may be outside knowledge and testing skills. The testing skill is a skill that the test takers gain relevant information from other items in the same passage. The shared information from other items belonging to the same passage, which is also called cognates, may contain some overlapping information and the test takers can detect and infer these clues to help them gain the correct answer even though they do not read or comprehend the corresponding passages. Katz et al. (1991) realized this problem and designed a study in the way that passages were deleted and the RCMC items were presented in a quasi-randomized order so the cognates were dispersed. In comparison with the performance in the control group, in which the items belonging to the same passage appeared together, no significant increase or decrease in the scores was found. The results suggested that the cognates had little to do with the vulnerability of passage dependence in RC MC items.

If the cognate plays a small role in helping test takers perform well in MC RC test in the absence of passage, the background knowledge then appears to be an important factor. Gao (2002) suggested that the background knowledge could reduce the passage dependence of items in the College English Test, according to the participants' self-reported strategies used under without-passage condition. However, Pyrczak (1974) did not believe that background knowledge could raise the RC test scores when the students did not have access to the passage in the Traxler High School Reading Test, as most of the distractors seemed to be true statements. Upon careful examination of the items, Pyrczak (1974) inclined to ascribe success in RC MC test to test-wiseness even though no passage is accessible.

Test-wiseness was first conceptualized by Thorndike (1951) as a variable that can affect test scores. More specifically, test-wiseness is "subject's capacity to utilize the characteristics and formats of the test and/or the test taking situation to receive a high score" (Millman, Bishop, & Ebel, 1965, p. 707). Allan (1992, cited in Alderson, 2000) investigated the strategies that students tended to employ in answering RC MC test items. The results shown that the focus of majority test-wise strategies was on the question stems and options, such as guessing and attending to the length of options, rather than on the passage. In China, it is a common phenomenon that teachers in schools or in training institutions teach test-wise strategies to students to help them gain higher scores in RC tests (Su, 2011; Yang, 2017; Zhang, 2014). Test-wiseness, however, is not what an RC test aims to measure (Alderson, 2000), and it is irrelevant to RC ability. Owing to the passage independent characteristic of the RC tests, students can easily achieve success in the tests by using the test-wise strategies. In this sense, the quality of the RC test will be threatened if the scores can be raised by the test-wiseness.

In addition to the main idea item type, the vocabulary-in-context item type also desires more attention. Among the thirty items in the RC test, two items required test takers to identify the meaning of a certain word in the passage. One of the items had the lowest PDI (0.03), which was demonstrated in Table 4.11. The other one was item #13 in Form B Section 2. It asked "which of the following words can replace the underlined word 'suspicious' in Paragraph 2?", and its PDI was 0.27. Logically, if a vocabulary item is tested in an RC test, the meaning of the vocabulary should be highly dependent on the context. It is meaningless to test the prototypical meaning of the vocabulary in an RC test, given that the test taker can obtain the correct meaning with their prior word knowledge but not RC ability. In item #2 in Form B Section 2, the word "suspicious" was tested and the options were: (A) meaningful, (B) doubtful, (C) thoughtful, and (D) powerful. The key choice "(B) doubtful" was an obvious synonym of the word "suspicious". Participants were expected to gain the key choice if they already knew the definition of the word "suspicious" before the test, despite the passage was unavailable. Likewise, to test the definition of the word "sparking" in item #13 in Form B Section 2, the options provided were: (A) questioning, (B) knowing, (C) causing, and (D) learning. The extremely low PDI of this item indicated the low difficulty of the word. It is worth-noticing that to create passage-dependent RC MC items, the vocabulary-in-context item should not be limited to measure the simple word knowledge. More efforts are needed in creating context-dependent vocabulary items in the RC test. The questions that specifically about vocabulary meaning should be excluded from the English Academic Test if the items fail to test students' RC ability effectively.

Chapter 5

Conclusion

This chapter restates the purpose of the research and highlights the key findings. Besides, it puts forward some implications for educational practices, states limitations of this study, and indicates some directions for future research.

Major Findings

This study examines the passage dependence of MC items in RC component of the English Academic Test in Guangdong Province with respect to the passage types and the item types. The present study yielded the following major findings. First, a significant difference between the performance under with-passage condition and without-passage condition was found both in narrative and expository. In addition, the difference in the performance on narrative passages was greater than that on expository passages. This suggested that the narrative made more contribution to the performance on the related items. Conclusions were drawn that RC MC items associated with narrative and expository were passage-dependent, and RC MC items based on narrative were more dependent than those based on expository.

Secondly, to compare the passage dependence of the two item types, two methods were used. The findings of PDI method provided evidence that factual item was more passage-dependent. This was contradictory to the findings of chance level method, which supported that inferential item was more dependent on the passage. The result of PDI method was chosen, and it was concluded that the factual item type was more passage-dependent compared with the inferential item type.

Thirdly, it is confirmed that there was a significant relationship between item types and PDI. Additionally, the majority of the items with high PDI were factual items, whereas most of the items with low PDI belong to the inferential ones. It was revealed that the factual items were more passage-dependent, which was consistent with the finding in research question two. In addition, the main idea item type and vocabulary-in-context item type were the least passage-dependent item types.

Pedagogical Implications

The findings of this study have implication for students preparing for the English Academic Test and English teachers in senior secondary schools in Guangdong, China. Evidence that the performance on the English Academic Test depends on the presence of passages is provided. It helps to create a view where the focus of attention in RC test is on RC ability. To effectively prepare for the test, students should read more but not rely too much on the test-taking strategies. For English teachers, it is highly recommended that teachers focus their time own comprehension strategies instead of focusing on how to be test-wise. Even though being test-wise is necessary when students are taking a test, enhancing the RC ability should always be the emphasis in making preparation for the test.

The findings of this research are also valuable for the test designers of the English Academic Test. In order to improve the quality of the RC test, one possible way is to reduce the proportion of inferential items in the expository passages. The findings of this study shown the RC MC items associated with the expository passages as well as the inferential items were less passage dependent. However, in expository passages which were from the English Academic Test 2017 and 2018, totally 10 items were inferential items but only 5 items were factual items.

Another effort to be made is related to the design of vocabulary-in-context items. All vocabulary-in-context items' PDI were relatively low. Therefore, a more careful test item development procedure should be employed in designing the vocabulary-in-context items. During the RC test development process, without-passage administration techniques can be used to identify the MC items lacking passage dependence. Subsequently, these items should be eliminated or reworked.

Limitations

Despite the interesting findings of this research it is important to address the limitations of this work.

One limitation lies in access to the recent literature on passage dependence. There is a lack of recent passage dependence literature in China and abroad. The topic of passage dependence was widely discussed in the 1960s and 1970s. Till now, passage dependence is still a factor in determining the quality of test items in the RC MC test. Some recent studies on passage dependence can be found (Charland et al., 2017; Coleman et al., 2009; Keenan & Betjemann, 2006; Ready et al., 2012), though the amount is not large. Further, only a few studies on passage dependence were conducted in China. Realizing the increased significance of English Academic Test in Guangdong Province, I decided to examine the quality of the MC test items in the RC component of English Academic Test from the perspective of passage dependence.

The second limitation relates to the quality of the classification of passage types and item types. All the classification was made by me and revised by Professor Xu, my supervisor in South China Normal University. Professor Xu is an expert in marking the NMET exam paper of Guangdong. Both the NMET and the English Academic Test are the entrance exam for colleges and universities. However, there are some differences between the NMET and the Academic Test. The validity of the study, therefore, could be improved if the test developer of the English Academic Test were invited to provide some suggestions on the classification of passage types and item types.

