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An Exploration of the Relationships Between Different Reading Strategies and IELTS Test Performance:

IELTS Test Taking Strategies - Chinese Students

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ABSTRACT

This study explores which types of IELTS Academic Reading strategies are used, and the impact of these strategies on test outcomes. The study was a quantitative research, using descriptive-correlational design based on data collected from students at Sino-US University in China. Descriptive and inferential statistics were used to analyze the data. The method used in this study was a partial replication the work of a previous researcher's exploration of the reading processes learners engage in when taking IELTS Reading tests. Participants first finished an IELTS reading test, and then completed a written retrospective protocol. The analysis reveals that there is a moderately positive relationship between the choice of text preview strategy (from 1 to 5) and the outcome. A pattern was identified that using expeditious reading strategies to initially locate information, and more careful reading strategies to identify answers to the question tasks was common among high-scoring participants.

KEYWORDS

China Education, English Learning, ESL, IELTS Reading Test, Learning Styles, Reading Pattern, Reading Strategies

INTRODUCTION

Statement of the Problem

International English Language Testing System (IELTS) is the most widely used test of English for migration to Australia, Canada, New Zealand, and the UK. There is a considerable body of research on the validity of language tests in general, and on reading tests in particular, but for the most part, there is consensus on the relative effectiveness of the IELTS system (Williams, Ari, & Santamaria, 2011). It has gained recognition from over "10,000 universities, schools, employers and immigration bodies, including all universities in Australia and the UK and many of the leading institutions in the USA" (British Council, 2017a).

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According to the official IELTS data in 2016, test-takers took more than three million IELTS exams, which indicates the growing importance of the international English certification for graduate education and migration (British Council, 2017a). More importantly, it was estimated that there were 600,000 IELTS takers in China alone in 2017, most of whom were college students who wanted to go abroad for further education.

To get acceptance to a graduate program at a high ranking university, usually in the US or UK, Chinese undergraduates are expected to demonstrate a certain level of English skill reflected by their IELTS band scores, usually an overall score of 6.5 or higher with no sub-score (Speaking, Listening, Reading and Writing) below 6.0. However, this requirement is not easy for many Chinese test-takers. There are several strategies used to prepare for and take the IELTS exam, Lin (2019), but despite extensive preparation, IELTS test scores are frequently unsatisfactory (Yu, 2014). Readers must, according to Katalayi and Sivasubramaniam (2013):

Deploy strategies that reflect the fact that they have been actually actively working to understand the text, to understand the expectations of the questions, to understand the meaning and implications of the different item options in light of the text, and to select and discard options based on the way they understand the text. (p. 883)

Time limitations are also often a concern for Reading Test takers (Sireci, 2004). For example, in the reading test, one of the major concerns is the time limit because they only have 1 hour to process around 3000 words and answer 40 questions. To overcome it, students may employ reading strategies to increase their reading speed and potentially their test scores (Everett & Colman, 2003; Mickan & Motteram, 2009). Therefore, finding the optimal strategy to obtain the highest possible score within the allocated time is of importance to IELTS test-takers, their parents, and educational institutions in China. This paper seeks to explore which strategies are useful and which are not.

Definition of Terms

- **IELTS:** International English Language Testing System (IELTS) is the most widely used test of English for study, work, and migration to Australia, Canada, New Zealand, and the UK;
- **Careful reading:** Weir et al.'s (2009) define Careful reading as being characterized by identifying lexis of understanding syntax, seeking an accurate comprehension of the explicit meaning and making propositional inferences;
- **Expeditious reading:** Urquhart and Weir (1998) use the term "expeditious reading" to describe "how readers process texts quickly and selectively, i.e., expeditiously, to extract important information in line with intended purposes";
- **Descriptive Correlational Design:** According to Lappe (2000): this method aims "to describe the relationship among variables rather than to infer cause and effect relationships" (p. 81) and is "useful for describing how one phenomenon is related to another in situations where the researcher has no control over the independent variables, the variables that are believed to cause or influence the dependent or outcome variable" (p. 81).

Significance of the Problem

According to the statistics showed on the IELTS official website, though there were about 600,000 IELTS takers in China in 2017, only 30% met the requirement of the British Council (2017b), and the registration fee for one examination was ￥2020 (approximately USD300), in 2017 and is expected to keep increasing in the future.

There is a consensus regarding the link between English language proficiency, as measured by the IELTS test, and academic performance (Feast, 2002; Green, 2005). Nation (2008) explains that

"Thai script is not related to English script, so the Thai learner will have to spend time learning letter shapes" (p. 6), whereas an Italian learner will not. However, the former may already "have many reading strategies like guessing from context, scanning, skimming, and careful decoding which could be carried over to the reading of English if the conditions for reading were suitable" (p. 6). Salmani-Nodoushan (2007) proposes that "factors other than proficiency appear to be sources of systematic variance in test scores" (p. 105). Hellekjær (2009) suggests that low reading ability of test-takers in Norway "is better than the levels that are found in most other non-English-speaking countries" (p. 213).

