

Gender and major differences in test-taking strategies and EFL reading test performance

Nava Nourdad

ASSISTANT PROFESSOR

University of Tabriz

Abstract

This research explored gender differences in various EFL majors in the way test takers apply test-taking strategies and their ultimate reading comprehension test performance. To this end 214 male and female EFL students majoring in English literature, Teaching English and English Translation were selected based on convenience sampling and participated in the study. They were given a standardized reading comprehension and a thirty five-item questionnaire to measure their cognitive and metacognitive strategies. Analysis of the data by t-test and one-way ANOVA formulas revealed that there are neither gender nor major differences in any of cognitive or metacognitive test-taking strategies and EFL reading test performance.

Key words: Test taking strategies, Cognitive strategies, Metacognitive strategies, Reading test performance, Gender differences, Major differences.

Introduction

Although test results reflect the ability of the test-takers, it is affected by test taking strategies as well. To have a better performance test-takers need to use both specific strategies and linguistic knowledge. Learners who apply test-taking strategies can affect their test performance. Individuals usually differ in their ability to use appropriate strategies when faced with a problem or task.

This ability is called strategic competence and is defined by Canale and Swain (1980) as “the verbal and nonverbal communication strategies that may be called into action to compensate for breakdowns in communication due to performance variables or due to insufficient competence.” They regarded the strategic competence as a compensatory strategy. For Richards and Schmidt (2002) it is the ability of speakers to use verbal and non-verbal communication strategies to compensate for breakdowns in communication or to improve the effectiveness of communication. Savignon (2002) described the strategic competence as “Ability to compensate for imperfect knowledge of linguistic, sociolinguistic, and discourse rules or limiting factors in their application such as fatigue, distraction, inattention; the effective use of coping strategies to sustain or enhance communication” (p. 278). Fulcher and Davidson (2007) also see it as “the knowledge of how to overcome problems when faced with difficulties in communication” (p.38).

Learner strategies can be broadly divided in to two types of learning strategies and use strategies. Test-taking strategies as one of the main variables of this study are considered as a subcategory of the language use strategies and are defined as strategies used by individuals in taking a test. These strategies include: reading the instructions carefully, scheduling the allocated time appropriately, making use of clue words in the questions, delaying answering difficult questions, reviewing the work in order to check the answers, and the like. There is evidence to suggest that there a positive relationship between test performance and test-taking strategies (Mousavi, 1999). Sarnacki (1979) believes that test-taking strategy is a cognitive ability or set of skills a test taker can use to improve a test score no matter what the content area of the test is. In

addition, as Cohen (1994, p. 119) puts it test-taking strategies include strategies which learners apply while solving test tasks. These strategies can be “viewed simply as learner strategies applied to the area of assessment.

Bornholt (2002) conceptualizes test-taking strategies as characteristic ways a person goes about a test. According to Cohen and Upton (2007, p.211) test-taking strategies are “those test-taking processes which the respondents have selected and which they are conscious of, at least to some degree”. Cohen (2006) classifies test-taking strategies into three types of language learner strategies, test-management strategies, and test-wiseness strategies. In order to get better scores, learners should know test-taking strategies which they can apply in language tests.

As Bornholt (2000) puts it effective test-taking strategies are a key to completion and performance on a test task. For some test-takers, poor test-taking strategies prevent beginning the task. So while reading strategies are considered as what readers might do in order to read a text, test-taking strategies can be seen as what readers do to solve the test problem. The term strategy in this study is to mean a step or action that is designed to enhance test-taking, and is deliberately chosen by the test-taker and applied to a test task.

Two types of the essential test-taking strategies are cognitive and metacognitive strategies, which are fundamentally different. While cognitive strategies are used for understanding and recalling new information, metacognitive strategies are applied to regulate test-takers' cognition and assess their progress (Hwang & Lee, 2009). As Anderson (2005, P.767) puts it metacognition “is the ability to make your thinking visible. It is the ability to reflect on what you know and do and what you do not know and do not do” and according to Alexander, Schallert, and Hare (1991, p.320) it has two dimensions of *knowingthat* and *knowinghow*. While *knowing that* focuses on the knowledge of one's cognition and how the learner regulates the cognition, *knowing how* focuses on “executive control functions, the actual process of regulating one's cognition”. Readers who have metacognitive awareness evaluate their own knowledge of language, understand the given task, and then set a goal and plan to deal with the task. Later, readers apply cognitive strategies to process texts, check their own

comprehension, monitor strategy employment, evaluate strategy use, and then adjust their strategy application to achieve the appropriateness and effectiveness of strategy use (Wei-Tsung, 2008).