Thirdly, this research is limited in the sample in Guangzhou City, which could influence the generalizability of findings. For one thing, the Guangdong English Academic Test is administered in every city in Guangdong Province. In this study, all participants were from the senior secondary schools in Guangzhou City, Guangdong Province, which reduced the representation of the sample. In addition, the two schools in which the participants recruited were at different levels. One was a high-ranking school, the other was a middle-ranking school. No low-ranking school was involved. Therefore, whether the results of this study can be generalized to students in low-ranking school is uncertain.

Recommendations for Future Research

One direction for future research is to further investigate the passage dependence of other RC MC tests, considering the passage dependence seems to be a complex issue. Firstly, several studies have examined the passage dependence of different item types (Duffelmeyer, 1980; Katz et al., 1991; Tian, 2006). Yet, there is a lack of research exploring passage dependence from the perspective of passage types. This study is a start in examining passage dependence within passage types. In this study, the passage type includes narrative passages and expository passages. Research could be directed toward passage dependence within other passage types. Secondly, in the analysis of research question two, which explored which item type was more dependent on passages, two methods were adopted. Not only the PDI of the items but also the chance level was calculated and tested. Interestingly, the analyses demonstrated conflicting results, indicating the passage dependence of different item types is complex. Researchers should consider investigating whether the chance level method and the PDI methods produce different results in other RC MC tests. If so, which result is more accurate.

A follow-up study is recommended to compare the subtypes of inferential items. There was a significant relationship between item types and PDI. The factual item was identified as more dependent on passage than inferential items through the discussion of research question two. The inferential item, with low PDI in general, deserves more attention. Among the six RC abilities which are mentioned in the test specification of English Academic Test 2017, four RC abilities are tested with inferential items. They are making inferences of the meaning of words or phrases based on the context, making judgment and inferences, understanding the basic structure of the passage, and comprehending the author's viewpoint, attitude and intention. Some of the subtypes of inferential items are involved in other RC tests. Future research should include the subtypes of inferential items.

This study opens new research opportunities into the strategies helping test takers correctly respond to RC MC items under without-passage condition. The findings of this research indicated that inferential items were more passage independent. Future studies can collect the inferential items from RC MC test and ask students to answer them without the help of passage. In the meantime, a strategy checklist can be provided to students so they can write down the strategies used in answering the item. This data can be used to verify whether PDI of inferential item is generally low. Furthermore, it would be interesting to explore the most used strategies and the most effective strategies in helping students gain high scores in inferential items under without-passage condition.

Summary

To conclude, the present study is one of the few passage dependence studies conducted in an L2 context. The finding of passage types contradicts the belief that the RC MC items are independent of their associated passages, showing that the presence of passages contributed to the performance of participants in the RC component of the English Academic Test. Despite the overall quality of the RC component in English Academic Test might not being threatened, the significance of passage dependence in the high-stakes test should not be underestimated according to the results of item types.

This study is also one of the few studies that specifically focuses on the passage types and the item types in examining passage dependence. There was adequate evidence to suggest that a significant relationship between item types and passage dependence exits. The findings of this research provided further support for the notion that factual item is dependent on passages, to a greater extent. I hope findings from this study will guide students in their preparation for the RC test and teachers in their instruction to be firmly anchored on the cultivation of RC ability.

Finally, the evidence presented should be enough to alert test-makers of the flawed items and lead to the development of better instruments for testing English RC ability. In conclusion, this research improves understanding of the quality of the RC component of English Academic Test and the passage dependence of RC MC items.

References

Alderson, J. C. (2000). *Assessing reading.* Cambridge, UK: Cambridge University Press.

Allan, A. (1992). Development and validation of a scale to measure test-wiseness in EFL/ESL reading test-takers. *Language Testing, 9*, 101-122.

Alvermann, D. E., Unrau, N. J., & Ruddell, R.B. (2013). *Theoretical models and processes of reading* (6th ed.). Newark, DE: International Reading Association.

Anthony, H. M., Pearson, P. D., & Raphael, T. D. (1993). Reading comprehension: A selected review. In L. M. Cleary & M. D. Linn (Eds.), *Linguistics for teachers* (pp. 250-298). New York, NY: McGraw-Hill.

Applegate, M. D., Quinn, K. B., & Applegate, A. J. (2002). Levels of thinking required by comprehension questions in informal inventories. *The Reading Teacher, 56*, 174-180.

Basaraba, D., Yovanoff, P., Alonzo, J., & Tindal, G. (2013). Examining the structure of reading comprehension: Do literal, inferential, and evaluative comprehension truly exist? *Reading and Writing, 26,* 349-379.

Bayles, K. A. &Kaszniak, A. W. (2002). *Communication and Cognition in Normal Aging and Dementia*. Boston: Little, Brown and Company.

Birch, B. M. (2002). *English L2 reading: Getting to the bottom.* London, UK: Lawrence Erlbaum.

Camp, C.J. (1981). The use of fact retrieval vs. Inference in young and elderly adults. *Journal of Gerontology, 36*, 715-721.

Carnine, D. W., Silbert, J., Kame'enui, E. J., & Tarver, S. G. (2010). *Direct instruction reading*. Boston, MA: Merrill.

Carrell, P. L. (1988). Some causes of text-boundedness and schema interference in ESL reading. In P. L. Carrel, J. Devine, & E. Eskey (Eds.), *Interactive approaches to second language reading* (pp. 103-113). New York, NY: Cambridge University Press.

Carrell, P., & Eisterhold, J. (1983). Schema theory and ESL reading pedagogy. *TESOL Quarterly, 17*, 553-573.

Chen, X., Fen, X., Nguyen, T-K., Hong, G., & Wang, Y. (2010). Effects of cross-language transfer on first language phonological awareness and literacy skills in Chinese children. *Journal of Educational Psychology, 102*, 712-728.

Cheng, L., & Gao, L. (2002). Passage dependence in standardized reading comprehension: Exploring the College English Test. *Asian Journal of English*

Language Teaching, 12, 161-178.

Choi, H. (1999). *Interactive use of reading strategies: Seven cases in second language reading* (Master's thesis, Carleton University). Retrieved from http://www.collectionscanada.gc.ca/obj/s4/f2/dsk3/ftp04/mq36862.pdf

Coady, J. (1979). A psycholinguistic model of the ESL reader. In R, Mackay, B. Barkan, & R. Jordan (Eds.), *Reading in a second language: Hypotheses, organization, and practice* (pp.5-12). Rowley, MA: Newbury House.

Coleman, C., Lindstrom, J., Nelson, J., Lindstrom, W., & Gregg, K.N. (2009). Passageless comprehension on the Nelson-Denny reading test: Well above chance for university students. *Journal of Learning Disabilities, 43*, 244-249.

Connor, U., & Read, C. (2006). Passage dependency in ESL reading comprehension tests. *Language Learning, 28*, 149-157.

Day, R. R., & Bamford, J. (1988). *Extensive reading in the second language classroom.* Cambridge, UK: Cambridge University Press.

Droop, M., & Verhoeven, L. (2003). Language proficiency and reading ability in first- and second-language learners. *Reading Research Quarterly, 38*, 78-103.

Drucker, M. J. (2003). What reading teachers should know about ESL learners. *The Reading Teacher, 57*, 22-29.

Duffelmeyer, F. A. (1980). The passage independence of factual and inferential questions. *Journal of Reading*, *24*, 131-134.

Eason, S. H., Goldberg, L., Young, K. M., Geist, M. C., & Cutting, L. E. (2012). Reader-text interactions: How differential text and question types influence cognitive skills needed for reading comprehension. *Journal of Educational Psychology, 104*, 515-528.