According to Yen and Kuzma (2009), there exists criticism of high stakes testing such as the IELTS system both due to perceived lack of English comprehension by students with relatively high IELTS scores and due to some liabilities. The use of high stakes testing is increasing despite a lack of research confirming a link between testing and reading skills. Tests have limitations with regards to accuracy in describing or measuring students' actual reading achievement; tests may be detrimental to the motivation and confidence of students; tests may result in educators limiting reading curriculum design; testing may alienate teachers; test preparation may be in conflict with or disrupt teaching and learning best practices; and tests require significant allocation of time and money that could be otherwise used to increase reading and learning outcomes (Afflerbach, 2005).

The importance of IELTS test scores to test-takers in China is well documented not only as a requirement for admission to graduate school in the US, UK, and Australia, (Jin & Cortazzi, 2002) but also as a determinant of candidates' aspirations and personal goals (Mickan & Motteram, 2009). Others have concluded that beyond problems with testing as a measurement of learning, the demand for preparatory education and training in China will continue to grow (Jin & Cortazzi, 2002), there are issues with the underlying teaching and learning methods in general (Yen & Kuzma, 2009), and specifically in China (Badger & Xiaobiao, 2012; Yu, 2014).

Review of Related Literature

Reading strategies, according to Zare (2013), "can help the learner improve reading skills and reading comprehension performance significantly" (p. 1570), and there is a "significant correlation between reading strategy use and reading comprehension scores" (p. 1570). Accepted mainly by students, teachers, and language test-takers, careful reading, which is slow, focused, and incremental, is the traditional way to get understanding of readings. In contrast, Weir (1984) conducted a survey indicating that L2 (second language) readers have problems in expeditious reading, which represents quick, selective and efficient reading, and time pressure mainly causes that. That is to say; students need to master careful reading for comprehension when they have plenty of time, but also expeditious reading. Such a skill enables them to process large amounts of text quickly and efficiently to select relevant information when time is limited (Urquhart & Weir, 1998). Hellekjær (2009) states that students "need to be able to adjust how one reads to the reading purpose" (p. 212). Liu (2010) refers to scanning as "reading selectively to achieve very specific reading goals" (p. 155), such as finding the answer to an exam question, but that careful reading is "favored by many educationists and psychologists to the exclusion of all other types" (p. 155). Hessamy and Dehghan Suldaragh (2013) stress that "although expeditious and careful reading skills have the same basis" (p. 232), "they are also different which results in differential performance of the subjects in a test of the two macro-skills" (p. 232). While the four dominant macro-skills in language acquisition are mutually dependent, reading presents unique challenges to learners (Bozorgian, 2012).

Furthermore, as Weir (1984) and Weir et al. (2009) suggested, merely knowing how to read carefully is not enough for academic study. In terms of IELTS reading tests, the findings of Weir et al.'s (2009) article pointed out that in IELTS academic reading, exam takers initially employed search reading, followed by more careful reading in response to specific test items. However, for IELTS Academic Reading test-takers, the time limitation is a significant difficulty because they only have 1 hour to process around 3000 words and answer 40 questions. Nation (2009) states that "Many non-native speakers…read at speeds which are well below 300 wpm" (p. 133), and that reading too slowly

can negatively affect comprehension. To overcome the challenges associated with the time limitation students may employ various reading strategies to increase their reading speed and potentially their test scores (Everett & Colman, 2003; Mickan & Motteram, 2009). Hellekjær (2008) notes that poorly-performing students "students do not learn to adjust how they read to reading purpose, and where they do not learn how to handle unfamiliar words to avoid disrupting the reading process" (p. 1). Khodabandehlou, Jandahar, Seyedi, and Abadi (2012) also believe that if students frequently stop to check a dictionary in preparation for an exam, that wastes time. Krishnan (2011) adds that "the focus of IELTS reading tests is more on careful reading" (p. 33), but that "undergraduates see expeditious reading skills as being more relevant and appropriate to their academic reading tasks at the university" (p. 33).

In addition, relevant literature widely mentions reading strategies for test completion (Bachman & Palmer, 1996; British Council, 2017b; Fahim, Bagherkazemi, & Alemi, 2010; Kasemsap & Lee, 2015; Urquhart & Weir, 1998), but almost none of them dealt with the methods used in L2 reading. There is evidence that stronger students were better able to locate and focus on smaller pieces of text while less successful students were less able to locate the answer within a body of text (Bax, 2013).

Lin (2019) finds that gender plays a role in the use of reading strategies with females being more likely to engage the use strategies for reading, and goes on to report that use to strategies is determined by more than one factor.

Conversely, Alharbi (2015) contends that "a majority of readers should be free to apply the reading mode they prefer" (p. 1265). In a study on Taiwanese undergraduates, Tsai (2012) states that "no correlation was found between learning styles and reading performance" (p. 195). Regarding Iranian test-takers, Ahmadi, Poulaki, and Farahani (2016) report "no great difference between the high scoring and low scoring readers in the use of cognitive strategies in terms of frequency" (p. 415), but add that "high scoring readers made use of cognitive strategies such as translation and skipping more frequently and in different ways while doing the reading module of the IELTS test" (p. 415).

According to the studies mentioned above, test-takers apply many strategies in academic reading exams such as IELTS. However, there is a gap in the research regarding test-taking strategies in reading tests taken by non-native, in this case, Chinese, L2 readers. Therefore, to investigate this gap, this study mainly focuses on Chinese college students' reading strategies for IELTS examinations and the impact of the strategies on the outcomes.

