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The Interplay between Self-Regulation Strategies, Academic Writing Achievement and Gender in an Iranian L2 Context

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Abstract
Research on self-regulation strategies and their impact on EFL learners' academic writing has turned into an important area in applied linguistics. Accordingly, the present study sought to investigate the relationship between Iranian EFL sophomore students' self-regulation skills and their academic writing achievement. For this purpose, a self-report questionnaire developed by Pintrich et al. (1991) was utilized to gauge the participants' level of self-regulation abilities. From the population of sophomore students of English translation, a sample of 195 male and female students with an age range of 18 to 25 agreed to respond to a two-part questionnaire with 81 prompts. Then, based on the 50th percentile of the ratings obtained, they were divided into four equal samples; namely, High Self-Regulation (HSR) and low self-regulation (LSR) groups. Subsequently, the male and female groups, 25 each, were asked to participate in an academic writing course, which lasted for a full term. At the end of the treatment, an IELTS academic writing test was administered as a post test. The statistical analysis of the data revealed that the male and female groups with a higher level of self-regulation skills outperformed those with a low self-regulation ability rating on the academic writing test. The findings also indicated that of the male and female target samples with high self-regulation ratings, only the former received higher scores on the writing post-test compared with the latter.
Keywords: self-regulation skills, academic writing, writing achievement, gender, L2 context

INTRODUCTION

Self-regulation plays a pivotal role in educational psychology so much so research on teaching and learning to self-regulate has gained a lot of momentum in the last two decades (Torranos & Torees, 2004). Clearly, self-regulation is defined as the changing of

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the self in order to adjust oneself to certain ideas or concepts (Forgas, Baumeister & Tice, 2009; Boekaerts & Corno, 2005). Hirata (2010) maintains that self-regulation is a broad concept extending beyond metacognition and involves various factors like emotion, thinking, behavior and environment. As such, Pintrich (2005) asserts that self-regulation has an intermediary role mediating between individuals' achievements and environmental forces. Unsurprisingly, some scholars like Tangency et.al (2004) claim that specific personal problems such as underachievement may stem from failures of self-regulation.

The concept of self-regulation has been defined differently by different practitioners of the field. Zimmerman (2000), for example, defines the concept of self-regulation as "thoughts, feelings and actions that are planned and cyclically adapted to the attainment of personal goals (p.2117). Muraven and Baumeister (2000) also believe that self-regulation is coterminous with self-control and state that it is "the exertion of control over the self by the self" (p.247). Alternatively, Bauer and Baumeister (2011) maintain that self-regulation is a kind of power that people own to various degrees for monitoring temporary, transient, and impulsive desires or even some automatic natural behaviors for the sake of long term achievements. Focusing on the difference between self-regulation and self-control, Duckworth et al, (2009) suggest that self-regulation is not just resisting impulses or regulating the concentration; rather it involves "setting goals for learning, attending to and concentrating on instruction, using effective strategies to organize, code and rehearse information to be remembered, establishing a productive work environment, using resources effectively, seeking assistance when needed, holding positive beliefs about ones' capabilities, the value of learning and the anticipated outcomes of actions, as well as experience, pride and satisfaction with ones' efforts" (p.631).

Not surprisingly, it has conclusively been demonstrated that self-regulation and academic writing are interrelated. In fact, a considerable amount of literature has been published on the efficacy of self-regulation factors in facilitating learning behaviors of different learners. Hammann (2001) maintains that self-regulation can be considered as a reliable indicator of academic writing achievement since this type of writing requires high levels of metacognitive engagements such as decision making, problem solving and task persistence. She found that students who believe that writing is a learnable activity will use more effort to self-regulate their writing process to the best of their abilities. In another study, Plata (2008) investigated students' reflections on self-regulation and its influence on writing. She analyzed the data from the journals prepared by 17 university freshman students majoring in arts and engineering and found that teaching self-regulatory techniques was positively associated with the learners' progress in writing (see also Duckworth, 2009).

Pintrich (2005) also carried out a study measuring the role of self-regulation in writing compositions. The participants in the study comprised 123 university students. Detailed examination of the findings revealed that participants with higher levels of self-regulation skills were more successful in organizing their compositions.