Eurich, A. C. (1931). Four types of examination compared and evaluated. *Journal of Educational Psychology, 26,* 268-278.

Farr, G., & Carey, R. F. (1986). *Reading: What can be measured.* Newark, DE: International Reading Association.

Fletcher, J. M. (2006). Measuring reading comprehension. *Scientific Studies of Reading, 10,* 323-330.

Gantzer, J. (1996). Do reading tests match reading theory? *College ESL, 6*, 29-48.

Genesee, F., Geva, E., Dressler, C., & Kamil, M. (2006). Synthesis: Cross-linguistic relationships. In D. August & T. Shanahan (Eds.), *Developing literacy in second* *language learners* (pp. 153-174). Mahwah, NJ: L. Erlbaum.

Geva, E., & Siegel, L. (2000). Orthographic and cognitive factors in the concurrent development of basic reading skills in two languages. *Reading and Writing, 12*, 1-30.

Geva, E., & Wang, M. (2001). The development of basic reading skills in children: A cross-language perspective. A*nnual Review of Applied Linguistics, 21*, 182-204.

Goodman, K. S. (1976). Behind the eye: What happens in reading. In H. Singer & R. B. Ruddell (Eds.), *Theoretical models and processes of reading* (2nd ed. pp.470-496). Newark, DE: International Reading Association.

Grabe, W. (1991). Current developments in second language reading research. *TESOL Quarterly*. *25*, 375-406.

Grabe, W. (2002). *Narrative and expository macro-genres. Genre in the classroom: Multiple perspectives.* Mahwah, NJ: L. Erlbaum.

Grabe, W. (2009). *Reading in a second language: Moving from theory to practice.* Cambridge, UK: Cambridge University Press.

Grabe, W. (2014). Key Issues in L2 Reading Development. Retrieved from http://www.academia.edu/24734384/Key_Issues_in_L2_Reading_Development

Grabe, W., & Jiang, X. (2013). Assessing Reading. In A. J. Kunnan (Ed.), *The Companion to Language Assessment* (pp.185-200). West Sussex, UK: John Wiley & Sons.

Grabe, W., & Stoller, F. L. (2002). *Teaching and researching reading*. Harlow, England: Longman.

Green, D. R., & Langhorst, B. H. (1986). Passage dependence and item characteristics. Paper presented at the annual meeting of the National Council on Measurement in Education, San Francisco, CA.

Hannon, B. & Daneman, M. (2001). A new tool for measuring and understanding individual differences in the component processes of reading comprehension. *Journal of Educational Psychology, 93*, 103-128.

Hudson, T. (2007). *Teaching second language reading.* Oxford: Oxford University Press.

Hughes, A. (2002). *Testing for Language Teachers.* Cambridge, UK: Cambridge University Press.

Imus, H. A., Rothney, J. W., & Bear, R. M. (1938). *An evaluation of visual factors in reading.* Hanover, NH: Dartmouth.

Iwai, Y. (2010). Re-envisioning reading comprehension for English language learners. Retrieved from *http://iteslj.org/Articles/Iwai-Reading.html*

Johnston, P. (1983). *Reading comprehension assessment: A cognitive basis.* Newark, DE: International Reading Association.

Katzenberger, I. (2004). The Super Structure of Written Expository Texts: A Developmental Perspective. In D. Ravid, & H. Bat-ZeevShyldkrot (Eds.), *Perspectives on language and language development* (pp. 327–336). Dordrecht, the Netherlands: Kluwer.

Katz, S., Blackburn A. B., & Lautenschlager, G. J. (1991). Answering reading comprehension items without passage on the SAT when items are quasi-randomized. *Educational and Psychological Measurement, 51*,747-754.

Katz, S., & Lautenschlager G. J. (2001). The Contribution of Passage and No-Passage Factors to Item Performance on the SAT Reading Task. *Educational Assessment, 7*, 165-176.

Katz, S., Lautenschlager, G. J., Blackburn, A. B., & Harris, E. H. (1990). Answering reading comprehension items without passage on the test. *American Psychological Society,1*, 747 754.

Katz, S. Johnson, C.& Pohl, E. (1999). Answering reading comprehension items without the passages on the SAT-I. *Psychological Reports, 85*, 1157-1163.

Keenan, J. M., &Betjemann, R. S. (2006). Comprehending the Gray Oral Reading Test without reading it: Why comprehension tests should not include passage-independent items. *Scientific Studies of Reading, 10*, 363-380.

Koda, K. (2005). *Insights into second language reading: A cross-linguistic approach.* New York, NY: Cambridge University Press.

Kraal, A., Koornneef, A. W., Saab, N., & van den Broek, P. W. (2017). Processing of expository and narrative texts by low- and high-comprehending children. *Reading and Writing, 31,* 2017-2040.

Lesaux, N. K., Rupp, A. A., & Siegel, L. S. (2007). Growth in reading skills of children from diverse linguistic backgrounds: Findings from a 5-year longitudinal study. *Journal of Educational Psychology, 99*, 821-834.

Lesgold, A. M. & Perfetti, C. A. (1978). Interactive Processes in Reading Comprehension. *Discourse Processes, 1*, 323-336.

Li, M. (2012). Understanding reading comprehension in English immersion students in China (Doctoral dissertation, Queen’s University). Retrieved from https://qspace.library.queensu.ca/bitstream/handle/1974/7697/Li_Miao_201212_PhD.pdf

Lifson, S., Scruggs, T. E. & Bennion K. (1984). Passage independence in reading achievement test: a follow-up. *Perceptual and Motor Skills, 58*, 945-946.

Liu, Q. (2010). The National Education Examinations Authority and its English language tests. In L. Cheng & A. Curtis (Eds.*), English Language Assessment and the Chinese Learner* (pp.29-43). London: Routledge.

Lord, F. M. (1952), The relationship of the reliability of multiple-choice test to the distribution of item difficulty. *Psychometrika, 18*, 181-194.

Mandler, J. M. (1978). A code in the node: The use of story schemata in retrieval. *Discourse Processes, 1*,14-35.

Meyer, B. J. F. (1975). *The organization of prose and its effect on recall*. New York, NY: North Holland.

Millman, J., Bishop, C. H., & Ebel, R. (1965). An analysis of test-wiseness. *Educational and Psychological Measurement, 25*,707-726.

Moon, Y. S. & Luo, B.B. (2017). L1-L2 Reading Comprehension Transferability in Factual and Inferential Tasks. *Korean Journal of Applied Linguistics, 33*, 61-89.

Owen, D. (1985). *None of the above.* Boston, MA: Houghton Mifflin.

Pearson, P. D., & Johnson. (1978). *Teaching reading comprehension.* New York, NY: Holt, Rinehart & Winston.

People's Government of Guangdong Province. (2016). Implementation opinions of People's Government of Guangdong Province on Deepening the Reform of Examination and Enrollment System. Retrieved from http://zwgk.gd.gov.cn/006939748/201603/t20160304_646476.html

Perfetti, C. A., Landi, N., & Oakhill, J. (2005). The acquisition of reading comprehension skill. In M. J. Snowling & C. Hulme (Eds.), *The science of reading: A handbook* (pp. 227–247). Malden, MA: Blackwell.

Perkins, K., & Jones, B. (1985). Measuring passage contribution in ESL reading comprehension. *TESOL Quarterly, 19*, 137-153.

Powers, D. E. & Leung, S. W. (1995). Answering the new SAT reading comprehension questions without the passages. *Journal of Educational Measurement, 32*, 105-129.

Powers, D. E.& Wilson, S. T. (1993). Passage dependence of the new SAT reading comprehension questions. *ETS Research Report Series, 1993*, 1-18.