Statement of Hypotheses

The study was conducted to find out what reading strategies are employed by students at a Sino-US University in China and explore the relationship between those strategies and IELTS test outcomes. Generally speaking, there are two ways of reading. One is careful reading, and the other is expeditious reading. Careful reading is slow and focused, which is mainly accepted by students, teachers and language testers. However, Hawkey (2006) indicates that careful reading alone is an inadequate construct for university students. Also, careful reading models have little to tell us about how skilled readers can cope with other reading behaviors such as skimming for gist (Rayner & Pollatsek, 1989).

In contrast, expeditious reading is quick and selective, and the linearity of the text is not necessarily followed (Urquhart & Weir, 1998). The reader is sampling the text, which can be words, topic sentences, or essential paragraphs, to extract information on a predetermined topic. Therefore, with the time limitation, it seems that expeditious reading could be beneficial because it would require less effort to be spent on understanding the context and then, importantly, saves time. Hypothesis 1 will test the influence of expeditious preview reading on test scores.

Furthermore, there are several different types of questions in one IELTS reading test. Research of IELTS reading examinations has shown that "The key to success is being the appropriate selection of reading strategy for a particular question type" (Chalmers & Walkinshaw, 2014). Therefore, to

explore deeper in this area, this study attempts to analyze whether test-takers' are best served to focus on one single strategy or multiple strategies according to different types of questions, which then became Hypothesis 2.

Hypothesis 1: Using expeditious preview reading strategies has a positive influence on test scores.
Hypothesis 2: Using an appropriate interdependent reading strategy could increase the test scores.

METHODOLOGY

Description of Research Design

Quantitative data were collected to investigate the research questions. This data consisted of IELTS Reading test results as well as self-reported behaviors indicated by a retrospective protocol. This paper's authors chose descriptive-correlation research to serve the purpose of this paper, which was to establish a relationship between usage of reading strategies and test outcomes. This paper's authors chose a cross-sectional study design because they only had one contact with one study population at a time.

Sources of Data

Participants were selected randomly from all business-related majors, allowing for inferential statistical analysis, at a Sino-US University in China during the 2018-2019 academic school year. The total number of students on the campus is the population for the study. Because the test is time-consuming, the sample size was limited to 30~50.

Sampling Procedure

Typically, a complete IELTS Reading examination includes three reading passages with 40 questions within 60-minutes (Jakeman & McDowell, 2008). However, because of the time limitation and inconvenience of this study, participants were required to finish one reading passage randomly, allowing for inferential statistical analysis, and the testing time was reduced to 20 minutes correspondingly. Participants were allowed to answer the questions in any order, and after finishing the test, they were required to complete the retrospective protocol questionnaire.

Methods and Instruments of Data Gathering

The Academic Reading Practice Test from an actual IELTS exam (code: IELSA-ME-L020) was selected because participants had not been exposed to it at any point during their study. To investigate the strategies employed, a bi-sectional retrospective protocol (Appendix A) adapted from Weir et al. (2000) was completed by participants.

In the first section, participants were provided a list of preview strategies and indicated which they had used before engaging with the test questions. The second section indicated in-test reading strategies that participants used while responding to the test questions. Participants were given a list of strategies and asked to indicate which they had employed. This study's authors included questions about the participants' background and previous experience of IELTS in the survey: Age, Gender, Date of the most recent IELTS test, and Reading score).

Statistical Treatment

This study collected descriptive statistics for preview reading and reading strategy by Test Section and inferential statistics to test the research questions. Also, mean, standard deviation, and ranking were used to indicate the influence imposed by strategies on IELTS test outcomes.

ANALYSIS OF DATA

Participant's Profile

This study's authors anticipated that they would need to discard some data due to incomplete or indecipherable responses. Therefore, they took a sample of 51 students, the higher end of the desired sample size. However, all 51 of the sample participants provided usable responses; therefore, no data was discarded, and the sample remained at 51 students.

Students' Distribution by Gender

Of the 51 Participants in the study, 33 or 64.7% were females, while 18 or 35.3% were males.

Students' Distribution by Year Level

Of the 51 respondents in the study, 1 or 1.9% were sophomores, 29 or 56.9% were juniors, and 21 or 41.2% were seniors. There were no freshmen participants in this study.

Participants and Score Distributions

Figure 1 below shows the distribution of scores on each Reading Passage. Table 1 shows the statistical terms of different Reading Passages. Mean scores ranged from 8.82 on Reading Passage 3 to 11.35 on Reading Passage 1. Also, Reading Passage 1 has the lowest standard deviation, which means the result is more centralized; however, Reading Passage 3 has the highest standard deviation representing the dispersed reading ability of participants.

