Explore the relationship between strategy use and ESP reading test performance of two university majors (humanities VS. science)

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ABSTRACT

This paper focuses on exploring the relationship between strategy use and ESP reading test performance of two university majors (humanities VS. science). To fulfill the purpose of the study, 240 intermediate students were selected out of a population pool of 360 ESP students studying in three universities in Iran, Esfahan based on their performance on Oxford Placement Test. After 5 sessions of teaching and practicing strategies a multiple choice reading comprehension plus a cognitive and metacognitive questionnaire were given to experimental groups. Pearson product moment correlations and t-test was used. The results showed the positive effect of using strategy on ESP reading comprehension test performance. Regarding major, science groups outperformed humanities. The findings have significant implications for ESP learners, teachers and material developers.

Introduction

Language learning strategies have received a particular attention since the late 1970s. Studies showed that L2 learning could be enhanced by selecting appropriate strategies. Hosseini Nezhad (2006) found that awareness of reading strategies of Iranian students had positive effect on their performance in reading test so the outcome of the research into the strategies used by successful language learners showed that teaching strategies during language learning lead to effective learning. Although their effectiveness depends on learners. Teng (1998) also found that teaching cognitive and metacognitive leaded to improvements in comprehension. Shoery and Mokhtari (2001) also stated that strategic awareness and monitoring of the comprehension are important for efficient reading .

There are many factors that are important in strategy choice like learner factors, situational and social factors, and academic factors. One of the academic factors is field study. Several studies that investigated the field of study or career orientation of EFL or L2 found that there was significant differences in language learning strategy choice and use among different majors like humanities, social sciences and education on the one hand and science and technical majors on the other hand. (Mochizuki, 1999; Oxford & Nyikos, 1989; Peacock, 2001; Peacock & Ho , 2003; Politzer & Mc Groaty, 1985; Psaltou-Joycey & Kantaridou, 2011).The findings of another study by Oxford ,Nyiko and Ehrman(1988) also revealed that engineering students choose more analytic strategies than humanities, so by reviewing literature of the study it was concluded that there were not enough researches in regard to the relationship between reading comprehension test and application of strategies between different majors in Iran, and according to Noorzadeh (2005) most of the learning teaching activities are led by the teachers and students do not have the knowledge of strategy use and according to (Tuckman, 2003) learning strategies are more important for college students because academic tasks at the college level require higher level of thinking and more independent learning. In addition, according to (Grabe and Stoller, 2001), academic reading requires developing strategic readers who are aware of their goals in reading and able to administer strategies effectively. The present study first, intended to explore the relationship between ESP reading comprehension test performance and the application of cognitive and metacognitive strategies. Furthermore to investigate whether there was significant difference between different university majors (humanities VS. science) in term of application of strategies in their reading comprehension test performance. So, This study was an attempt to investigate appropriate answers to the following questions:

1- Is there any significant relationship between ESP reading comprehension test performance and the application of cognitive and metacognitive strategies?

2- Is there any significant difference between different university majors (humanities VS. science) in reading comprehension test performance due to strategy use?

To investigate the above research questions, the following null hypotheses have been addressed:

H_{01}: There is no significant relationship between ESP reading comprehension test performance and the application of cognitive and metacognitive strategies.

H_{02}: There is no difference between different university majors (humanities VS. science) regarding their reading comprehension performance due to using strategies.

Methodology

Participants

Two hundred forty male and female students aged 20-23 were screened out from among 360 ESP students from totally two majors , humanities and science in Iran, Esfahan through administering the OPT in order to choose the intermediate level. The selected participants in each major (i.e. humanities VS. Science) were randomly divided into four groups as shown in figure 1 and 2.

Materials

Several instruments were used in order to collect data. First, OPT was taken to choose the intermediate level of students. The

second instrument was reading comprehension text that was according to the reading comprehension texts that ere taught during the term in the class by their professor and 7 multiple choice questions related to it. Another instrument was cognitive and metacognitive questionnaire. In particular the questionnaire items in the study were similar to Purpura`s (1999), but adjusted to suit a reading test.
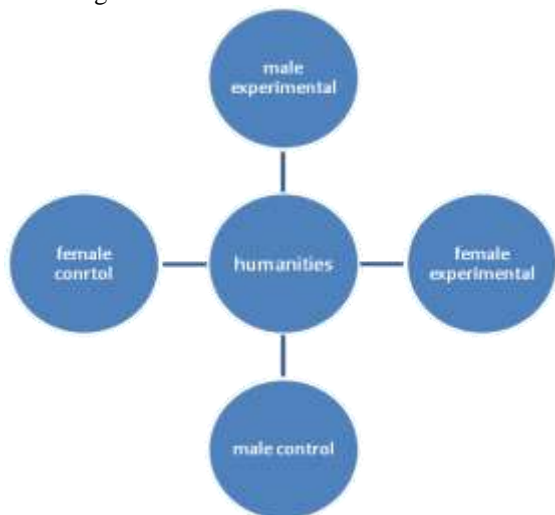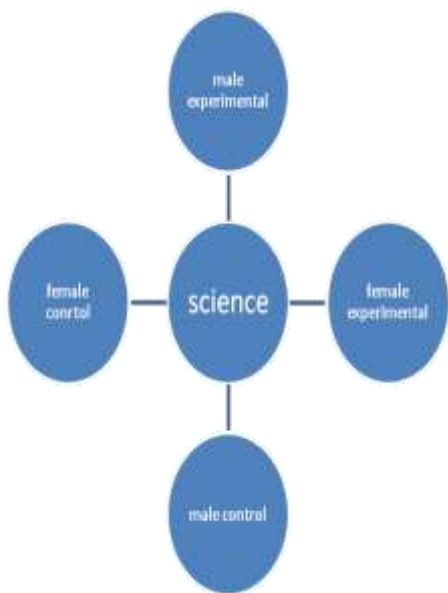

Figure 1 Humanities Groups Division

Figure 2 Science Groups Division

Procedure

The OPT was administered to choose the intermediate students. Then they were divided into four groups in each major. Then the selected participants in experimental groups were taught 8 reading comprehension strategies with the help of teacher, but the participants in control group did not receive any treatment. After 5 sessions of classes ,the test of multiple choice reading comprehension were given into both experimental groups with the cognitive and metacognitive strategy questionnaire.