Preston, R. C. (1964). Ability of students to identify correct responses before reading. *Journal of*

Educational Research, 58, 181-183.

Puri, A., & Kaur, S. (2013). Effect of bottom-up approach of English language teaching on metacognitive reading awareness. *International Journal of Innovative Research and Development*, *2*, 337-345.

Pyrczak, F. (1972). Objective evaluation of the quality of multiple-choice test items designed to measure comprehension of reading passages. *Reading Research Quarterly, 8*, 62-71.

Pyrczak, F. (1974). Passage-dependence of items designed to measure the ability to identify the main ideas of paragraphs: Implications for validity. *Educational and Psychological Measurement, 34*, 343-348.

Pyrczak, F. (1975). Passage-Dependence of Reading Comprehension Questions: Examples. *Journal of Reading*, *18*,308-311.

Pyrczak, F. (1976). Context-independence of items designed to measure the ability to derive the meaning of words from their context. *Educational and Psychological Measurement, 36*, 919-924.

Rayner, K. & Pollatsek, A. (1989). *The psychology of reading.* Englewood Cliffs, NJ: Prentice Hall.

Ready, R.E., Chaudhry, M.F., Schatz, K.C., & Strazzullo, S. (2012). “Passageless” administration of the Nelson–Denny reading comprehension test: Associations with IQ and reading Skills. *Journal of Learning Disabilities, 46*, 377-384.

Reading Study Group. (2002). Reading for Understanding: Toward an R&D Program in Reading Comprehension. Retrieved from https://www.rand.org/content/dam/rand/pubs/monograph_reports/2005/MR1465.pdf

Reid, G. (2009). Reading Models and Methods. In *Dyslexia: A practitioner's handbook* (4th ed. pp. 107-126). Hoboken, NJ: John Wiley & Sons.

Roy-Charland, A., Colangelo, G., Foglia, V., & Reguigui, L. (2017). Passage independence within standardized reading comprehension tests. *Reading and Writing, 30*, 1431-1446.

Rumelhart, D. E. (1977). *Toward an Interactive of Reading in Attention and Performance.* Hillsdale, NJ: Lawrence Erlbaum.

Sanford, A. J., & Emmott, C. (2012). *Mind, brain and narrative.* Cambridge, UK: Cambridge University Press.

Scherich, H. S., & Hanna, G. S. (1977). Passage-dependency data in the selection of reading comprehension test items. *Educational and Psychological Measurement,* *37*,991-997.

Schlesinger, I. M., & Weiser, Z. (1970). A facet design for tests of reading comprehension. *Reading Research Quarterly, 5*, 566-580.

Singer, H. (1981). Instruction in reading acquisition. In O. Tzeng & H. Singer (Eds.), *Perception of print* (pp. 291-311). Hillsdale, NJ: Lawrence Erlbaum.

Smith, F. (1978). *Understanding reading: A psycholinguistic analysis of reading and learning to read.* New York, NY: Holt, Reinhart & Winston.

Sparfeldt, J. R., Kimmel, R., Löwenkamp, L., Steingräber, A., & Rost, D. H. (2012). Not read, but nevertheless solved? Three experiments on PIRLS multiple choice reading comprehension test items. *Educational Assessment, 17*, 214-232.

Stahl, S., & Nagy, W. (2006). *Teaching word meanings.* Mahwah, NJ: L. Erlbaum.

Stanovich, K. (2000). *Progress in understanding reading: Scientific foundations and new frontiers.* New York, NY: Guilford.

The Education Examinations Authority of Guangdong Province. (2016). Notice of publish of the official examination specification for the English Academic Test 2017. Retrieved from https://www.eeagd.edu.cn/portal/messages/1473406663674.html

Thorndike, R. L. (1917). Reading as reasoning: A study of mistakes in paragraph reading. *Journal of Educational Psychological Association, 8*, 323-332.

Thorndike, R. L. (1951). Reliability. In E.F Lindquist (ed.), *Educational Measurement* (pp. 560-620). New York, NY: American Council on Education.

Tian, S. (2006). Passage dependency of reading comprehension items in the GEPT and the TOEFL. *The Reading Matrix, 6*, 66-84.

Tuinman, J.J. (1973-1974). Determining the passage dependency of comprehension questions in 5 major tests. *Reading Research Quarterly, 9*, 206-223.

Weaver, W. W., & Bickley, A. C. (1967). Sources of information for responses to reading test items. In *Proceedings of the 75th Annual Convention of the American Psychological Association* (pp.293-294). Washington, DC: American Psychological Association.

Weir C. & Milanovic, M. (Eds.) (2003). *Continuity and innovation: Revising the Cambridge Proficiency in English Examination 1913-2002.* Cambridge, UK: Cambridge University Press.

Williams, T, L. (2009). A framework for nonfiction in the elementary grades. *Literacy Research and Instruction, 48*, 247-263.

Wixson, K. K. (2017). An Interactive View of Reading Comprehension: Implications for Assessment. *Language Speech and Hearing Services in Schools, 48*, 1-7.

Wixson, K. K., & Peters, C. W. (1984). Reading redefined: A Michigan Reading Association position paper. *The Michigan Reading Journal, 17*, 4-7.

Wolfe, M. B. W. (2005). Memory for narrative and expository text: Independent influences of semantic associations and text organization. *Journal of Experimental Psychology. Learning, Memory, and Cognition, 31*, 359-364.

Wolfe, M. B. & J. A. Mienko. (2007). Learning and memory of factual context from narrative and expository text. *British Journal of Educational Psychology*, 77, 541-564.

Woolley, G. (2011). *Reading comprehension: Assisting children with learning difficulties.* Netherlands: Springer.

Xia, Y. (2011). Efficient reading in standardized tests for EFL learners: a case study of reading strategies used by Chinese English major students in TEM-4 (Doctoral dissertation, Kristianstad University). Retrieved from http://www.divaportal.org/smash/get/diva2:429440/FULLTEXT01.pdf

Li, P.F. (2018).广西普通高中学生学业水平考试英语书面表达内容效度研究 [Study on content validity of English writing in English Academic Test of Guangxi Province]. *Education for Chinese After-school (Theory), 17*, 86-127.

Li, J., & Zhang, W. (2013). 2013 年辽宁省普通高中学生学业水平考试英语试卷分析 [Examining the 2013 English Academic Test paper of Liaoning Province]. *Teaching Research for Primary and Middle Schools, 10*, 55-57.

Lin, X. H. (2019). 广东春季高考录取 18.2 万人 [Guangdong Spring Gaokao Admitted 182,000 Students]. Retrieved from https://news.sina.com.cn/c/2019-03-26/doc-ihtxyzsm0464084.shtml

Liu, L. Q. (2018). 广东高职分类招生报名 23.17 万[231,7000 students in Guangdong signed up for higher vocational admission test]. Retrieved from http://edu.sina.com.cn/gaokao/2018- 11-23/doc-ihpevhck2462566.shtml

People’s Government of Guangdong Province. (2016). 广东省人民政府关于深化考试招生制度改革的实施意见 [Implementation opinions of People’s Government of Guangdong Province on Deepening the Reform of Examination and Enrollment System]. Retrieved from http://zwgk.gd.gov.cn/006939748/201603/t20160304_646476.html

Su, X.X. (2011). 高中学生英语阅读应试能力的提升策略[Strategies on test-taking skills in English reading for senior secondary school students]. *Read and Write Periodical, 8*, 103.