In 2009, Wang, Spencer and Xing published a paper in which they described the relationship between self-regulation components and Chinese learners' learning quality. The results indicated that Chinese students with higher self-regulation abilities were significantly more successful in learning. In a similar study, Macabe et al, (2007) found out that female students employ self-regulatory strategies more often than the male students and reported the superiority of female learners over males in foreign language learning.

It is interesting to note that there has been little discussion about the correlation between self regulation, gender and academic writing of sophomore university students in a L2 context. In fact, most studies on the issue have tended to focus on the components comprising self-regulation and their possible effects on the learning process in general. By adopting a different course of action, however, this study sought to investigate the relationship between Iranian EFL sophomore students, gender, self-regulation skills and the quality of their academic writing achievement.

METHOD

Participants

The sophomore students studying English translation at Islamic Azad University, Isfahan branch, Iran, comprised the target population in this study. They were male and female students with an age range between 18 and 25 attending a full time bachelor program. These students had completed the *Grammar and Writing I* and *II* courses and were ready to begin *the Paragraph Development* writing class.

A quasi Experimental design involving a correlational analysis technique was utilized in this study. Of the initial cohort of 250 sophomore students, 105 females and 90 males completed and returned the self-regulation report questionnaire. Then, based on the respondents ' responses and taking the 50th percentile (i.e. mid score) of the ratings as the selection criterion, four male and female groups, 25 each, were chosen and labeled as high self-regulation (HSR) and low self-regulation (LSR) groups. Tables 1, 2 and 3 illustrate the case processing summary of the way the target samples were selected.

Table 1. Gender samples selected from the initial cohort

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	90	46.2	46.2	46.2
	female	105	53.8	53.8	100.0
	Total	195	100.0	100.0	

Table 2. Cross tabulation of selected samples based on the 50th percentile criterion

		Self-regulation ratings		Total
		Low group	High group	
Gender	male	50	40	90
	female	79	26	105
Total		129	66	195

Table3. The male and female target samples

	Groups	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Test	Low Male	25	100.0%	0	0.0%	25	100.0%
	High Male	25	100.0%	0	0.0%	25	100.0%
	Low Female	25	100.0%	0	0.0%	25	100.0%
	High Female	25	100.0%	0	0.0%	25	100.0%

The teacher was one of the researchers. He was a non-native EFL teacher possessing a master degree in language teaching. He had a ten years teaching record in teaching English as a foreign language at different language institutes in the city of Isfahan. Basically, he handled the academic writing classes for all groups during the treatment.

Procedures

To measure the learners' self-regulation level, motivated strategies for learning questionnaire (MSLQ) by Pintrich et al. (1991) was used. The instrument consists of two sections. While first part contains 31 prompts focusing on students' goals, beliefs and motivation, the second with a total number of 50 items includes self-regulation components and / or strategies such as organization, time management, effort regulation, pear learning, help seeking, etc. The empirical evidence fostering the power of MSLQ for measuring self-regulation skills has been provided by Magno (2011).

A five- point likert scale was used for responding the items on the questionnaire. The directions for answering the items were given in the learners' L1 to avoid any likely misunderstanding. The 50^{th} percentile, the mid-score, was used as a reference point for assigning the respondents to four different groups with 25 members. The respondents, whose score on the questionnaire was below the reference point, were designated as low Self-Regulation Group (LSRG), while those with scores above the reference point were labeled as High Self-Regulation Group (HSRG). Low self-regulation ability group (LSRAG) and those with rating above 75 were accommodated in the high self-regulation Ability group (HSRA). Obviously, both groups received instruction on writing academic essays for a full semester.

Ultimately, an IELTS academic writing test was administered as post-test which aimed to measure the learners' academic writing achievement after the treatment. A word of caution deems necessary here. Two raters experienced in teaching English as a foreign language were asked to score the students' writings based on the prespecified criteria suggested by IELTS test developers.

Data Analysis

The scores obtained by the target groups on the post-test were analyzed by related statistical techniques such as a condescriptive task, an ANOVA test and Pearson product correlational technique.

RESULTS

To investigate the possible correlation existing between self-regulation strategies and the academic writing achievement of male and female Iranian sophomore students, it was first necessary to examine whether or not the data related to target samples were normally distributed. It was considered that the Kolmogorov- Smironov test would be a practical method of ascertaining the normality of sample distributions as can be seen in table 4 below.