Many studies of examinee effort have briefly noted gender differences, but gender differences in test-taking effort have not been a primary focus of research. Marrs and Sigler (2012) compared study strategies for male and female college students in efforts to explain the lower academic performance of male students. They found that female students tended to employ a “deep approach” to learning, which involved engaging in the material at a deeper level, whereas male students tended to utilize a “surface approach,” which involved tasks requiring minimal effort (e.g., memorization). Wei (2009) conducted research into gender differences in reading comprehension. The findings presented that female learners preferred to utilize top down strategies, while male learners tended to use bottom-up strategies in reading. In Bacon’s (1992) study, the results demonstrated that males used more translation strategies than females. Besides, Zoubir-Shaw & Oxford (1995) found that there was a significant difference between the use of guessing and contextualization by male and female learners. Yang (1999) also found that female learners had more strategy awareness than male learners. Based on the findings of DeMars, Bashkov, and Socha (2013) differences in conscientiousness, agreeableness and work avoidance may account for some of the gender differences in test-taking efforts.

Goodwin, Ostrom, and Scott (2009) investigated test-wiseness and gender differences in the context of the adult learner, but did not reveal any statistically significant difference in the application of back substitution by male and female students. They claim that if either gender were found to be taking more of an advantage of the multiple-choice format, then the claim of fair assessment could be called into serious question. Back substitution in their study was just one example of test-wiseness skills that students could develop over their academic careers. They also found that guessing strategy was most likely equalized between the genders.

Powers (1995) in his study on gender differences in test-taking strategies detected few relatively small (and often inconsistent) differences between male and female test takers.

However, far more similarities than differences were noted with respect to both test performance and test-taking behavior. They concluded that males and females employ quite similar approaches to standardized test taking.

Baldige (2014)'s study on gender differences in guessing strategy found few statistically significant differences between the genders, and no consistent differences across test forms for any of the strategies. The similarity between males and females with regard to the frequency of use of various strategies (correlations of the rank order of frequency of use) was generally very strong.

Method

For the purpose of investigating gender and major differences in test-taking strategies and reading test performance, 214 male and female EFL students majoring in English literature, Teaching English and English Translation were selected based on convenience sampling and participated in this study. They were given a standardized reading comprehension test including three passages along with thirty three items. The reliability of the test was computed through KR-21 method of calculating reliability and the index obtained was 0.73. Later test-takers were given a thirty five-item questionnaire to measure cognitive and metacognitive strategies was taken from a similar study on strategies by Phakiti (2003). The questionnaire items in the study were similar to Purpura's (1999), but adjusted to suit a reading test. The reliability of the questionnaire was found to be 0.96. The questionnaire was a five-point Likert scale with 5 scale responses. The items were in the form of statements and the participants graded their answers on this scale from one to five points including never, sometimes, often, usually, and always.

Findings and discussions

The aim of this study was to investigate gender and major differences in cognitive and metacognitive test-taking strategies and reading test performance. Consequently the design of the research included two nominal independent variables (gender with two male and female levels, and major with three literature, teaching, and translation levels) and three interval dependent variables (cognitive test-taking strategies, metacognitive test-taking strategies, and reading test

performance). Tables 1 and 2 present descriptive statistics of the dependent variables in terms of the two independent variables namely gender and major respectively.

Table 1: *Descriptive statistics of cognitive/metacognitive strategy use and reading test performance by male and female participants*

Dependent variables	Gender	N	Mean	SD
Metacognitive test-taking strategies	Male	114	83.36	20.42
	Female	100	75.77	33.74
Cognitive test-taking strategies	Male	114	36.90	10.34
	Female	100	32.30	15.46
Reading test performance	Male	114	18.86	3.33
	Female	100	18.90	3.93

Table 2: *Descriptive statistics of three majors in their metacognitive and cognitive strategy use and reading test performance*

Dependent variables	Major	N	Mean	SD
Metacognitive test-taking strategies	Literature	92	82.37	19.42
	Teaching	35	82.71	20.30
	Translation	87	83.09	21.06
	Total	214	82.72	20.15
Cognitive test-taking strategies	Literature	92	35.95	9.98
	Teaching	35	35.86	10.06
	Translation	87	36.19	10.56
	Total	214	36.03	10.19
Reading test performance	Literature	92	18.99	3.65
	Teaching	35	18.43	3.65
	Translation	87	18.94	3.60
	Total	214	18.88	3.62

In order to investigate the probable statistical differences of genders in terms of cognitive and metacognitive test-taking strategies and reading test performance three independent samples t-tests were applied separately each for one of the dependent variables. The results of these analyses are presented accumulatively in Table 3.

Table 3: *Group means comparisons of cognitive/metacognitive strategy use and reading test performance between male and female participants*

		F	Sig.	t	df	Sig. (2-tailed)
Metacognitive Test-taking strategies	Equal variances assumed	17.28	.00	2.02	212	.045
	Equal variances not assumed			1.96	158.49	.052
Cognitive Test-taking strategies	Equal variances assumed	11.37	.00	2.59	212	.010
	Equal variances not assumed			2.52	169.17	.013
Reading test performance	Equal variances assumed	3.14	.08	-.08	212	.93
	Equal variances not assumed			-.08	195.13	.93

Although male participants applied more cognitive and metacognitive strategies and female participants performed better in reading test, the difference were not that much and as the results in Table 3 indicate male and female test-takers did not differ statistically in their metacognitive test-taking strategies ($t=2.02$, $p \leq 0.05$) and cognitive test-taking strategies ($t=2.59$, $p \leq 0.05$). Also significant gender differences were not found in reading test performance of the test takers ($t=-0.08$, $p \leq 0.05$).

