English Test-Taking Strategy Use and Students' Test Performance

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Abstract

This paper reports on a study of English test-taking strategy use and its effect on students' test performance at the tertiary level. After administering an 83-item survey to 526 students in three different study years at a university in Beijing, the study revealed that (1) the students had a medium use of English test-taking strategies. The most frequently used were compensation strategies, followed by affective, metacognitive, social strategies, cognitive and memory strategies; (2) the most often used individual strategies mainly fell into the metacognitive category, while the least often used individual

strategies largely belonged to the memory category; (3) different categories of English test-taking strategies and overall strategy use were all significantly positively correlated with one another; (4) students' test performance was significantly correlated with compensation and social strategies; (5) twenty-one strategy items, most of which were metacognitive strategies, significantly correlated with students' test performance; (6) significant difference emerged in the use of memory strategies among students in different study years. Based on these findings, some educational implications are discussed.

Keywords: English Test-Taking Strategy Use, Test Performance, University

Introduction

Tests have become a powerful tool for decision making in our competitive society, with individuals of all ages being frequently evaluated with respect to their achievement and abilities. Consequently, how to perform better on tests has become a big concern for students and teachers in almost all areas. As a result, strategies to enhance test performance have been discussed in various teaching and learning settings and some are actually employed by learners during tests. Even so, not much research has been done in this area, especially in SL/EL testing situations. Though it is often said that Chinese learners are good at using strategies to better performance on tests, research in this area has been even scarcer.

Situated in a Chinese EFL context at the tertiary level, the present study aimed to explore the frequency of English test-taking strategy use by Chinese undergraduate non-English majors, its relationship with students' test performance, and differences among

students in different study years.

Literature Review

Research on study strategies has captured the attention of numerous language researchers and educators during the past few decades. Widely agreed is that language learning strategies are "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, and more transferable to new situations" (Oxford, 1990, p. 8). To better understand and research on language learning strategies, researchers have tried to categorize the strategies into various groups. For example, Rubin (1981, 1987) identified strategies as those contributing to language learning success either directly (e.g., inductive inferencing, practice, and memorization) or indirectly (e.g., creating practice opportunities and using production tricks). Synthesizing earlier work on good language learning strategies in general, Oxford (1990) proposed a language learning strategy system which classifies strategies into six categories: memory strategies, cognitive strategies, compensation strategies, metacognitive strategies, affective strategies and social strategies. Memory strategies relate to the storing and retrieval of information (e.g., 'I use new English words in a sentence so I can remember them'). Cognitive strategies are "unified by a common function: manipulation or transformation of the target language by the learner" (e.g., 'I use the English words I know in different ways') (Oxford, 1990, p. 43). Compensation strategies "enable learners to use the new language for either compensation or production despite limitations in knowledge" (e.g., 'To understand unfamiliar English words I make guesses') (Oxford,

1990, p. 47). Metacognitive strategies "allow learners to control their own cognition" (e.g., 'I look for people to talk to in English') (Oxford, 1990, p. 135). Affective strategies are concerned with the regulation of feelings and attitudes (e.g., 'I try to relax whenever I feel afraid of using English'), and social strategies are those which take account of the fact that language is a form of social behavior, involving communication with other people (e.g., 'I practice English with other students').

Employing different classification models, many researchers have found that high achievers, distinguished by their grades in certain content areas, grade point averages, or achievement test scores, tend to use effective study strategies more frequently than do low achievers (Bremmer, 1999; Kitsantas, 2002; Oxford & Ehrman, 1995; Oxford & Nyikos, 1989; Pintrich & Schunk, 2002; Sundre & Kitsantas, 2004; VanZile-Tamsen & Livingston, 1999).

In language learning situations, learning strategies help learners acquire language knowledge or vice versa, as evidenced above. During tests or in language use situations, strategy use is related to the ongoing working memory in association with the short-term memory regarding the language to retrieve necessary declarative (knowing what), procedural (knowing how) and conditional (knowing when) knowledge in the long-term memory to solve task difficulty (Gagne et al., 1993). The strategies used during tests should be looked at when researchers are attempting to explain variation in a specific language test performance because they are directly related to test score variation.

Test-taking strategies originated from the concept of 'test-wiseness' which is defined as "one's capacity for using test characteristics and formats and/or test-taking situations to raise test scores" (Millman et al., 1965, cited in Ritter & Idol-Maestas, 1986, p. 50). According to Cohen (2000), language test-taking strategies consisted of both language

use strategies and test-wiseness strategies. He further defined them as those test-taking processes that the candidates have selected and are conscious of to a certain degree (Cohen & Upton, 2006). Meanwhile, Jimenez et al. (1996) referred to test-taking strategies as operations or steps used by test-takers to facilitate the retrieval of information and classified them into four groups—reader-initiated strategies, text-initiated strategies, bilingual strategies and interactive strategies. Deanna (2002) believed that cognitive and metacognitive strategies were involved in doing reading comprehension tests and that the former could be grouped into key words, deduction, reasoning and reconstruction; and the latter, could be categorized into planning, monitoring and evaluation (as Oxford (1990) did).

All the definitions, though worded differently, have in common strategies that are somehow related to what test takers do and might do to solve test problems. To explore the relationship of test-takers' use of cognitive and metacognitive strategies to EFL reading test performance, Phakiti (2003) employed both quantitative and qualitative data analyses. 384 students enrolled in a fundamental English course at a Thai university took an 85-item, multiple-choice reading comprehension achievement test and filled in a cognitive–metacognitive questionnaire. Then, eight of them were selected for retrospective interviews. The results suggested that (1) the use of cognitive and metacognitive strategies had a positive relationship to the reading test performance; and (2) more successful test-takers reported significantly higher metacognitive strategy use than less successful ones.