Tao, D. P. (2017). 广东高职招考今年为何“热得快”?[Why the higher vocational enrollment in Guangdong is growing in popularity this year?]. Retrieved from http://www.xinhuanet.com/local/2017-02/22/c_129490818.htm

The Education Examinations Authority of Guangdong Province. (2016). 2017 年广东省普通高中学业水平考试英语科考试大纲 [Notice of publish of the official examination specification for the English Academic Test 2017]. Retrieved from http://www.gdzsxx.com/gaokao/gkbk/yingyu/201609/79881.html

The State Council. (2014). 关于深化考试招生制度改革的实施意见 [Implementation opinions of the State Council on Deepening the Reform of Examination and Enrollment System]. Retrieved from http://old.moe.gov.cn//publicfiles/business/htmlfiles/moe/s5147/201409/174589.html

Yang, Y.G. (2017). 新课程下高中英语阅读理解的应试技巧 [Test taking skills in new senior English reading comprehension]. *Course Education Research, 16*, 133-134.

Zhang, W.D. (2014). 浅谈高中英语阅读理解的应试技巧 [Test-taking skills in English reading comprehension for senior secondary school students]. Education Teaching Forum, 35, 258-259.

Appendix A

Recruitment Script for Teachers

Dear Teachers,

This is a letter asking for your consent to support a master's study. My name is Lihong Liang. I am a master's student in the Faculty of Education at Queen's University and the School of Foreign Studies at South China Normal University. I am conducting a study to the extent to which the MC items in the RC component of English Academic Test is passage-dependent within different genres and item types. I am recruiting participants (Grade 11 students) for my study.

It would be appreciative if you could ask for your students' consent to participate in the study. Specifically:

1. Read the Recruitment Script to the students.
2. Distribute the Letter of Information and Consent Form to your students.
3. Collect the Letter of Information and Consent Form.

The Recruitment Script, as well as the Letter of Information and Consent Form, will be printed by me. They are attached with this email for you to read beforehand.

Please email or call me with your decision by 15th, September 2018. If you have any questions, I can be reached at 17ll19@queensu.ca or (+86) 15521170047.

Thank you so much!

Appendix B

Recruitment Script for Students

Dear Students,

This recruitment scrip is read to you to invite you to participate in my study. I am a master's student in the Faculty of Education at Queen's University and the School of Foreign Studies at South China Normal University. I am conducting a study investigating the extent to which the MC items in the RC component of English Academic Test are passage-dependent within different genres and item types. I am recruiting participants for my study. Your cooperation will help me complete my research.

Details about this study are on the Letter of Information and Consent Form. Please read it carefully and feel free to ask questions if you have any concerns. If you are eligible and willing to participate, please sign the Consent Form and hand it into your English teacher within two days.

Thank you so much!

Appendix C

Letter of Information and Consent Form

Dear Students,

I am a master's student in the Faculty of Education at Queen's University and the School of Foreign Studies at South China Normal University. I am conducting a study to determine the extent to which the MC items in the RC component of English Academic Test is passage-dependent within different genres and item types. I am recruiting participants for my study. Your cooperation will help me complete my research.

What is the inclusion criterion?

Grade11 students who have finished the learning of *New Senior English For China Student's Book 1 to Book 5*are eligible to participate in this study.

What are the study procedures?

The data collection procedure consists of a 75-minute reading comprehension test. The test has 2 sections. In section 1, 3 passages are presented with 15 accompanying MC items. In section 2, the passages are deleted and only 15 MC items are provided. The test will be held in the regular classrooms. The scores will not be used for any other purpose other than this study. The information you provide will be valuable to the researchers, educators, test designers and test takers of the English Academic Test.

Is participation voluntary?

Yes, your participation is completely voluntary. You are not required to answer any questions that make you feel uncomfortable. There are no known risks associated with this study. You should provide your name and student number in the answer sheet, but no names or any other identifying information will be used in the data or published. You are free to withdraw from the study at any time with no consequences. If you want to withdraw from the study after you have completed those tasks, you will have up to 2 weeks to withdraw by contacting me at 17ll19@queensu.ca.

What will happen to my response?

Once the tests are collected, they will be placed in a sealed envelope and will be secured in a locked cabinet. Only the researcher, Lihong Liang, her supervisor, Dr. Kristy Timmons and Dr. Manfei Xu will have access to the data. The data will not be released at any time to anyone including my colleagues, your classroom teachers or anyone else in the school. The data will be used for the research purpose only. For added security, I will anonymize data when I begin data analysis (your name and student number will be removed from the data).

The data will be kept securely for a minimum of five years and will continue to be kept for an indefinite period of time on an encrypted device. The results of the study will be reported in the thesis currently undertaken by the researcher. This research may result in publications of various types, including scholarly journals, conference presentations, reflection articles and other professional publications. Presentation of research findings will never include participant names or any other identifying information. If you wish to have a copy of the report, please indicate that on the attached consent form and include the e-mail address where you would like the report sent.

What if I have concerns?

Any questions about study participation or a request to withdraw from the study may be directed to Lihong Liang (17ll19@queensu.ca) or my supervisor, Dr. Kristy Timmons (kristy.timmons@queensu.ca). Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at 001 (613) 533-6081 or chair.GREB@queensu.ca.

If you agree to participate in the study, please sign one copy of this Letter of Information/Consent Form. Please return one copy to your English teacher and retain a second copy for your records. Thank you for your interest in the study.

I have read the statements above and have had any questions answered.

I freely consent to participate in this study.

Participant's Name: ________________________

Participant's Signature: _____________________

Date: __________________________

☐ I would like to have a copy of the report.   E-mail address: ________________

Appendix D

Reading Comprehension Test (Form A)

Section 1

Time—40 minutes

In this section, there are three passages which are followed by some test items or unfinished statements. For each of them, four choices marked A, B, C and D are given. You should decide on the best choice based on your understanding of the passage. Each set of items are ended with a question asking whether you have read the passage or practiced the test items. You should answer it according to your real situation. Please mark all of your answers on the answer sheet.

Read Passage One and finish Questions 1-6.

People love Shakespeare’s vocabulary and creativity. He used more than 15,000 words in his writing! But the Bible’s Old Testament (圣经旧约) only contains 5,642 words. Shakespeare also invented many new terms and phrases.

If someone’s behaviour suggested they were not honest and should not be trusted, Shakespeare called them suspicious. If someone was silly and perhaps looked like a fool, Shakespeare found their actions laughable. And for those who offered their opinions on something’s quality, Shakespeare called them critics (评论家). Today, for instance, food critics and film critics give their opinion on food and film.

The familiar phrase “break the ice” comes from Shakespeare’s play *The Taming of the Shrew*. The “ice is broken” when people in a group, who have never met before, begin to talk to each other by doing some activities. More common words were first used by Shakespeare including “road”, “gossip”, “lonely”, “bump” and “hurry”.

Four hundred years after his death, Shakespeare surely lives on, in everyday speech, as the most famous writer of all time!

1. Shakespeare's writings contain _____.

A. over 15,000 words B. less than 15,000 words

C. only 5,642 words D. less than 5,642 words

2. Which of the following word can replace the underlined word "suspicious" in Paragraph 2?

A. meaningful. B. doubtful.

C. thoughtful. D. powerful.

3. Whose actions are considered laughable from Paragraph 2?

A. Dishonest people's. B. Silly people's.

C. Food critics'. D. Film critics'.

4. According to Paragraph 3, the phrase "break the ice" comes from _____.

A. a poem B. a film

C. a novel D. a play

5. What may be the best title for the text?

A. Famous Words in Shakespeare's Plays B. Shakespeare's Influence on English

C. The Famous Writer-Shakespeare D. Shakespeare's Great Life

6. I_____.

A. have read the passage and practiced the items before, and I remember the keys now.

B. have read the passage and practiced the items before, but I cannot remember the keys now.

C. have read the passage before, but I have not practiced the items.

D. have neither read the passage nor practiced the items before.

Read Passage Two and finish Questions 7-12.