Figure 1. Distribution of scores by reading passage

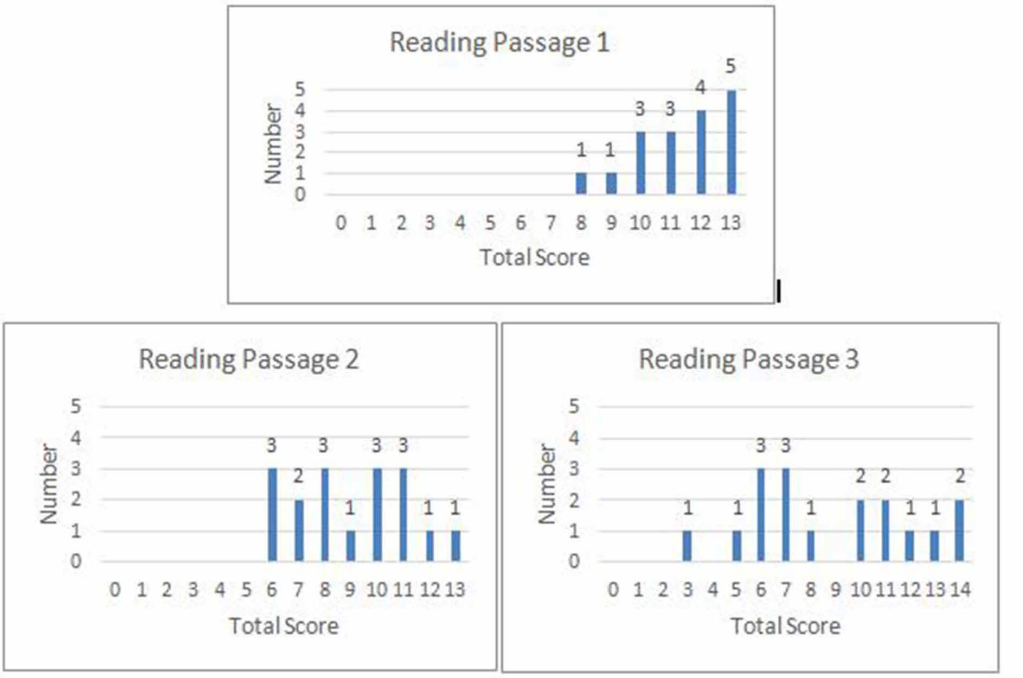

Table 1. Statistical terms of Reading Passages

	Mean	N	Standard Deviation
Reading Passage 1	11.35	17	1.54
Reading Passage 2	9	17	2.21
Reading Passage 3	8.82	17	3.32

Text Preview

The first section of the protocol form asked participants about whether they read the text before looking at the questions. Each Reading Passage has unique text and different types of questions associated with the text. Table 2 contains a summary of the results.

The most common of these was no preview, employed by 7 participants in Passage 1, 6 in Passage 2, and 3 in Passage 3. Across the three passages, participants were more likely to read part of the text quickly to get the main points: 3 in Passage 1, 6 in Passage 2, and 4 in Passage 3. The numbers of participants who chose to read the entire text quickly to get the main points and read part of the text slowly and carefully are the same: 9 participants of each strategy. The least used strategy was to read the entire text slowly and carefully, used only by two students in each of Passage 1 and 3.

As shown in Table 3, the choice of text preview strategy (from 1 to 5) which was the independent variable was positively moderately high ($r = .62$) correlated with the number of corrections which was the dependent variable at .05 level of significance. Therefore, when the choice of preview strategy switches from careful reading to expeditious reading, the number of corrections increases proportionately.

Furthermore, a comparison of preview strategy selection with test results reveals exciting patterns. For ease of analysis, a tripartite category of test scores (out of 13 in Passage 1 and 2, 14 in Passage 3) was created: <60%, 60%-80%, and >80%, roughly equating to an IELTS band score of 6.0 or less, 6.0 to 7.0 and above 7.0. The results are shown in Table 4.

Fourteen participants scored <60%, 16 scored 60%-80%, and 21 scored >80%. Interestingly, the highest-scoring participants had the least variance in strategy use, 14 or 66.7% of them used preview 5, while 3, or 14.3% of them employed preview 4. Two, or 9.5% used preview 2, while both preview 1 and 2 were used only by 1 participant. Conversely, participants in the <60% score bracket focused on preview 2 and 3, and only 1 or 7.1% of them chose to use preview 5. Most of the 60%-80% group used preview 4 which is close to preview 5 from the perspective of expeditious reading.

Surprisingly, based on the data, participants who did not preview the text tended to have higher scores than the quick and selective pre-readers, who in turn tended to have higher scores than the slow and careful pre-readers. However, *No preview* was not always successful: one participant chose to use this strategy, but fell into <60% group, and *Read the entire text slowly and carefully* was not always unsuccessful: one who employed this got more than 80% correction, participants who used

Table 2. Text preview strategies in different Reading Passages

Strategy	Passage 1	Passage 2	Passage 3	Total
Slowly and carefully (entire)	2	0	2	4
Slowly and carefully (part)	2	3	4	9
Quickly and selectively (entire)	3	2	4	9
Quickly and selectively (part)	3	6	4	13
No preview	7	6	3	16

Table 3. Regression analysis between text preview strategy and the number of corrections

Regression Statistics	
Multiple R	0.620982
R Square	0.385618
Adjusted R Square	0.37308
Standard Error	2.12504
Observations	51

ANOVA

	df	SS	MS	F	Significance F
Regression	1	138.883	138.883	30.75495	1.16E-06
Residual	49	221.2739	4.515793		
Total	50	360.1569			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	5.231779	0.863213	6.06082	1.89E-07	3.497087731	6.96647
X Variable 1	1.266184	0.228318	5.54571	1.16E-06	0.807362529	1.725

Table 4. Results of different preview strategies

Correction Rate	Preview 1	Preview 2	Preview 3	Preview 4	Preview 5	Total
<60%	2	5	4	2	1	14
60%-80%	1	3	3	8	1	16
>80%	1	1	2	3	14	21

Note: Preview 1-5 represents the five preview strategies from read the entire text slowly and carefully (careful reading) to No preview (expeditious reading)

expeditious reading strategies could have better result than those who used careful reading strategies under time pressure.