In order to investigate test-taking strategies on multiple-choice comprehension tests, Xiao (2006) recruited 204 Chinese first-year undergraduates. The researcher found that comprehension strategies were the most frequently used when the students were dealing

with content items and discourse items as were memory strategies when dealing with pragmatic items. The study also revealed the most often used strategies were elimination, key words, returning to the text, guessing, monitoring, translation, and using background knowledge. The other two findings were: (1) strategy use was affected by passage difficulty; and (2) more successful students used more metacognitive strategies than less successful peers. In a study on the effect of computer delivery on reading test performance and test-taking strategy use via questionnaires and interviews, Zhang (2007) found that the most frequently used strategy reported by 181 second-year Chinese university students was underlining and marking when taking paper-based reading comprehension tests.

More related to the present study is Purpura's (1997) research on the relationships between test takers' reported cognitive and metacognitive strategy use and patterns of performance on language tests. Administering an 80-item cognitive and metacognitive strategy questionnaire and a 70-item standardized language test to 1,382 students in Spain, Turkey and the Czech Republic, and using structural equation modeling as a primary analytical tool, Purpura found that metacognitvie strategy use had a significantly positive and direct effect on cognitive strategy use but had no significantly direct impact on SL test performance. The researcher also discovered that cognitive strategy use had no significant, direct effect on reading ability, but influenced reading indirectly through lexico-grammatical ability. To be specific, the comprehending processes had no significant, direct impact on reading or lexico-grammatical ability, and the retrieval processes yielded a small, but significant positive effect on lexico-grammatical ability; while the memory processes had a significantly direct negative effect on lexico-grammatical ability. Alternatively, the more test takers invoked memory strategies in a

speeded test situation, the worse they performed on the test, while the less they utilized them, the better they performed. These findings further confirm the implication that relationships between strategy use and second language proficiency are extremely complex, and at times very subtle, given the multidimensional nature of the constructs involved and the number of possible interactions that could occur between and among various variables (Chamot, et al., 1988; Wesche, 1987).

As reviewed above, not many studies targeted language test-taking strategies. These few studies indicate that high achievers also reported to use more test-taking strategies than low achievers and that the use of certain strategies such as understanding the task and guessing after eliminating choices are positively related to test performance (Kim & Goetz, 1993; McLain, 1983; Parham, 1997; Phakiti, 2003). A study with Chinese university EFL students may be of significance to contribute to the related literature and better understand these relationships. Deploying statistical procedures to analyze data, the present study attempted to investigate the use of English test-taking strategies and its effect on students' test performance in a Chinese EFL context. To achieve this purpose, the following research questions were formulated:

(1) What is the broad profile of overall English test-taking strategy use and of each of the six strategy categories?

(2) What are the most and least often used individual test-taking strategies?

(3) How are these English test-taking strategies related to one another and to students' test performance?

(4) Is a particular English test-taking strategy item related to students' test performance?

(5) Is there any difference in English test-taking strategy use among students in

different years of study?

Research Method

This paper reports on part of a study which investigated students' perceptions of a school-based English proficiency test and strategies they employed during the test.

Context. Tsinghua University, under the direct jurisdiction of the Ministry of Education, China, is one of the best institutions of higher learning in China. Students admitted to Tsinghua are normally highly motivated and their scores on the National Matriculation English Examination range from 120 to 150 (the total score is 150). At this university, English courses are compulsory for freshmen at the first term but become selective later on. The Tsinghua English Proficiency Test I (TEPT1), developed by the Department of Foreign Languages and Literatures of the University and authorized by the Ministry of Education in 1999, has existented for over 10 years (since 1996) and is correspondingly more difficult than the College English Test (CET) Band 4 (a nation-wide English proficiency test which is mandatory for undergraduate non-English majors to obtain the degree certificate). As an exit and proficiency test for non-English majors, similar to but more difficult than CET band 4, the TEPT1 consists of two components: written (85 points) and oral (15 points) tests, the written component of which has four parts: listening comprehension (30 points), reading comprehension (30 points), translation (10) and writing (15 points). The test is administered on the 8th Sunday of each 18-week term and students decide when to take the test during their 4-year university career.

Participants. This study recruited 526 (411 male and 115 female) participants with an average age of 19.4, among whom, 157 were first-year students, 153 second-year and 216 third-year students.

Instrument. As previously documented, few language test-taking strategy instruments have been developed. In order to develop such an instrument, 15 students in different study years who had already taken the TEPT1 were randomly selected to be informally interviewed about what strategies they had employed during the test prior to the study without any predesigned prompts. Based on the results, and with reference to the test-taking strategies suggested by Ellis (2005) and Pauk (2005), an 81-item English Test-taking Strategy Inventory (ETSI) on a 5-point Likert scale ('Never or Almost Never Used' to 'Always or Almost Always Used') was finally designed. Using Oxford's (1990) strategy system as the base model, as it has won wide acceptance and there is no generally accepted classification model of test-taking strategies in the literature, we designed the ETSI to cover: (a) test-taking memory strategies (TMS), (b) test-taking cognitive strategies (TCogS), (c) test-taking compensation strategies (TComS), (d) test-taking metacognitive strategies (TMetaS), (e) test-taking affective strategies (TAS), and (f) test-taking social strategies (TSS). The detailed information of the instruments used in this study is presented in Table 1. The TEPT 1 test results exposed a degree of difficulty of .731 for the test.