One morning a deer rushed into a courtyard where a little boy was playing. The deer hooked the boy's clothing with its antlers (角). This sacred the little boy so much that he let out a loud cry which brought his mother running out to see what was happening. She came out just in time and saw the deer running off towards the mountains with her little boy.

The mother was so afraid! She ran after the deer as fast as she could, and not too far away, she found her son sitting on the grass safely. Seeing his mother, the little boy laughed and reached out his arms to her. His mother held him tight. She was so happy that she cried.

She hurried back with her dear son. When she got home, she was amazed at what she saw. The huge tree behind her house had fallen down while she was out running after the deer. The whole house was destroyed under the tree's great weight.

Then the mother remembered the day about a year before when a deer, fleeing from a hunter, had run into her house. She felt sorry for the frightened deer, so she covered it with some clothes and let it return to the forest.

The deer seemed to understand that she had saved its life. When leaving, it kept bowing its head to her, as if it were thanking her for her kindness.

She never imagined that the deer could remember her help. It somehow knew the tree was going to fall and kill her and her son, so it came back to save them.

When the mother remembered all this, she said, “Saving the life of another is the same as saving the life of your own.”

7. What made the mother run out of the house?

A. The boy’s crying. B. The boy’s running.

C. The deer’s coming. D. The deer’s escaping.

8. The mother was frightened because _____.

A. her son was injured

B. a deer went into her house

C. the deer was taking her son to the mountains

D. her son was running to the mountains with the deer

9. What happened while the mother was running after the deer?

A. The deer hurt her son. B. The house disappeared.

C. The house was destroyed. D. The huge tree was cut down.

10. Why did the deer save their lives?

A. They were close friends. B. The mother once saved its life.

C. The deer once visited their house. D. The mother drove away the hunter.

11. What is the purpose of the passage?

A. To protect animals. B. To blame the hunter.

C. To praise the mother’s bravery. D. To encourage people to do good deeds.

12. I_____.

A. have read the passage and practiced the items before, and I remember the keys now.

B. have read the passage and practiced the items before, but I cannot remember the keys now.

C. have read the passage before, but I have not practiced the items.

D. have neither read the passage nor practiced the items before.

Read Passage Two and finish Questions 13-18.

Creativity is the process of taking an idea and applying it in real life. If we aren't creative, we can't think outside the box and question what we can do.

Asking questions is a good way of sparking creativity.

First, we can ask learners questions that have more than one possible answer. In science: "How many ways can you find to empty a glass of water without touching it?' In any subject: "What else would you like to know?" "How do you know that is true?" "Is there another way of doing this?"

Second, we can encourage learners to invent their own questions. We can do this for a topic that students are familiar with in their study. Firstly, discuss what makes a good question. Secondly, create questions by grouping questions into different types-open, closed, or one that challenges the imagination. Finally, put those questions in order according to their importance.

Our teachers encourage us to ask questions and not accept the standard answers without reasoning (推理). Our school has some activities annually to inspire creativity in every student.

Our teachers encourage us to be creative and think of solutions for real-world problems. On the whole, the freedom of being allowed to ourselves is what brings out the best in our creativity.

13. What does the underlined word “sparking” mean in the second paragraph?

A. questioning. B. knowing.

C. causing. D. learning.

14. The third paragraph is developed by _____.

A. telling facts B. showing evidence

C. expressing an opinion D. giving some examples

15. How many ways does the author mention in inventing questions?

A. Two. B. Three.

C. Four. D. Five.

16. According to the last paragraph, the teachers encourage their students to _____.

A. have some activities with their parents

B. take more opportunities to think carefully

C. think of solutions to problem in the real world

D. accept standard answers provided by their teachers

17. What is the best title of the passage?

A. Definition of Creativity. B. Problems on Students’ Creativity.

C. The Meaning of Creativity to Students. D. Ways of Developing Students’ Creativity.

18. I_____.

A. have read the passage and practiced the items before, and I remember the keys now.

B. have read the passage and practiced the items before, but I cannot remember the keys now.

C. have read the passage before, but I have not practiced the items.

D. have neither read the passage nor practiced the items before.

Section 2

Time—35 minutes

In this section, there are three sets of test items or unfinished statements which are based on three passages. However, the passages are **not** provided. For each item, four choices marked A, B, C and D are given. You can use any strategy that you need to decide on the best choice. Each set of items are ended with a question asking whether you have read the passage or practiced the test items. You should answer it according to your real situation. Please mark all of your answers on the answer sheet.

Passage One is omitted. Please finish Questions 1-6.

1. What can we learn about the Icelanders from Paragraph 1?

A. They like friendly foreigners.

B. They take pride in their own country.

C. They are satisfied with their large population.

D. They are proud of their original country, Denmark.

2. What do most Icelanders live on?

A. Farming. B. Sheep and Cattle.

C. Cultivated grassland. D. Plants near the mountain.

3. What can we learn from the last two paragraphs?

A. Iceland is cold and damp.

B. The houses are built of wood nowadays.

C. The Icelanders like to live in the center of their houses.

D. Different kinds of animals can be seen on the mountains.

4. It can be inferred from the passage that the best time in Iceland is _____.

A. winter and spring B. summer and autumn

C. autumn and winter D. spring and summer

5. What is the passage mainly about?

A. The history of Iceland. B. The rich life in Iceland.

C. The development of Iceland. D. The special way of life in Iceland.

6. I _____.

A. have practiced the items before, and now I remember the keys as well as the passage.

B. have practiced the items before, and now I remember the keys but not the passage.

C. have practiced the items before, but now I cannot remember the key or the passage.

D. have not practiced the items before.

Passage Two is omitted. Please finish Questions 7-12.

7. How can a person get smile cards?

A. From stores. B. By receiving help.

C. From friends. D. By offering help.

8. The author went to a pet store to ______.

A. buy dog food B. buy a dog

C. sell cards D. play cards

9. Why did the author think that he could help the man?

A. He worked there. B. He saw the man’s dog.

C. The man was one of his friends. D. He was quite familiar with the collars and dogs.

10. The grandma could not lift her granddaughter well after ______.

A. hard work B. much talk

C. an operation D. a long walk.

11. Where did the author use the third smile card?

A. In a pet store. B. In a supermarket.

C. In a restaurant. D. In a hospital.

12. I _____.

A. have practiced the items before, and now I remember the keys as well as the passage.

B. have practiced the items before, and now I remember the keys but not the passage.

C. have practiced the items before, but now I cannot remember the key or the passage.

D. have not practiced the items before.

Passage Three is omitted. Please finish Questions 8-13.

13. The young woman suffered from _____.

A. her friend's advice B. the old man's advice

C. what she had said D. what her friend had said

14. According to Paragraph 2, the old man _____.

A. could remove her pain B. knew a lot about her character

C. refused to teach her D. decided to help her learn something

15. When did the woman come back to the old man?

A. At sunrise. B. At midnight.

C. In the evening. D. In the afternoon.

16. After the woman came back to him, the old man advised her to _____.

A. put the feather back to the pillows B. make some new pillows

C. take away the feathers D. find more feathers

17. What can we learn from the story?

A. Taking one's advice before doing. B. Thinking carefully before speaking.

C. Asking for advice when you get hurt. D. Talking to people when you have troubles.

18. I ______.

A. have practiced the items before, and now I remember the keys as well as the passage.

B. have practiced the items before, and now I remember the keys but not the passage.

C. have practiced the items before, but now I cannot remember the key or the passage.

D. have not practiced the items before.

Appendix E

Reading Comprehension Test (From B)

Section 1

Time—40 minutes

In this section, there are three passages which are followed by some test items or unfinished statements. For each of them, four choices marked A, B, C and D are given. You should decide on the best choice based on your understanding of the passage. Each set of items are ended with a question asking whether you have read the passage or practiced the test items. You should answer it according to your real situation. Please mark all of your answers on the answer sheet.