To probe any probable difference in cognitive and metacognitive test-taking strategies and reading test performance across three EFL majors three one-way ANOVAs were conducted separately the results of which are assembled in one table due to economy rules.

Since three groups of test-takers in three majors were not of the same size, tests of homogeneity of variances were required as prerequisites of ANOVA analyses. Therefore three

tests of homogeneity of variances for the three dependent variables were applied as presented in Table 4.

Table 4: *Tests of homogeneity of variances independent variables*

Dependent variables	Levene Statistic	df1	df2	Sig.
Metacognitive strategies	.27	2	211	.76
Cognitive strategies	.18	2	211	.84
Reading test performance	.01	2	211	.99

As presented in Table 4 all the groups appeared to be homogeneous in terms of the three dependent variables. Table 5 reflects the analysis results of three separate one-way ANOVAs.

Table 5: *Group means comparisons between three majors in their cognitive/metacognitive strategy use and reading test performance*

Dependent variables	Comparisons	Sum of squares	df	Mean square	F	Sig.
Metacognitive strategies	Between groups	23.34	2	11.67	.03	.97
	Within groups	86485.84	211	409.89		
	Total	86509.18	213			
Cognitive strategies	Between groups	4.08	2	2.04	.02	.98
	Within groups	22102.69	211	104.75		
	Total	22106.77	213			
Reading test performance	Between groups	8.57	2	4.28	.32	.72
	Within groups	2780.27	211	13.18		
	Total	2788.84	213			

The results of ANOVA for metacognitive test-taking strategies did not reveal a significant difference across majors ($F=0.03$, $p \leq 0.05$). It was also found that participants of the three majors did not differ statistically in terms of cognitive test-taking strategies ($F=0.02$, $p \leq 0.05$). Analysis of the results also proved that test-takers of the three majors were almost the same in their reading test performance ($F=0.32$, $p \leq 0.05$).

All in all the findings demonstrated that male and female test-takers of the three EFL majors (literature, teaching, and translation) had almost the same test-taking strategies and reading test performance. The findings are in line with similar studies such as Goodwin, Ostrom, and Scott (2009), Powers (1995), Baldige (2014).

The equality of the male and female participants in various majors can be due to the similar syllabus design and materials used for the male and female students in these three majors. So since university students are in a coeducational academic context and for the first two years teaching and testing system is almost the same for these three different majors and there is no strategy use instruction for the participants in different majors no significant difference was found in test-taking strategy use by participants.

Whatever the reason for these findings, it is evident that appropriate use of test-taking strategies can help test-takers solve problems or difficulties while taking tests. It can also result in positive attitudes toward testing and consequently reduce test anxiety. So it suggests support for training EFL classroom teachers to provide instruction in test-taking strategies for the following reasons. EFL reading test performance is a complex process in which test-takers actively used strategies, so due to the demanding nature of EFL reading test, the teaching of specific test-taking strategy in English reading classes is required. Such an instruction, however, is not commonly included in curriculum and instruction.

Test-taking strategy training should not be abstract and theoretical, but should be highly practical and useful for test-takers. Teachers can learn about test-taking strategies by books or journals, attending professional conferences, or taking relevant courses or workshops.

Language teachers should also do task analyses of strategies to be taught. In other words, they must think about how a particular strategy is best applied and in what contexts. Teachers can observe students as they perform reading tests in order to determine students' strengths and weaknesses in terms of strategy use, which in turn will help in providing effective and appropriate strategy instruction. It is better to teach strategies over an entire academic year, not

just in a single session or until allowing strategic instruction to permeate the curriculum. They should also provide students with opportunities to practice strategies they have been taught.

Strategic competence in the last decades has been known and highlighted in theories and research pieces. Considering its great role in academic context curriculum developers and text book material developers should include appropriate tasks to improve this competence in line with the recent findings.

Variations in test scores due to variable use of strategies usually are regarded as random variance. However, strategy use is better viewed as one source of “test pollution” because it contaminates the scores and interpretation of the results (Haladyna, Nolen, & Haas, 1991). Rogers and Bateson (1994) also believe that if test scores can be influenced by applying strategies, then individuals involved in test development, administration, and interpretation need to consider carefully the construct of test-wisness and how it affects scores. So there is a need to be aware of the full range of components of language while designing and developing tests and interpreting their results. For example, even though we may only be interested in measuring an individual’s reading comprehension ability, the kind of test items, tasks, or texts used need to be selected with an awareness of what other components of language ability they may evoke.

Conclusion

This study aimed at finding out probable gender and major differences in cognitive and metacognitive test-taking strategies and reading test performance. Analysis of the data from a reading comprehension test, and a 35-item Likert type strategy questionnaire answered by 214 male and female EFL university students in three majors of English literature, English language teaching, English language translation revealed that male and female participants differed neither in their test-taking strategies nor in their reading test performance. As the second dimension of the study major differences were investigated and no significant difference was found between English literature, Teaching English language, and English language translation in their test-taking strategies and reading test performance.

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