Table 1: Characteristics of Instruments (Participant N = 526)

Name of the instruments	No. of items	Reliability	Mean item-total correlation (p = .01)
Test-taking Strategy Inventory (TSI)	81	.922	.673
Test-taking Memory Strategy (TMS)	7	.738	.631
Test-taking Cognitive Strategy (TCogS)	16	.748	.458
Test-taking Compensation Strategy (TComS)	9	.737	.575
Test-taking Metacognitive Strategy (TMetaS)	42	.837	.374
Test-taking Affective Strategy (TAS)	3	.358	.659
Test-taking Social Strategy (TSS)	4	.498	.632

TEPT1 2005	67	.893	.735

Background information. The background questionnaire was designed to obtain information about the participants' name, gender, and grade level.

Performance in English. Students' performance in English was measured by their scores in the TEPT1 2005, which were collected when all the marking was finished.

Procedure. The written part of the TEPT1 2005 lasted for two hours on the 8th Sunday morning of the first term of the academic year 2005-2006. The oral test was held thereafter in the form of a 1-minute teacher-student conversation and a 5-minute student-student conversation. As soon as a student finished the oral test, s/he was asked to fill in the questionnaire and a 60-item Perspective on the TEPT1 in about 20 minutes. Altogether, 547 questionnaires were collected, of which 526 were valid for statistical analyses.

Data analysis. To measure its reliability and validity, reliability scores and mean item-total correlations of the survey and its subscales were computed. Then, the survey was analyzed in terms of mean and standard deviation to examine how frequently participants used the strategies during the TEPT1 2005. Meanwhile, ten most and least frequently used individual strategies were identified respectively to explore what strategies were the most/least popular with students during the exam. Subsequently, correlation analyses

were conducted to investigate relationships between English test-taking strategy use and students' test performance. Finally, a one-way ANOVA (Duncan's test) was conducted to explore differences in English test-taking strategy use among students in different study years.

Results and Discussion

Factor analysis of the ETSI

A factor analysis with varimax rotation was conducted on the English Test-taking Strategy Inventory (ETSI) to investigate if the statements formed clusters matching different hypothesized views. The analysis yielded six factors: (a) test-taking memory strategies (TMS), (b) test-taking cognitive strategies (TCogS), (c) test-taking compensation strategies (TComS), (d) test-taking metacognitive strategies (TMetaS), (e) test-taking affective strategies (TAS), and (f) test-taking social strategies (TSS) (Table 2), which is consistent with the view held by the researchers based on Oxford's (1990) model.

Seven items (1-7) were included in interpreting the first ETSI component—TMS, which accounted for 18.47% of the total variance; sixteen items (8-23) were included in interpreting the second ETSI component—TCongS, which accounted for 14.91% of the

total variance. Nine items (24-32) were included in interpreting the third ETSI component—TComS, which had in common a sense of making guesses and/or overcoming limitations in speaking and writing and accounted for 6.74% of the total variance; forty-two items (33-74) were included in the forth ETSI component—TMetaS, which accounted for 51.83% of the total variance. The fifth ETSI factor—TAS included three items (75-77), which accounted for 2.25% of the total variance; and the last ETSI factor—TSS included four items (78-81), which accounted for 5.8% of the total variance. The results are reported in Table 2.

Table 2: Varimax Rotated Loadings for Factor Analysis of the UCS (N = 526)

	1	2	3	4	5	6
1. I reviewed a lot before the test.	.72					
2. I memorized … before the test.	.61		.28			
3. To prepare for the test, … notes regularly.	.61		.37			
4. I used high technology … before the test.	.42	.12			.13	
5. I created flashcards … before the test.	.52		.32			
6. I memorized … before the test.	.50		.35	-.15		
7. I dumped information … as I received it.	.34		.31		.12	
8. I practiced a lot before the test.		.70	.17			
9. I practiced speaking English … before the test.		.49	.11	.30		

10. I practiced writing … before the test.		.65				
11. I created … before the oral test.		.43	.48	-.13		
12. I practiced writing … before the test.		.59	.27	-.16	.17	.11
13. I practiced translating … before the test.	.53	.11			16	.16
14. I looked for the central idea of each question.		.25	.44	.11	.19	
15. I directly got to … during the test.		.43		.15	.28	
16. I used both general … writing during the test.	.14	.24		.28	.29	-.16
17. I jotted down information … during the test.	.16	.56	.16		.14	
18. I highlighted some … reading during the test.		.49	.20			.14
19. When writing …, I jotted down … in the margin.	.11	.36	.53			
20. I analyzed the … into Chinese.		.40	.20	.14	.15	.17
21. I broke up run-on … during the test.		.33	.29	.24	.10	.17
22. I eliminated certain answers … during the test.		.40				.26
23. I didn't jot down any notes during the test.			-.12			
24. I exchanged with English … for the test.	.47		.23		-.13	
25. I used my linguistic knowledge … during the test.	.11		.71		.17	-.10
26. I used my background knowledge … during the test.	.12		.70		.12	