Read Passage One and finish Questions 1-6.

People who live in Iceland are proud of their country and their origin. Complete independence from Denmark after World War II resulted in the country's fast development. They refuse to permit immigration (移民) though the country has a small population. Their attitude to foreigners is friendly but reserved (保守).

The Icelanders regard themselves as one big family. Most of them earn their living by farming and people's hopes are centered on the land and its soil. Typical for rural Iceland are the isolated valley farms against mountains. Cultivated grassland stretches out from the buildings.

They mainly raise sheep and cattle. In spring, flocks of sheep are driven to mountain grassland and allowed to wander freely over the summer. When autumn puts its first mark on the mountains, the sheep are rounded up and driven down.

As in all countries where winter and darkness take up most of the year, the center of life is the home. The houses of Iceland were once built of wood. But now cement (水泥)is used in towns and stones in the countryside. During the long winters the Icelanders rarely go out of the house. When they must go out, they put raincoats over their heavy woolen overcoats and furs to keep out the damp.

1. What can we learn about the Icelanders from Paragraph 1?

A. They like friendly foreigners.

B. They take pride in their own country.

C. They are satisfied with their large population.

D. They are proud of their original country, Denmark.

2. What do most Icelanders live on?

A. Farming. B. Sheep and Cattle.

C. Cultivated grassland. D. Plants near the mountain.

3. What can we learn from the last two paragraphs?

A. Iceland is cold and damp.

B. The houses are built of wood nowadays.

C. The Icelanders like to live in the center of their houses.

D. Different kinds of animals can be seen on the mountains.

4. It can be inferred from the passage that the best time in Iceland is _____.

A. winter and spring B. summer and autumn

C. autumn and winter D. spring and summer

5. What is the passage mainly about?

A. The history of Iceland. B. The rich life in Iceland.

C. The development of Iceland. D. The special way of life in Iceland.

6. I_____.

A. have read the passage and practiced the items before, and I remember the keys now.

B. have read the passage and practiced the items before, but I cannot remember the keys now.

C. have read the passage before, but I have not practiced the items.

D. have neither read the passage nor practiced the items before.

Read Passage Two and finish Questions 7-12.

In my town, people like to give smile cards to those who have received help. And the receivers continue to help others. With those cards, people enjoy helping and being helped.

I got some smile cards and used three of them just yesterday!

I used the first smile cards when I was getting my dogs some food in a pet store. A man walked up to look at collars (项圈), looking puzzled. He asked me if I knew anything about dogs and collars, which actually I was quite familiar with. I helped him choose one. I hoped it would work for his dog. When he said thanks, I handed him a smile card. He smiled and said he would help someone as soon as possible.

That was amazing! Then in a supermarket, when I was paying the bill, a grandma was trying to get her granddaughter out of a basket. I offered to help her, and she said: “Yes, please.” Later she told me that she had just had an operation and couldn’t lift things very well. After getting the baby girl out, I handed her my second smile card.

Then I paid for someone’s food in a small restaurant and left behind smile cards.

I felt very happy yesterday. It was great to help others and leave behind smile cards. I believe that more and more people will get happiness from receiving and giving smile cards.

7. How can a person get smile cards?

A. From stores. B. By receiving help.

C. From friends. D. By offering help.

8. The author went to a pet store to _____.

A. buy dog food B. buy a dog

C. sell cards D. play cards

9. Why did the author think that he could help the man?

A. He worked there. B. He saw the man's dog.

C. The man was one of his friends. D. He was quite familiar with the collars and dogs.

10. The grandma could not lift her granddaughter well after _____.

A. hard work B. much talk

C. an operation D. a long walk.

11. Where did the author use the third smile card?

A. In a pet store. B. In a supermarket.

C. In a restaurant. D. In a hospital.

12. I_____.

A. have read the passage and practiced the items before, and I remember the keys now.

B. have read the passage and practiced the items before, but I cannot remember the keys now.

C. have read the passage before, but I have not practiced the items.

D. have neither read the passage nor practiced the items before.

Read Passage Two and finish Questions 13-18.

A young woman one day said something that hurt her best friend of many years. She regretted it intermediately and would like to do anything to take the words back. What she had said hurt her friend so much that the woman herself also felt very painful. To make up what she had done, she went to an old wise man in the village and asked for advice.

The old man understood the young woman's suffering. He knew he must help her. He knew he could never remove her pain, but he could teach. And he also knew the result would depend only on her character.

"Tonight, take your best feather pillows and put a single feather on the doorstep of each house in the village before the sun rises," he said.

The young woman hurried home to prepare for it, even though the feather pillow were very dear to her. All night long, she made her efforts alone in the cold. Finally, it got light and she places the last feather on the step of the last house. Just as the sun rose, she returned to the old man.

"Now," said the man, "go back and refill your pillows with the feathers you have put on the steps. Then everything will be as it was before. "

"You know that's impossible! The wind blew away each feather as fast as I placed them on the doorsteps!" The young woman was surprised.

“That’s true,” said the old man. “Each of your words is like a feather in the wind. Once your words are spoken, no matter how much effort you make and how sincere you are, you can never return them to your mouth. Choose your words well and protect people you love from being hurt.”

13. The young woman suffered from ______.

A. her friend’s advice B. the old man’s advice

C. what she had said D. what her friend had said

14. According to Paragraph 2, the old man ______.

A. could remove her pain B. knew a lot about her character

C. refused to teach her D. decided to help her learn something

15. When did the woman come back to the old man?

A. At sunrise. B. At midnight.

C. In the evening. D. In the afternoon.

16. After the woman came back to him, the old man advised her to ______.

A. put the feather back to the pillows B. make some new pillows

C. take away the feathers D. find more feathers

17. What can we learn from the story?

A. Taking one’s advice before doing. B. Thinking carefully before speaking.

C. Asking for advice when you get hurt. D. Talking to people when you have troubles.

18. I_____.

A. have read the passage and practiced the items before, and I remember the keys now.

B. have read the passage and practiced the items before, but I cannot remember the keys now.

C. have read the passage before, but I have not practiced the items.

D. have neither read the passage nor practiced the items before.

Section 2

Time—35 minutes

In this section, there are three sets of test items or unfinished statements which are based on three passages. However, the passages are **not** provided. For each item, four choices marked A, B, C and D are given. You should decide on the best choice **without** the help of passages. Feel free to use any strategy. Each set of items are ended with a question asking whether you have read the passage or practiced the test items. You should answer it according to your real situation. Please mark all of your answers on the answer sheet.

Passage One is omitted. Please finish Questions 1-6.

1. Shakespeare's writings contain ______.

A. over 15,000 words B. less than 15,000 words

C. only 5,642 words D. less than 5,642 words

2. Which of the following word can replace the underlined word "suspicious" in Paragraph 2?

A. meaningful. B. doubtful.

C. thoughtful. D. powerful.

3. Whose actions are considered laughable from Paragraph 2?

A. Dishonest people's. B. Silly people's.

C. Food critics'. D. Film critics'.

4. According to Paragraph 3, the phrase “break the ice” comes from _____.

A. a poem B. a film

C. a novel D. a play

5. What may be the best title for the text?

A. Famous Words in Shakespeare’s Plays B. Shakespeare’s Influence on English

C. The Famous Writer-Shakespeare D. Shakespeare’s Great Life

6. I _____.

A. have practiced the items before, and now I remember the keys as well as the passage.

B. have practiced the items before, and now I remember the keys but not the passage.

C. have practiced the items before, but now I cannot remember the key or the passage.

D. have not practiced the items before.

Passage Two is omitted. Please finish Questions 7-12.