Table 4. Test of normality

	Groups	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
Test	Low Male	.220	25	.003	.915	25	.040
	High Male	.234	25	.001	.882	25	.008
	Low Female	.237	25	.001	.901	25	.019
	High Female	.220	25	.003	.894	25	.014

It is clearly observed that the data related to the self-regulation variable with high and low levels has a normal distribution since the P value is greater than 0.05.

Subsequently, running a condescriptive task was essential for the purpose of comparing the scores obtained on the academic writing post-test by the target samples. Table 5 reflects that the average mean values belonging to both male and female participants in high self- regulation (HSR) groups are significantly higher than those for the low self-regulation (LSR) samples. In other words, no significant difference was found between female learners with a low self-regulation rating.

Table 5. Descriptive statistics of the scores obtained on the academic writing post test

participants	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
High Male	25	18.3600	1.11355	.22271	17.9003	18.8197
High Female	25	16.9600	1.17189	.23438	16.4763	17.4437
Low Male	25	13.8800	1.01325	.20265	13.4618	14.2982
Low Female	25	13.4000	1.63299	.32660	12.7259	14.0741
Total	100	15.6500	2.42618	.24262	15.1686	16.1314

To determine whether the differences between mean values obtained by the low and high self-regulation target samples on the academic writing post-test were statistically significant, a global ANOVA F-test was utilized.

As can be seen from the table 6 below, the obtained F value equals 91.203 which is considerably greater than the critical F value at both 0.01 and 0.05 confidence levels; therefore, it can safely be concluded that the four target samples do not have a common population mean and are completely different.

Table 6. Results of one-way ANONVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	431.390	3	143.797	91.203	.000
Within Groups	151.360	96	1.577		
Total	582.750	99			

Although the target samples are meaningfully different, it is important to ask which groups are causing the significant differences. For this purpose, multiple comparisons of means were used as a post Hoc test. Table 7 illustrates that there is a meaningful differences between pairwise comparisons of means at 0.05 confidence level. However, it seems that low self-regulation mean values for both male and female participants are not meaningfully different.

Table 7. Post hoc multiple comparisons of pairs of means

(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
High Male	High Female	1.40000*	.35515	.000	.6950	2.1050
	Low Male	4.48000*	.35515	.000	3.7750	5.1850
	Low Female	4.96000*	.35515	.000	4.2550	5.6650
High Female	High Male	-1.40000*	.35515	.000	-2.1050	-.6950
	Low Male	3.08000*	.35515	.000	2.3750	3.7850
	Low Female	3.56000*	.35515	.000	2.8550	4.2650
Low Male	High Male	-4.48000*	.35515	.000	-5.1850	-3.7750
	High Female	-3.08000*	.35515	.000	-3.7850	-2.3750
	Low Female	.48000	.35515	.180	-.2250	1.1850
Low Female	High Male	-4.96000*	.35515	.000	-5.6650	-4.2550
	High Female	-3.56000*	.35515	.000	-4.2650	-2.8550
	Low Male	-.48000	.35515	.180	-1.1850	.2250

Figure 1 below also depicts the mean differences related to the post-test for both male and female participants with low and high self-regulation levels.

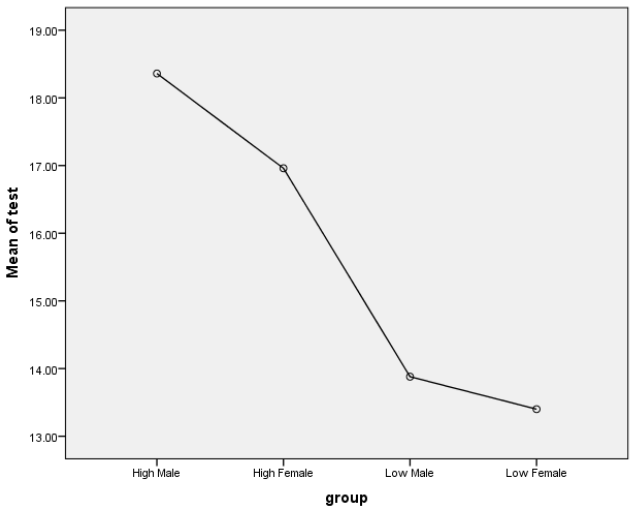

Figure 1. Means plot for male and female samples with different self-regulation skills

Finally, by using a multiple correlational analysis, the self-regulation level of the target samples was correlated with their performance on the academic writing post-test. Table 8 below indicates that sophomore students' level of self-regulation is positively correlated with their performance. In other words, the scores obtained on the writing test are not independent from the corresponding ratings on the questionnaire.