In short, it implies that careful reading did not help participants successfully answer questions under time pressure, and expeditious preview reading strategies were more productive, though potentially at the expense of textual comprehension.

Test Response Strategies

Table 5 presents the frequency of in-test reading strategies used by 51 participants. As multiple reading strategies for one specific question were possible, the data are reported in percentages of total times for all participants. Strategy 1~13 represent different in-test reading strategies.

As can be seen in Table 5, Strategy 2 (quickly matched words that appeared in the question with similar or related words in the text) was the dominant strategy, accounting for 32% of all times of strategy use. Only 7, or 13.7% of participants did not employ this strategy. Strategy 10 (read relevant parts of the text again) and 9 (read the text or part of it slowly and carefully) were also popularly used, representing 18% and 14% respectively. Also, strategies 13 (guessing) and 1 (matched words in the

Table 5. Strategies used by participants to answer the IELTS academic reading text questions

Strategy	Passage 1	Passage 2	Passage 3	Total	Percentage
1	14	7	27	48	7%
2	87	70	62	219	32%
3	7	4	15	26	4%
4	3	15	6	24	4%
5	3	4	11	18	3%
6	2	5	1	8	1%
7	5	8	3	16	2%
8	3	1	2	6	1%
9	46	23	23	92	14%
10	25	48	50	123	18%
11	3	6	7	16	2%
12	12	5	9	26	4%
13	11	24	22	57	8%
			Total	679	100%

question with exactly the same words in the text) made up 15% of the total. The least used strategies were 6 (worked out the meaning of a difficult word in the text), 8 (used my knowledge of grammar), 7 (used my knowledge of vocabulary), and 11 (used my knowledge of how texts like this are organized).

Usefulness of Strategies

This study's authors compared the highest-scoring group of participants with the lower-scoring groups to highlight patterns of successful strategy use. Table 6 shows distinctive patterns of strategy use between the three groups.

The high-scoring (>80%) participants often used Strategies 2, 9, and 10, constituting 77% of total strategy use for this group. This percentage reduced slightly to 66% in the second group and decreased significantly to 42% in below 60% group. While the lower scoring groups also relied on Strategies 2, 9, and 10, they also employed Strategies 1 and 3. Strategy 13 (guessing the answer) was also popular in the bottom 60% group, accounting for 19%, but only made up 3% and 6% in the two other groups.

Table 6. Use of different strategies by three groups

Strategy	>80%	Percentage	60%-80%	Percentage	<60%	Percentage
1	14	5%	8	4%	26	14%
2	124	45%	70	33%	25	13%
3	3	1%	9	4%	14	7%
4	7	3%	14	7%	3	2%
5	2	1%	3	1%	13	7%
6	4	1%	3	1%	1	1%
7	6	2%	7	3%	3	2%
8	4	1%	0	0%	2	1%
9	53	19%	24	11%	15	8%
10	37	13%	46	22%	40	21%
11	4	1%	4	2%	8	4%
12	11	4%	10	5%	5	3%
13	8	3%	13	6%	36	19%
Total	277	100%	211	100%	191	100%

Strategy Use Grouped by Types of Question

The IELTS reading test used in this study contained six different types of questions. Table 7 shows the proportion of strategies used in different question types.

Strategy 2 was the most popular strategy across most question types excluding T/F/NG and summary, but it was still the second choice for T/F/NG questions and the third most frequently chosen option for Summary questions. Test-takers used strategies 9 and 10 frequently in certain question types like T/F/NG, Headings, and Summary. Interestingly, strategy 13 (Guessing) was more often used in T/F/NG questions.

Furthermore, focusing on successful strategy use, the picture becomes more complicated. Table 6 shows the popular strategies used by successful participants (those with a >80% correction rate for that question type).

Table 8 paints a more interdependent picture of strategy use. Although strategies 2, 9, and 10 are frequent and often successful, participants also employed other strategies. Also, reading strategies

Table 7. Percentage of strategy use grouped by types of questions

Strategy	Headings	Matching information	Sentence to Paragraph	T/F/NG	Multiple Choice	Summary
1	5%	8%	2%	3%	17%	9%
2	40%	38%	56%	23%	30%	9%
3	5%	0%	5%	1%	5%	10%
4	2%	0%	6%	5%	5%	1%
5	1%	1%	2%	2%	8%	1%
6	1%	0%	2%	1%	3%	0%
7	2%	2%	4%	1%	3%	4%
8	1%	1%	0%	2%	0%	0%
9	22%	19%	9%	9%	9%	16%
10	5%	21%	8%	33%	8%	29%
11	1%	1%	1%	3%	2%	6%
12	8%	1%	0%	4%	2%	6%
13	4%	7%	4%	14%	10%	7%
Total	100%	100%	100%	100%	100%	100%