Data analysis and Results

Pearson product moment correlations were conducted to simply investigate the relationship between strategies and the reading test performance. Table 1 reveals the results of the correlation analyses. It should be mentioned that the correlations for different groups were calculated separately so that the researcher could see if correlation exists for each group.

Table 1. The Results of the Correlation Analysis

		Humanities-Male- Quest.	Humanities-Female-Quest.	Science-Male-Quest.	Science-Female-Quest.
Humanities-Male-Reading	Pearson Correlation	.431[*]			
	Sig. (2-tailed)	.017			
	N	30			
Humanities-Female-Reading	Pearson Correlation		.589[**]		
	Sig. (2-tailed)		.001		
	N		30		
Science-Male-Reading	Pearson Correlation			.544[**]	
	Sig. (2-tailed)			.002	
	N			30	
Science-Female-Reading	Pearson Correlation				.377[*]
	Sig. (2-tailed)				.040
	N				30

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

According to Table 1 , there exist significant correlations for all groups (Humanities-male: r= .431, p= .017; Humanities-female: r= .589, p= .001; Science-male: r= .544, p= .002; Science-female: r= .377, p= .040). The Pearson product moment correlations revealed that there was significant relationship between reading comprehension test results and employing cognitive and metacognitive strategies in the test of reading . Therefore, the first hypothesis stating that, "there is no significant relationship between EFL reading comprehension test performance and the application of cognitive and metacognitive strategies" can also be rejected, and it can be claimed that there is a significant relationship between reading comprehension test results and employing cognitive and metacognitive strategies in the test of reading.

A t- test was employed to find out the differences between different university majors regarding their reading comprehension performance due to using strategies. The t-test results demonstrated that different university majors perform differently on the test of reading comprehension regarding employing reading strategies. Table 1 presents the descriptive statistics for this comparison, and Figure 3 presents the means graphically.

Table 2. Descriptive Statistics for Hypothesis two

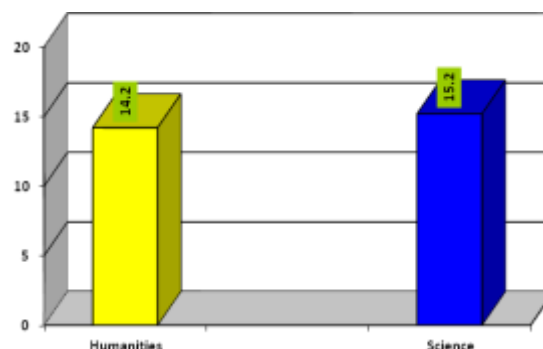| Group	N	Mean	SD	SEM
Humanities	60	14.20	2.516	.325
Science	60	15.20	2.517	.325

Figure 3 Graphical representation of the means for hypothesis two

The data in Table 2 reveals that there is some difference between the two means. In order to make sure that this difference is statistically significant, a last t-test was employed. Table 3 depicts the results of this t-test.

Table 3. The Results of t-test for Hypothesis two

t	df	Sig.	Mean Difference
-2.177	118	.032	-1.00

According to Table 3, the amount of t-observed (-2.177) is significant at the probability level of p= .032 which denotes a statistically significant amount. In other words, since t-observed is negative, it means that the participants in science group outperformed the participants in humanities group.

Discussion

The correlational between reading comprehension scores and the results of the questionaaire for each group was significant .The participants in the experimental groups who were exposed to strategy instruction highly outperformed the control group who taght reading comprehension through traditional way (i.e. without teaching and praciticing strategies). The above mentioned results seem to reject the hypotheses of the study and they revealed that there was significant relationship between ESP reading comprehension test performance and the application of the cognitive and metacognitive strategies. Hosseini Nezhad, (2006); Malcome, (2009); Park, (2010); uzunmak, (2005); Zhang & Wu, (2009) also showed that high achivement in reading comprehension is correlated with the high use of reading strategies.Therefore, if teachers explicitly teach reading strategies, it would help students to perform good reading habits in order to success in academic reading .

The results of t-test indicated that participants in science group highly outperformed the participants in humanities group. Therefore, the second null hypothesis which stated that "there was no difference between different university majors regarding their reading comprehension performance due to using strategies" rejected, so it can be stated that different university majors perform differently on the test of reading comprehension regarding employing strategies.

Conclusion

The purpose of this study was to explore the relationship between cognitive and metacognitive strategies use and reading comprehension test of two university majors. The study was implemented across three universities between two university majors(humanitities VS. science). There was a significant relationship between reading comprehension test results and employing cognitive and metacognitive strategies in the test of reading. Moreover, science groups performed better than humanities in their reading comprehension perormance, so it can be stated that if ESP teachers embed strategies into everyday class activities it encourages students to use strategies in order to increase their comprehension .so, this study may have some hints for English teacher and ESP learners.It would also have some implications for material developers in order to understand the learner,s need and make English language learning more learner centerd.

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