27. I made guesses … during the test.			.76			
28. I used my background knowledge … during the test.			.72			
29. I tried … a word or phrase.		.11	.44	.17	.22	
30. I used my background … the cloze test.	.12	.14	.59			.11
31. I used my linguistic … the cloze test.	.16	.12	.60			
32. I used body language … during the oral test.		.20	.26	.31	-.28	.22
33. I developed a timetable … stuck to it.				.68		
34. I read old exam papers before the test.		.22	-.22	.61		
35. I knew … before I took it.	.43	.15	-.13	.16	.19	
36. I tried to predict … before the test.	.64		.31	-.12		
37. I attended … classes before the test.	.13	.21	-.21	.23	.16	.11
38. In …, I looked for main topics and key ideas.		.15	.17	.50	.12	.19
39. I estimated the time … before the test.	.65		.14	-.17	.13	
40. I tested myself … before the test.	.51		.19	.17	-.10	
41. I finished my studying the day before the test.	.34			.12		
42. I created study checklists before the test.	.52	-.20	.43	-.14		
43. Before the test, I avoided … my preparation.	.26		.27			
44. I got familiar with the test room before the test.	.33	-.13	.28	.23		
45. I gathered … before the test.	.21	.21		.48		.21

46. I arrived at the test room on time.		.34	-.32	.25	.30	
47. I scanned the test first … completing it.	.12		.36	.30		
48. I read test directions carefully during the test.	.12	.37		.40		
49. I outlined my ideas before writing during the test.	.33			.44		
50. I planned and organized … during the test.	.36			.55		
51. I selected a title … to help me organize my ideas.	.21	.11	.12	.51		
52. I tried to make … during the test.		.21		.20	.22	
53. I paragraphed my writing during the test.		.40		.38	.19	
54. I wrote a topic … during the test.	.22	.18	.24	.34		
55. I tried to make … during the test.		.40	-.12	.39	.26	
56. I listened to directions … during the test.		.40	.10	.15	.34	
57. I listened to keywords … during the test.		.59	-.14	.23	.33	
58. I listened to clues … during the test.	.11	.12		.60	.26	
59. I looked for keywords … during the test.		.11		.30		
60. I looked for clues … during the test.				.70		
61. I tried to make … like Chinese.	-.13	.46	-.12	.30		.13
62. I tried to better understand … Chinese.		.61		.31		.10
63. During the oral test, I used … organize ideas.		.34		.34	.19	.19
64. I listened to … during the oral test.	.44			.38	.19	.14
65. I made … to finish the oral test.	.11	.20	.29	.45	-.14	
66. I made … during the oral test.	.13	.23	.18	.41		.11

67. I read questions carefully during the test.		.47		.26	.16	
68. I double-checked … the test.	.25			.45	-.18	
69. I answered … the written test.	.13	.15	.10	-.29		.19
70. I wrote legibly during the test.	.10	.25		.40	.11	.16
71. I will summarize my performance after the test.	.11	.21	.11		.17	.75
72. I will list what … after the test.		.21		.13	.17	.78
73. I will list what … after the test.	.11	.21		.14	.15	.79
74. I will forget about the test soon.	-.20		.11	-.16		.41
75. … I tried to get a good night's sleep.	.19	.26			.62	
76. I breathed deeply … before and/or during the test.	.20	.18	.14	.10	.49	.18
77. I approached the test with confidence.			.20	.53	.22	-.10
78. I exchanged … prepare for the test.	.18		.19	.15		.63
79. I formed a study group … before the test.				.23	-.18	.64
80. I listened to … during the oral test.		.33		.13		.59
81. I supported … during the oral test.		.28		.12		.64

The loadings displayed in Table 2 indicate each item within a subcomponent of the

ETSI was highly correlated with that subcomponent: items 1 to 7 highly positively related

to TMS with coefficients ranging from .34 to .72; items 8 to 23 highly positively

correlated with TCogS with a coefficient range of .11 to .70 (with the majority being

higher than .40); items 24 to 32 highly related to TComS with coefficients ranging from

.23 to .76; items 33 to 74 highly correlated with TMetaS with a coefficient range of .12 to

.70 (with more than half being higher than .30); items 75 to 77 highly positively related to

TAS with coefficients ranging from .22 to .62; and items 78 to 81 highly positively

correlated with TSS with a coefficient range of .59 to .64. This signifies that these six

strategy categories were important subcomponents of the ETSI, which is further

confirmed by the significantly high coefficients between the ETSI and its six

components—TMS (r = .661, p < .01), TCogS (r = .873, p < .01), TComS (r = .71, p <

.01), TMetaS (r = .959, p < .01), TAS (r = .599, p < .01) and TSS (r = .63, p < .01), as

presented in Table 3.

Table 3: Correlations among the ETSI and its Subscales (N = 526)

	TCogS	TComS	TMetaS	TAS	TSS	ETSI
TMS	.618**	.230**	.546**	.277**	.394**	.661**
TCogS	1	.570**	.750**	.476**	.451**	.873**
TComS	.570**	1	.643**	.402**	.411**	.710**
TMetaS	.750**	.643**	1	.564**	.575**	.959**
TAS	.476**	.402**	.564**	1	.337**	.599**
TSS	.451**	.411**	.575**	.337**	1	.630**

Notes: ** = p < .01

As seen from Table 3, the six strategy categories were also significantly positively

correlated, with a majority of the coefficients being higher than .40. This suggests

students who used one type of strategy more frequently during the TEPT1 2005 tended to utilize more often other categories of English test-taking strategies.

Broad profile of overall English test-taking strategy use and of the six strategy categories

When reporting the frequency of English test-taking strategy use, we employed Oxford's (1990) key to understanding mean scores on SILL-based instruments whose scale range is 1 to 5:

— **HIGH USE** = 4.5 to 5.0 (always or almost always used) and 3.5 to 4.4 (usually used)

— **MEDIUM USE** = 2.5 to 3.4 (sometimes used)

— **LOW USE** = 1.5 to 2.4 (usually not used) or 1.0-1.4 (never or almost never used).