7. What made the mother run out of the house?

A. The boy’s crying. B. The boy’s running.

C. The deer’s coming. D. The deer’s escaping.

8. The mother was frightened because _____.

A. her son was injured

B. a deer went into her house

C. the deer was taking her son to the mountains

D. her son was running to the mountains with the deer

9. What happened while the mother was running after the deer?

A. The deer hurt her son. B. The house disappeared.

C. The house was destroyed. D. The huge tree was cut down.

10. Why did the deer save their lives?

A. They were close friends. B. The mother once saved its life.

C. The deer once visited their house. D. The mother drove away the hunter.

11. What is the purpose of the passage?

A. To protect animals. B. To blame the hunter.

C. To praise the mother's bravery. D. To encourage people to do good deeds.

12. I _____.

A. have practiced the items before, and now I remember the keys as well as the passage.

B. have practiced the items before, and now I remember the keys but not the passage.

C. have practiced the items before, but now I cannot remember the key or the passage.

D. have not practiced the items before.

Passage Three is omitted. Please finish Questions 8-13.

13. What does the underlined word "sparking" mean in the second paragraph?

A. questioning. B. knowing.

C. causing. D. learning.

14. The third paragraph is developed by _____.

A. telling facts B. showing evidence

C. expressing an opinion D. giving some examples

15. How many ways does the author mention in inventing questions?

A. Two. B. Three.

C. Four. D. Five.

16. According to the last paragraph, the teachers encourage their students to _____.

A. have some activities with their parents

B. take more opportunities to think carefully

C. think of solutions to problem in the real world

D. accept standard answers provided by their teachers

17. What is the best title of the passage?

A. Definition of Creativity. B. Problems on Students' Creativity.

C. The Meaning of Creativity to Students. D. Ways of Developing Students' Creativity.

18. I _____.

A. have practiced the items before, and now I remember the keys as well as the passage.

B. have practiced the items before, and now I remember the keys but not the passage.

C. have practiced the items before, but now I cannot remember the key or the passage.

D. have not practiced the items before.

Appendix F

Answer Completion Sheet

Name: Student Number:

Please use a pencil to mark your answer. You can only mark one answer for each item.

Section 1	Section 2
1. [A] [B] [C] [D]	1. [A] [B] [C] [D]
2. [A] [B] [C] [D]	2. [A] [B] [C] [D]
3. [A] [B] [C] [D]	3. [A] [B] [C] [D]
4. [A] [B] [C] [D]	4. [A] [B] [C] [D]
5. [A] [B] [C] [D]	5. [A] [B] [C] [D]
6. [A] [B] [C] [D]	6. [A] [B] [C] [D]
7. [A] [B] [C] [D]	7. [A] [B] [C] [D]
8. [A] [B] [C] [D]	8. [A] [B] [C] [D]
9. [A] [B] [C] [D]	9. [A] [B] [C] [D]
10. [A] [B] [C] [D]	10. [A] [B] [C] [D]
11. [A] [B] [C] [D]	11. [A] [B] [C] [D]
12. [A] [B] [C] [D]	12. [A] [B] [C] [D]
13. [A] [B] [C] [D]	13. [A] [B] [C] [D]
14. [A] [B] [C] [D]	14. [A] [B] [C] [D]
15. [A] [B] [C] [D]	15. [A] [B] [C] [D]
16. [A] [B] [C] [D]	16. [A] [B] [C] [D]
17. [A] [B] [C] [D]	17. [A] [B] [C] [D]
18. [A] [B] [C] [D]	18. [A] [B] [C] [D]

Appendix G

Distribution of Item Types

Item Type	Total	Number	Item Content
Factual Item	17		1. Shakespeare's writings contain _____. 2. Whose actions are considered laughable from Paragraph 2? 3. According to Paragraph 3, the phrase "break the ice" comes from _____. 4. What made the mother run out of the house? 5. The mother was frightened because _____. 6. What happened while the mother was running after the deer? 7. Why did the deer save their lives? 8. According to the last paragraph, the teachers encourage their students to _____. 9. What do most Icelanders live on? 10. How can a person get smile cards? 11. The author went to a pet store to _____. 12. Why did the author think that he could help the man? 13. The grandma could not lift her granddaughter well after_____. 14. Where did the author use the third smile card? 15. The young woman suffered from_____. 16. When did the woman come back to the old man? 17. After the woman came back to him, the old man advised her to_____.

Item Type	Total	Number	Item Content
Inferential Item		13	1. Which of the following word can replace the underlined word “suspicious” in Paragraph 2? 2. What may be the best title for the text? 3. What is the purpose of the passage? 4. What does the underlined word “sparking” mean in the second paragraph? 5. The third paragraph is developed by _____. 6. How many ways does the author mention in inventing questions? 7. What is the best title of the passage? 8. What can we learn about the Icelanders from Paragraph 1? 9. What can we learn from the last two paragraph? 10. It can be inferred from the passage that the best time in Iceland is _____. 11. What is the passage mainly about? 12. According to Paragraph 2, the old man _____. 13. What can we learn from the story?

Appendix H

General Research Ethics Board Approvals

September 10, 2018

Miss Lihong Liang
Master's Student
Faculty of Education
Queen's University
Duncan McArthur Hall
511 Union Street West
Kingston, ON, K7M 5R7

GREB Ref #: GEDUC-914-18; TRAQ # 6024481
Title: "GEDUC-914-18 The passage dependence of multiple-choice test items in reading comprehension component of National Matriculation English Test"

Dear Miss Liang:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled **"GEDUC-914-18 The passage dependence of multiple-choice test items in reading comprehension component of National Matriculation English Test"** for ethical compliance with the Tri-Council Guidelines (TCPS 2 (2014)) and Queen's ethics policies. In accordance with the Tri-Council Guidelines (Article 6.14) and Standard Operating Procedures (405.001), your project has been cleared for one year. You are reminded of your obligation to submit an annual renewal form prior to the annual renewal due date (access this form at http://www.queensu.ca/traq/signon.html/; click on "Events;" under "Create New Event" click on "General Research Ethics Board Annual Renewal/Closure Form for Cleared Studies"). Please note that when your research project is completed, you need to submit an Annual Renewal/Closure Form in Romeo/traq indicating that the project is 'completed' so that the file can be closed. This should be submitted at the time of completion; there is no need to wait until the annual renewal due date.

You are reminded of your obligation to advise the GREB of any adverse event(s) that occur during this one-year period (access this form at http://www.queensu.ca/traq/signon.html/; click on "Events;" under "Create New Event" click on "General Research Ethics Board Adverse Event Form"). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be cleared by the GREB. For example, you must report changes to the level of risk, applicant characteristics, and implementation of new procedures. To submit an amendment form, access the application by at http://www.queensu.ca/traq/signon.html; click on "Events;" under "Create New Event" click on "General Research Ethics Board Request for the Amendment of Approved Studies." Once submitted, these changes will automatically be sent to the Ethics Coordinator, Ms. Gail Irving, at University Research Services for further review and clearance by the GREB or Chair, GREB.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Sincerely,

Dean Tripp, Ph.D.
Chair
General Research Ethics Board

c: Dr. Kristy Timmons, Supervisor
Dr. Benjamin Bolden, Chair, Unit REB
Mrs. Erin Rennie, Dept. Admin.