Table 8. Percentage of strategy use by >80% participants grouped by types of questions

Strategy	Headings	Matching information	Sentence to Paragraph	T/F/NG	Multiple Choice	Summary
1	6%	12%	0%	3%	3%	8%
2	44%	48%	76%	28%	53%	4%
3	3%	0%	0%	3%	3%	0%
4	3%	0%	0%	2%	8%	4%
5	1%	0%	4%	0%	3%	0%
6	1%	0%	8%	0%	3%	0%
7	3%	3%	4%	0%	0%	8%
8	2%	2%	0%	2%	0%	0%
9	26%	13%	0%	15%	18%	38%
10	5%	18%	4%	32%	8%	21%
11	1%	0%	4%	3%	0%	0%
12	2%	2%	0%	7%	0%	17%
13	2%	2%	0%	5%	5%	0%
Total	100%	100%	100%	100%	100%	100%

employed here reflect a mix of both expeditious (Strategies 2, 12, 1, and 4) and careful reading (Strategies 10 and 9) which indicates that appropriately blending several strategies seems to be more effective than merely employing Strategies 2, 9, and 10 each time. Therefore, choosing the appropriate multiple interdependent strategies could help to optimize scores in an IELTS reading test.

SUMMARY AND FINDINGS

This study explored the relationship between reading strategies employed by students at Sino-US University in China, and the reading test outcomes of those students when taking the IELTS reading exams.

The result of the correlation analysis revealed that there is a moderately positive relationship between the choice of text preview strategy, from 1 to 5, and the number of errors. That is to say, when the choice of preview strategy switches from careful reading to expeditious reading, the number of necessary corrections will also increase correspondingly. Krishnan (2011) states that "IELTS tests', which overemphasize careful reading items, appear to be neglecting the expeditious reading needs of undergraduates in accomplishing their academic reading tasks at [the] tertiary level" (p. 33). Krishnan (2011) also adds that "candidates are not encouraged to employ expeditious reading strategies" (p. 33) and that the exams "include very few items testing at the higher level of cognitive processing" (p. 33). Krishnan (2011) states that "IELTS reading tests concentrate on careful reading" while "expeditious reading is somewhat ignored" (p. 33). Nation (2009) states that one can reasonably read silently at 250 wpm and skim at 500 wpm, and that "pressure to go faster can be a source of stress" (p. 143) and "reduce the enjoyment" (p. 143). Therefore, this finding supports Hypothesis 1, and is also similar to the recent findings of the article "Reading strategies in IELTS tests: Prevalence and impact on outcomes" (Chalmers & Walkinshaw, 2014). In their study, participants who tended to use expeditious preview strategy had relatively higher scores than those who chose to use the careful preview strategy.

Besides, participants' strategy use was complex and interdependent. In order to get high scores, participants initially used expeditious reading strategies to locate information, and more careful reading strategies to identify answers to the question tasks which could be the pattern of getting a high score on the IELTS reading test. Therefore, Hypothesis 2 is supported.

DISCUSSION

Reaching an overall IELTS score of 6.5 or higher, which is a requirement for admission to most British, American, and Australian graduate programs, is challenging for many Chinese undergraduates. This study sought to investigate the suitability of careful reading and expeditious reading strategies. While careful reading results in a deeper understanding of a passage, it is often unnecessary and perhaps even detrimental to one's scores.

Hypothesis 1 was correct, as expeditious reading leads to higher IELTS exam scores. Hypothesis 2 was also correct, as undergraduates shifted between favored strategies during the reading portion of an IELTS exam. These findings correlate with the work of Krishnan (2011), who mentioned a lack of the need for a deeper understanding on IELTS reading exams, Nation (2009), who endorses skimming at "500 wpm" (p. 143), and Chalmers & Walkinshaw (2014), whose research favors expeditious reading.

One unexpected finding is that previewing the text does not necessarily correlate with higher scores; rather, this can hinder one's progress. This could be due to overthinking the complexity of the exam content, leading to an incorrect response. With exceptions, the majority of test-takers performed better without previewing the text or employing careful reading strategies.

The findings and conclusions of this study are significant because they show that IELTS test-takers can improve their scores when employing expeditious reading strategies, which are appropriate in such a situation. Careful reading is suitable when seeking a deeper understanding of content. Expeditious

reading is helpful as it can assist the test takers in managing the limited time allocated for the test, and may aid to students of various backgrounds to be successful at this exam.

In conclusion, this research may serve as a basis for furthermore extensive work exploring and seeking to identify which learning strategies are most effective for the vast number of Chinese college students who are each seeking to improve their IELTS test scores. While limitations exist with the study design, this research also serves to identify ways that further research could be both more extensive, as well as more effective in addressing the research topic.

LIMITATIONS

Usually, a complete IELTS Reading examination includes three reading passages with 40 questions in 60 minutes (Jakeman & McDowell, 2008). However, because of the time limitation and inconvenience of this study, participants were required to finish one reading passage randomly, and the testing time was reduced to 20 minutes correspondingly. Therefore, the validity of this IELTS reading test decreased because every participant only focused on one part with fewer question types. Also, this study's small sample size limits the generality of the findings.