   As reported in Table 4, the mean overall strategy use was 3.06 on the 5-point Likert scale, which suggests "medium" use (sometimes used). The mean score for each of the six strategy categories also fell in the medium-use range. Among the six categories, the most frequently used were compensation strategies with a mean of 3.40, followed by affective strategies with a mean of 3.35, and metacognitive and social strategies with means of 3.14 and 3.11, respectively. Cognitive strategies came next with a mean of 2.95 and memory strategies were the least often used with a mean of 2.27.

Table 4: Means and Standard Deviations Indicating Test-taking Strategy Use
(N = 526)

Strategy category (most used to least used)	Frequency of strategy use	
	Mean	Standard deviation
Compensation	3.4	.56
Affective	3.35	.79
Metacognitive	3.14	.43
Social	3.11	.69
Cognitive	2.95	.53
Memory	2.27	.72
ETSI	3.06	.43

This finding about overall test-taking strategy use conforms to that of Lan and Oxford's

(2003) study on English-learning strategy use of Taiwanese students though it is slightly

different from that of Bremner's (1999) results of Hong Kong university students.

Nevertheless, in all studies, participants were found not to use memory strategies

frequently. This was unexpected in that Chinese learners are generally believed to rely

much on memory in learning and taking tests (Yang & Weir, 1998; Zou, 1998, 2002).

This might be partially due to the fact that not much memory was needed to prepare for

or take the TEPT1 2005 which functioned as a proficiency test, and thus, did not have a

specific focus to be tested. This, however, might also indicate an emerging change in the

pattern of test-taking strategy use among Chinese university students, which deserves

further investigation.

The most and least often used individual strategies

As noted from Table 5, ten individual strategies were identified to be the most frequently used by Chinese undergraduate test-takers. Of these ten strategy items, the majority belonged to the metacognitive category and all were in the high-use range with means ranging from 3.80 to 4.21. To be physically prepared, the participants arrived at the test room on time (mean = 4.21). During the test, they used background knowledge of the topic to help guess and deduce "what the speaker said while doing listening comprehension" (mean = 3.80) and "while reading" (mean = 3.80), looked for keywords "while reading" (mean = 3.92) and listened to keywords "when doing listening comprehension" (mean = 3.89). When doing the writing task during the test, these participants tried to make their writing coherent and cohesive (mean = 3.87) and make as few mistakes as possible (mean = 3.84). During the oral test, they listened carefully to the teacher for instructions (mean = 3.82) and to their partners (mean = 3.80) so that they could accomplish the test more successfully.

In short, these undergraduate non-English majors generally were accustomed to arriving at the test room on time, looking for clues, guessing from the context, and

resorting to background knowledge during a written English test. When in an oral test,

they were also aware of the importance of cooperation between partners by listening to

them carefully.

Table 5: The Ten Most Frequently and Ten Least Frequently Used Strategies
(N = 526)

The ten most frequently used strategies				
Strategy No.	Strategy	Mean	Category in which this strategy is classified	Comment
46	I arrived at the test room on time.	4.21	metacognitive	high-use range
59	I looked for keywords while reading during the test.	3.92	metacognitive	high-use range
57	I listened to keywords when doing listening comprehension during the test.	3.89	metacognitive	high-use range
61	I tried to make my translation more like Chinese.	3.88	metacognitive	high-use range
52	I tried to make my writing coherent and cohesive during the test.	3.87	Metacognitive	high-use range
55	I tried to make as few mistakes as possible when writing during the test.	3.84	Metacognitive	high-use range
62	I tried to better understand the sentence according to its context when translating it into Chinese.	3.82	Metacognitive	high-use range
64	I listened to the teacher for instructions carefully during the oral test.	3.82	Metacognitive	high-use range
26	I used my background knowledge of the topic to help guess and deduce what the speaker said while doing listening comprehension during the test.	3.80	Compensation	high-use range

28	I used my background knowledge of the topic to help guess and deduce while reading during the test.	3.80	Compensation	high-use range
80	I listened to my partner carefully during the oral test.	3.80	Social	high-use range
The ten least frequently used strategies				
Strategy No.	Strategy	Mean	Category in which this strategy is classified	Comment
3	To prepare for the test, I kept up my homework and reviewed my notes regularly.	1.20	memory	low-use range
24	I exchanged with English teachers about how and what to prepare for the test.	1.75	compensation	low-use range
11	I created summary notes and 'maps' before the oral test.	1.91	cognitive	low-use range
42	I created study checklists before the test.	1.91	metacognitive	low-use range
6	I memorized model texts/essays before the test.	1.99	memory	low-use range
36	I tried to predict examination questions and then outlined my answers before the test.	2.00	metacognitive	low-use range
5	I created flashcards for words, phrases and sentence structures, etc. that I needed to memorize before the test.	2.07	memory	low-use range
33	I developed a timetable to prepare for the test and stuck to it.	2.07	metacognitive	low-use range
43	Before the test, I avoided speaking with other students who had not prepared to avoid distraction from my preparation.	2.07	metacognitive	low-use range
44	I got familiar with the test room before the test.	2.12	metacognitive	low-use range

Among the ten least often used individual strategies, all were distinctly in the low-use

range with a mean range of 1.20 to 2.12 and most fell into metacognitive and memory categories, see Table 5. For example, the students seldom used the following strategies during the test: "kept up homework and reviewed notes regularly" (mean = 1.20); "exchanged with English teachers about how and what to prepare for the test" (mean = 1.75); "created summary notes and 'maps' before the oral test" (mean = 1.91); created "study checklists" (mean = 1.91); "predicted examination questions and outlined my answers" (mean = 2.00); "developed a timetable" (mean = 2.07); "avoided speaking to unprepared students" (mean = 2.07); and "got familiar with the test room" (mean = 2.12).

As such, the least often used individual strategies included memory strategies like reviewing notes and memorizing model texts/essays, which was not out of our expectation. TEPT1 2005, as a proficiency and exit test, was generally not restricted to the content taught during a term but more concerned with what test-takers were able to do with English. Knowing this well, test-takers would neither keep up homework nor review notes regularly to pass this test, as they usually did to prepare for term exams. It was the same with memorizing model texts/essays in that test-takers must know how to write any type of English composition. Probably for the same reason, these test-takers would seldom discuss with their course teachers about how to prepare for the test, create summary notes or make study checklists before the test. Meanwhile, means of such

strategies as 36, 33, and 43 indicate that these participants did not attach much importance to the preparation for the test. This was quite surprising because the TEPT 1 played a crucial role in determining whether they could be granted the degree of certificate on time. However, it might also be because the participants had no idea of how to prepare for a proficiency test that did not have a specific achievement target.

Additionally, most participants reported other individual strategies, though not listed in Table 5, as not being very frequently used, such as "memorized words, phrases, grammatical points, and sentence structures" (mean = 2.20), "practiced writing by modeling good essays" (mean = 2.28), and "double-checked answers" (mean = 2.18).

Correlation between English test-taking strategy use and students' test performance

Correlation analyses were run to investigate the relationship between English test-taking strategy use and students' test performance, the results of which are shown in Table 6.

Table 6: Correlation between English Test-taking Strategy Use and Students' Test Performance (N = 526)

	Listening	Reading	Translation	Writing	Written test score	Oral test score	overall score
Listening	1	.511**	.504**	.192**	.779**	.422**	.791**

Reading	.511**	1	.518**	.088*	.721**	.267**	.713**
Translation	.504**	.518**	1	.208**	.668**	.315**	.671**
Writing	.192**	.088*	.208**	1	.621**	.104**	.596**
Written test score	.779**	.721**	.668**	.621**	1	.377**	.991**
Oral test score	.422**	.267**	.315**	.104*	.377**	1	.499**
Overall score	.791**	.713**	.671**	.596**	.991**	.499**	1
TMS	-.019	-.030	.022	-.025	-.027	-.071	-.036
TCogS	.069	.082	.077	.006	.076	.010	.071
TComS	.062	.105*	.050	.046	.096*	.040	.094*
TMetaS	.015	-.012	.033	.000	.007	.036	.010
TAS	.023	.002	.010	-.014	.005	.009	.005
TSS	.074	.008	.011	.034	.051	.095*	.060
ETSI	.037	.029	.047	-.002	.033	.021	.032

Notes: ** p < .01   * p < .05

As shown in Table 6, students' test performance was found to significantly correlate

with certain categories of English test-taking strategies in the present study, as found in

numerous existing studies (Kim & Goetz, 1993; McLain, 1983; Parham, 1997; Phakiti,

2003). Compensation strategies were significantly positively related to students'

performance on the reading test (r = .105), the written test (r = .096) and the overall

TEPT 1 2005 (r = .094) though the coefficients were not high. Social strategies were

significantly positively correlated with students' performance on the oral test (r = .095). It

might be because the oral test required much cooperation between test-takers, which

compelled students to employ more social strategies to help them complete the test more successfully. When working on other parts of the test, students could independently resort to other types of strategies they knew. However, regression analyses yielded no powerful predictors for students' test performance among the measured variables.

It is worth noting that correlation analyses of English test-taking strategy use and students' test performance yielded different results for participants in different study years. As summarized in Table 7, for first-year students, English test-taking strategy use seemed to have exerted great impact on their performance in the TEPT1 2005. Cognitive, compensation and social strategies, and overall English test-taking strategy use were significantly positively correlated with first-year students' performance in the listening, reading, translation and written tests of the TEPT1 2005 and the overall TEPT1 2005; metacognitive strategies significantly positively correlated with their performance in the translation and oral tests of the TEPT1 2005. For second-year students, no significant correlations occurred between English test-taking strategy use and students' test performance. For third-year students, only social strategies were highly related to their performance in the oral test of the TEPT1 2005. For these students, the use of other test-taking strategies seemed to have had little effect on their performance in the proficiency test. This might be partly attributed to the fact that the first-year students, who are fresh

out of middle school, which is very exam-oriented in Mainland China, were generally more skilled at employing various strategies when taking tests. It may also be due to the fact that first-year students were required to take credit-bearing English courses while many of their second-year and third-year counterparts declined the option to do so, and as such had forgotten how to employ these strategies.