RECOMMENDATIONS FOR FURTHER INVESTIGATION

Based on the fact that time limitation and inconvenience of the study could harm the quality of the study, to increase the validity of the IELTS reading test and the generality of further research, more time should be allocated to test-takers, and a larger sample should be collected.

The findings of this study, consistent with the work of others, (Afflerbach, 2005; Bozorgian, 2012; Everett & Colman, 2003; Weir et al., 2009; Williams et al., 2011) also has implications for future research about the validity of IELTS as a test of academic reading ability. Reading at university is commonly done to facilitate academic writing (Moore et al., 2012), which involves informational processing far beyond the level of test-reading comprehension. If test-taking strategies enable participants to obtain higher scores than they would get otherwise, IELTS may not reflect the exact level of the participants' reading skills. Further research is called for to investigate the use of test-taking strategies and its impact on the validity of the IELTS Academic Reading test as a test of academic reading ability.

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APPENDIX A: PARTICIPANT RETROSPECTION FORM (EXAMPLE OF Q1—Q13)

Section I

Tick the sentence that best describes what you did.

Before reading questions 1 to 13, I:

☐ Read the entire text slowly and carefully
☐ Read part of the text slowly and carefully
☐ Read the entire text quickly to get the main points
☐ Read part of the text quickly to get the main points
☐ I did not read the text (no preview)

Section II

Choose any sentence that describes what you did when you answered each question on the test. You may choose more than one sentence for each question on the test.

To find the answer to the question, I tried to:

1. Matched words that appeared in the question with exactly the same words in the text
2. Quickly matched words that appeared in the question with similar or related words in the text
3. Looked for parts of the text that the writer indicates to be important
4. Read key parts of the text, e.g. the introduction and conclusion, etc.
5. Worked out the meaning of a difficult word in the question
6. Worked out the meaning of a difficult word in the text
7. Used my knowledge of vocabulary
8. Used my knowledge of grammar
9. Read the text or part of it slowly and carefully
10. Read relevant parts of the text again
11. Used my knowledge of how texts like this are organized
12. Connected information from the text with knowledge I already have
13. Guessed the answer

Q1_____ Q2_____ Q3_____ Q4_____ Q5_____ Q6_____ Q7_____ Q8_____
Q9_____ Q10_____Q11_____Q12_____Q13_____

APPENDIX B: PARTICIPANT'S PROFILE

Please write down the information or tick one box in each of the sections below.

1. Age: _____
2. Gender: ☐ Male ☐ Female
3. Major: _____
4. Year Level at university:
☐ First Year ☐ Second Year ☐ Third Year ☐ Fourth Year
5. Date of most recent IELTS test: _____
6. IELTS Reading score (the highest one): _____

APPENDIX C: DATA

Table 9. Data

Headings								Matching (Sentence to Phrase)					
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	
viii	iv	x	xi	v	vii	vi	xi	d	f	b	g	a	
viii	iv	vii	vi	v	x	iii	xi	d	e	b	g	a	
viii	iv	x	vi	v	vii	iii	xi	d	g	c	h	a	
viii	iv	x	xi	v	vii	vi	xi	d	e	b	g	a	
viii	iv	x	vi	v	vii	iii	xi	d	e	b	g	a	
viii	iv	x	vi	v	vii	iii	xi	d	e	b	g	a	
viii	ix	x	vi	v	vii	iii	xi	d	e	b	g	a	
viii	iv	x	vi	v	vii	iii	vi	d	e	b	g	a	
viii	iv	x	vi	v	vii	iii	xi	d	e	b	g	a	
viii	iv	x	vi	v	vii	iii	xi	d	e	c	g	b	
viii	vi	x	xi	v	vii	iv	ii	d	e	b	g	a	
viii	iv	x	vi	i	vii	iii	xi	d	e	b	g	a	
viii	iv	x	vi	v	vii	iii	xi	d	e	b	g	a	
viii	iv	ii	vi	v	vii	iii	xi	b	e	d	a	f	
viii	iv	x	vi	v	vii	iii	xi	d	e	b	g	f	
viii	iv	x	vi	v	vii	iii	xi	d	e	b	g	a	
viii	iv	x	vi	v	ix	iii	xi	d	e	g	g	f	
Sentence to Paragraph					T/F/NG						Multiple Choice		
Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	
c	a	b	f	e	y	ng	y	n	ng	y	b	d	
c	a	b	f	d	n	ng	n	ng	y	n	b	a	
c	e	b	f	d	n	ng	y	ng	y	y	b	d	
c	e	b	f	d	n	n	n	ng	y	y	b	a	
c	d	b	e	f	ng	n	n	ng	y	y	b	d	
c	a	b	f	d	n	n	n	n	n	n	b	d	
c	b	a	f	d	y	n	y	ng	y	ng	b	d	
c	e	b	f	d	n	n	n	ng	y	ng	b	d	
c	e	a	f	d	n	ng	n	n	ng	n	a	d	
c	d	b	f	e	y	n	y	ng	y	n	b	c	
c	a	b	f	d	n	ng	n	n	y	n	b	d	
c	a	e	f	d	n	ng	y	n	y	n	b	d	
c	e	b	f	d	n	n	ng	ng	y	n	b	d	
c	a	b	f	d	n	n	n	ng	y	y	b	d	
c	e	b	f	d	n	n	n	ng	n	y	b	d	
c	e	b	f	d	n	ng	y	ng	y	n	b	d	
c	e	b	f	d	y	n	n	ng	n	y	b	d	