Table 7: Correlations between English Test-taking Strategy Use and Students' Test Performance in Different Study Years (N = 526)

		TMS	TCogS	TComS	TMetaS	TAS	TSS	ETSI
Listening	1	.128	.22**	.19*	.13	.11	.21**	.18*
	2	-.10	.08	.04	-.02	-.01	.03	.001
	3	-.01	-.03	-.04	-.05	-.03	.023	-.04
Reading	1	-.002	.160*	.250**	.079	.138	.082	.131
	2	.019	.119	.099	-.067	-.086	-.101	.000
	3	-.079	-.011	-.007	-.058	-.078	.015	-.046
Translation	1	.079	.190*	.194*	.173*	.099	.083	.191
	2	-.055	.045	.064	-.022	.034	-.069	-.001
	3	.021	.016	-.055	-.026	-.063	-.002	-.027
Writing	1	.091	.090	.050	.097	.045	.138	.111
	2	-.001	.033	.031	.004	.048	.020	.020
	3	-.006	-.018	.020	-.014	-.058	.022	-.027
Written test score	1	.091	.220**	.234**	.147	.136	.173*	.195*
	2	-.040	.099	.078	-.035	-.001	-.024	.012
	3	-.034	-.020	-.022	-.051	-.078	.024	-.049
Oral test score	1	.086	.141	.145	.160*	.012	.175*	.152*
	2	-.13	.07	.014	.03	.101	-.05	.018
	3	-.084	-.128	-.069	-.042	-.042	.171*	-.066
Overall score	1	.099	.224**	.235**	.158	.125	.186*	.201*
	2	-.061	.105	.078	-.029	.018	-.034	.014
	3	-.043	-.038	-.033	-.056	-.082	.042	-.058

Notes: ** p < .01;   * p < .05

1 = year-1 student;   2 = year-2 students;   3 = year-3 students

Correlations between English test-taking strategy items and students' test performance

When exploring relationships between English test-taking strategy items and students' test performance, we only included the written and oral test scores of the TEP1 2005 and the overall test score while ignoring scores in discrete parts (listening, reading, translation and writing). The

analyses revealed that 21 strategy items that were significantly correlated with students' test performance.

Table 8: Correlations between Test-taking Strategy Items and Students' Test Performance (N = 526)

Items	Written test score	Oral test score	Overall test score
9. Practiced speaking English in different situations before the test (cognitive).	.091*	.099*	.099*
10. Practiced writing answers to sample questions before the test (cognitive).	.101*		.101*
11. Created summary notes and 'maps' before the oral test (cognitive).	-.096*		-.093*
14. Looked for the central idea of each question (cognitive).	.118**		.111*
30. Used background knowledge to complete the test (compensation).	.090*		.086*
31. Used linguistic knowledge to complete the test (compensation).	.127**		.123**
34. Read old exam papers before the test (metacognitive).	.161**		.162**
44. Got familiar with the test room before the test (metacognitive).	-.101*	-.120**	-.111*
53. Paragraphed writing during the test (metacognitive).	.097*	.133**	.110*
54. Wrote a topic sentence for each paragraph when writing during the test (metacognitive).	.095*	.115**	.105*
55. Tried to make as few mistakes as possible when writing during the test (metacognitive).	.106*	.137**	.118**
57. Listened to keywords when doing listening comprehension during the test (metacognitive).		.100*	.087*
58. Listened to clues while doing listening comprehension during the test (metacognitive).	.087*		.090*
63. Used the information on the card to help generate and organize ideas during the oral test (metacognitive).		.110*	
65. Made a good use of past experiences to finish the oral test (metacognitive).		.176**	
69. Answered easy questions first during the written test (metacognitive).	-.092*	-.163**	-.110*

71. Will summarize performance after the test (metacognitive).	-.096*	-.113**	-.107*
76. Breathed deeply to calm down when becoming nervous before and/or during the test (affective).		-.122**	
77. Approached the test with confidence (affective).		.159**	
80. Listened to partner carefully during the oral test (social).		.122**	
81. Supported and helped partner during the oral test (social).	.100*	.160**	.116**

Notes: ** p < .01;   * p < .05

As noted in Table 8, eight individual strategies had a significant relationship with students' performance on the written and oral tests and the overall TEPT 1 2005. Strategy 9, "practiced speaking English in different situations before the test" (cognitive); 53, "paragraphed writing during the test" (metacognitive); 54, "wrote a topic sentence for each paragraph when writing during the test" (metacognitive); 55, "tried to make as few mistakes as possible when writing during the test" (metacognitive); and 81, "supported and helped my partner during the oral test" (social) were significantly positively related to students' performance in the written and oral tests and the overall TEPT1 2005. Namely, the more frequently a student used these strategies, the better s/he performed on the proficiency test. Meanwhile, strategy 44, "got familiar with the test room before the test" (metacognitive); 69, "answered easy questions first during the written test" (metacognitive); and 71, "will summarize performance after the test" (metacognitive) were highly negatively related to students' performance in the written and oral tests and the overall TEPT1 2005. In other words, a more frequent user of these metacognitive strategies tended to perform worse on the proficiency test.

In addition, seven individual strategies were highly related to students' performance on the written part and the overall proficiency test. Strategy 34, "read old exam papers before the test" (metacognitive); 10, "practiced writing answers to sample questions before the test" (cognitive); 14, "looked for the central idea of each question" (cognitive); 58, "listened to clues while doing listening comprehension during the test" (metacognitive); 30, "used background knowledge to

complete the test" (compensation); and 31, "used linguistic knowledge to complete the test" (compensation) were all significantly positively correlated with students' test performance, while strategy 11, "created summary notes and 'maps' before the oral test" (cognitive) was significantly inversely related to students' test performance.

Meanwhile, four individual strategies significantly correlated with students' performance in the oral test: strategy 63, "used the information on the card to help generate and organize ideas during the oral test" (metacognitive); 65, "made a good use of past experiences to finish the oral test" (metacognitive); and 80, "listened to the partner carefully during the oral test" (social) were positively correlated with students' oral test performance. Strangely, strategy 76, "breathed deeply to calm down when becoming nervous before and/or during the test" (affective) seemed to have exerted a negative effect on students' performance on the oral test. This might be concerned with students' level of anxiety/confidence. If a student felt confident during the oral test, s/he would not need to breathe deeply but rather behaved naturally; whereas if s/he felt anxious, s/he might purposefully breathe deeply to calm down, which could negatively influence his/her test performance.

In general, most of these individual strategies were concerned with planning and fell into the metacognitive category, which had a significant relationship with students' test performance, especially students' performance on the written test. This might be due to the fact that more metacognitive strategies were included in the survey. Social and affective strategies appeared to be more related to students' performance in the oral test. Memory strategies seemed to have little significant effect on students' performance either on the written or oral test.

Differences in English test-taking strategy use among students in different study years

To address the differences in English test-taking strategy use among students in different years of study, the analysis of one-way ANOVA was conducted. The results are reported in Table 9.

Table 9: ANOVA Results of English Test-taking Strategy Use

Measures	F	P	F*	Level (Mean) Year 1 = 166; Year 2 = 224; Year 3 = 157			Location of Sig. difference
				Year 1	Year 2	Year 3	
TMS	7.95**	.00	2.77	2.09	2.32	2.38	Years 1 & 2; Years 1 & 3
TCogS	1.10	.33	2.77	2.90	2.97	2.98	/
TComS	1.64	.19	2.77	3.47	3.38	3.37	/
TMetaS	.20	.82	2.77	3.13	3.16	3.13	/
TAS	.69	.50	2.77	3.32	3.42	3.34	/
TSS	.50	.61	2.77	3.07	3.10	3.15	/
ETSI	.60	.55	2.77	3.03	3.08	3.07	/

Note: F* → Critical F value for Duncan's test at .05 level (Black, 1999).

According to Table 9, students in all study years had a medium use of the strategies except memory strategies, which were in the low use range. Third-year students reported having used memory, cognitive, and social strategies the most frequently during the test, whereas their first-year counterparts used these strategies the least frequently. Second-year students reported having utilized metacognitive, affective, and the overall strategies the most often while their first-year peers employed them the least often. Meanwhile, first-year students seemed to have had the greatest use of compensation strategies, while their third-year peers reported having had the lowest use of them. However, post-hoc tests revealed significant difference occurred only in the use of memory strategies among students in different years of study: first-year students deployed memory strategies significantly less frequently than their second-year and third-year counterparts, while second-year and third-year students did not differ significantly from each other in terms of memory strategy use. This significant difference might be again largely due to the fact that first-year students who had more access and exposure to English were more skilled at using English and taking English tests, while their second- and third-year peers who had much less exposure to English had to resort to memory more to pass the exam.

Conclusions and educational implications

The present study investigated Chinese EFL learners' test-taking strategy use, its effect on students' test performance, and strategic differences among students in different study years. It was found that the six strategy categories were important subcomponents of the English Test-Taking Strategy Inventory (ETSI) and that the participants had a medium use of English test-taking strategies. Like their counterparts in other EFL learning situations (Lan & Oxford, 2003; Oxford & Ehrman, 1995), these learners resorted to frequent use of compensation strategies to cope with the challenges found in the EFL testing situation. These challenges might have made the test more difficult. On the positive side, they were using some affective strategies to help them reduce the anxieties and stress found during the test. It is also encouraging that these test-takers deployed social strategies to cooperate with each other to finish the test, especially the oral test.

The study also revealed that students who used one category of English test-taking strategies more frequently tended to use the other five categories of strategies more often. This indicates teachers should encourage EFL learners to use effective English test-taking strategies whenever possible, with the aim of more efficient learning and better outcomes. Teachers can start by raising students' awareness of the English test-taking strategies they have already been using. To help students better understand the strategies and strategy use, it is "perfectly fine to employ the native language for explanations" (Lan & Oxford, 2003, p. 375). Nevertheless, it is also necessary to teach students to know simple strategy names in English, such as "Use background knowledge" and "Look for clues", which is also a type of English learning.

As to the relationship between English test-taking strategy use and students' test performance, the present study revealed significant correlations (though low) which emerged between compensation and social strategies and students' test performance. Social strategies were especially highly related to students' performance on the oral test. Some metacognitive strategies (especially planning strategies) were particularly significantly correlated with students' test performance. This suggests English test-taking strategy use could indeed affect students' test performance, at least certain aspects of performance in English. This further attests to the

importance of raising students' awareness of the broad range of English test-taking strategies and instructing them how to use these strategies effectively. For example, EFL learners can be encouraged and trained to pay more attention to planning when working on a test.

Additionally, it was found that learners in different study years all had a medium use of all categories of English test-taking strategies except memory strategies, which was little used by all participants. This may imply individuals may have different preferences for using strategies and so may learners in different study years. Thus, it is important for EFL teachers and learners to recognize that some English test-taking strategies may be more suited to some learners than to others. Consequently, teachers may plan their instructions more powerfully and students can receive what they need to the greatest degree. Just as Vandergrift (1997) claimed, "the growing interest in learning strategies reflects an awareness that students can, and need to, develop tools to become more effective and autonomous language learners (p.387)".

Finally, though numerous studies have been conducted on language learning strategy use and its relationships with individual learner characteristics, not much research has been done in the area of English test-taking strategy use, which merits further investigation in that it may greatly influence learners' test performance. The findings of this study also lend support to further research in this area. First, we need to know the extent to which the specific patterns of English test-taking strategy use we found in Beijing would occur in other geographical and cultural settings. Also worthy of further investigation is the relationship of English test-taking strategy use and test performance among students in different study years. Though not many significant correlations were found between English test-taking strategy use and test performance of the whole participant sample, many were found between English test-taking strategy use and first-year students' performance in English.

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