continued on following page

Table 9. Continued

Multiple Choice					Summary				T/F/NG				
Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
b	b	c	b	d	a	d	g	b	y	y	ng	ng	y
b	b	c	b	b	h	i	c	f	ng	n	ng	y	n
b	b	c	b	d	h	d	g	f	ng	y	ng	ng	n
b	b	c	a	d	a	c	g	b	n	y	ng	y	n
b	b	c	d	d	a	d	g	f	n	ng	ng	ng	y
b	b	a	d	d	a	d	g	b	ng	y	n	ng	n
b	b	c	b	d	a	d	g	b	n	ng	ng	y	y
b	b	c	b	d	a	d	g	c	n	ng	ng	y	y
b	c	c	b	c	h	g	d	f	n	y	ng	n	y
b	d	b	d	d	a	d	g	b	0	y	ng	n	ng
c	d	b	d	a	h	e	d	f	n	y	ng	n	y
b	b	c	b	d	a	d	g	b	n	ng	y	y	n
b	b	c	b	d	h	c	i	b	n	y	n	ng	n
b	b	d	b	d	h	c	d	b	n	y	n	ng	n
b	b	c	b	d	a	d	g	b	n	ng	ng	y	y
b	b	c	b	d	a	c	g	f	n	y	n	y	y
b	b	b	b	d	h	c	d	f	y	y	n	n	y

Table 10. Data: Strategies

Headings								Matching (Sentence to Phrase)					
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	
3	2	5	2	2	9	9	3	9	9	2	9	5	
9	9	2	2	2	2	2	3	9	9	9	9	9	
13	2	1	13	12	11	10	10	2	13	11	13	13	
2	2	2	2	2	2	2	2	2	10	1	1	1	
4	12	2	2	2	11	3	2	2	10	10	2	1	
2	2	1	2	1	2	2	1	9	10	9	10	10	
9	9	9	9	9	9	9	9	2	2	2	2	2	
4	1	9	2	2	9	9	9	2	2	2	2	2	
9	9	9	9	9	9	9	9	2	2	2	2	2	
2	10	2	2	2	2	2	2	2	10	2	13	2	
3	3	2	9	9	2	9	13	2	10	10	10	13	
2	13	8	10	6	9	10	1	10	1	2	2	2	
9	2	5	2	13	2	1	2	1	1	2	2	10	
2	2	2	2	2	6	2	2	10	10	10	13	10	
2	7	7	2	2	2	4	8	8	7	7	2	2	
9	10	2	7	10	12	2	3	2	10	12	10	9	
12	12	12	12	12	12	12	12	9	9	9	9	9	

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Table 10. Continued

Sentence to Paragraph					T/F/NG						Multiple Choice		
Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	
10	13	3	5	9	13	10	7	13	13	7	5	5	
2	2	2	2	2	10	10	10	10	10	10	11	1	
2	2	2	4	2	10	10	10	10	10	10	10	7	
5	6	7	10	11	13	13	12	13	4	8	13	13	
2	3	9	3	9	2	9	3.1	2	10	4	6	7	
2	2	2	4	2	2	4	2	4	2	4	2	2	
10	13	9	10	2	13	13	10	10	13	10	9	9	
2	2	2	6	2	10	11	10	9	10	11	2	4	
13	9	9	9	10	10	9	10	10	13	10	9	10	
10	2	2	1	1	11	1	10	2	2	13	13	13	
2	2	2	2	2	2	1	10	13	10	13	13	9	
2	2	3	10	2	2	6	12	12	13	9	2	12	
2	4	9	4	7	2	13	10	9	4	13	12	11	
2	2	2	2	2	1	10	10	10	10	10	10	10	
2	2	2	2	2	2	10	10	9	9	9	2	2	
2	2	2	4	7	1	4	2	4	10	4	6	7	
2	2	2	2	2	10	9	9	2	2	9	2	2	
Multiple Choice					Summary				T/F/NG				
Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
1	2	2	5	3	4	1	1	2	2	2	3	3	1
3	13	5	5	13	13	11	2	3	5	11	13	2	2
1	1	1	1	1	10	10	10	10	10	10	10	10	10
2	2	2	2	2	10	10	10	10	10	10	2	2	2
9	9	9	9	9	10	7	7	10	10	10	10	10	10
1	1	1	4	3	3	1	3	1	2	10	9	12	13
2	6	9	9	10	12	12	12	12	12	10	12	12	10
2	2	2	2	2	9	10	10	10	10	2	2	9	9
3	13	5	5	13	13	11	2	3	5	11	13	2	2
3	13	5	5	13	13	11	2	3	5	11	13	2	2
1	1	1	10	10	10	13	13	10	13	10	10	10	10
2	2	2	4	4	9	9	9	9	2	2	2	2	2
1	1	1	4	3	3	1	3	1	2	10	9	12	13
10	10	1	1	1	2	10	11	2	1	10	13	10	13
2	2	2	2	2	9	9	9	9	2	2	2	2	2
2	2	2	2	2	10	10	10	10	10	10	2	2	2
1	13	2	2	4	5	7	9	9	8	8	13	13	9

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