The results obtained from the multiple correlation analysis of self-regulation average mean values and test average values on the IELTS academic writing achievement test are presented in table 8.

Table 8. Multiple correlational analysis of male/female self-regulation levels writing scores

		hm	hf	im	if
mark.im	Pearson Correlation	.288	.068	.606**	-.038
	Sig. (2-tailed)	.163	.745	.001	.857
	N	25	25	25	25
mark.if	Pearson Correlation	.181	-.060	-.131	.576**
	Sig. (2-tailed)	.386	.776	.532	.003
	N	25	25	25	25
mark.hm	Pearson Correlation	.848**	-.028	.254	.258
	Sig. (2-tailed)	.000	.895	.221	.214
	N	25	25	25	25
mark.hf	Pearson Correlation	-.341	.722**	.083	-.079
	Sig. (2-tailed)	.095	.000	.693	.707
	N	25	25	25	25

The table above is quite revealing in several ways. First, there is a positive correlation between male and female participants' rating on self-regulation questionnaire and their writing scores on the academic writing post-test. In fact, the male and female samples with an overall high level of self-regulation score outperformed those with a relatively lower self-regulation rating on the academic writing test. Second, what is interesting in this data is that male participants in the high self-regulation group showed higher gains on the writing post-test compared to the females in the high self-regulation sample.

DISCUSSION

The present study was designed to explore the correlation between sophomore Iranian translation students' self-regulation skills, gender, and their academic writing achievement. The study developed results which corroborated similar studies conducted by other researchers. In fact, the findings indicated that male and female sophomore translation students with higher self-regulation levels were significantly better in writing academic essays compared with those who performed poorly because they were unable to exert control over their learning. Clearly, the findings concerning the observed correlation between self-regulation skills and achievements in writing were consistent with the works of authors like Plata (2008) who maintained that to progress as writers, students must learn to monitor and supervise the cognitive goals signaled by the writing task. This is what Garner (1994, p.715) calls "execution control"- managing ones' actions in dealing with learning tasks. Similarly, the results also substantiated Torrano and Torre's (2004) argument about the superior performance of

learners with a higher level of self-regulation skills. They suggested that self-regulating students can temper their feelings of disappointment in face of the obstacles they encounter by making an effective use of meta-cognitive and behavioral strategies (Boekarets & Cascallar, 2006; Wolters, 2011).

Finally, on the question of language transfer this study found that the male learners with a high self-regulation rating outperformed the high self-regulation female learners on the academic writing task. What is surprising, this finding did not support the ideas expressed by practitioners such as Kitsatas, Steen, and Huie (2009), Macabe et al, (2001) and Studenska (2011) who have reported the superiority of female learners over males. They have all claimed that female learners make use of cognitive and metacognitive strategies more often than males, and as a result, are more successful because they enjoy higher levels of self-efficacy (Oxford, 2003).

One possible explanation for this rather contradictory result might be related to the sampling procedure employed in the study. In fact, the use of 50^{th} percentile as a sharp cut-off point for separating low self-regulation learners from those enjoying a high self-regulation rating might not have been quite practical. Another explanation is that the outcome revealed by gender differences might have been influenced by certain hidden confounding variables which escaped the researchers' attention. In general, the present findings regarding gender seem to support other studies which found that there is a positive correlation between gender and self-regulation strategies in terms of male and female learners' performance on writing tasks (Hammann, 2005; Whipp & Charloe, 2004).

CONCLUSION

This paper has aimed to give an account of and the reasons for the correlation existing between self-regulation skills, gender and academic writing achievement of Iranian EFL learners. The first finding of the study was that male and female language learners performing well on academic writing assignments are the ones who can successfully cope with high-levels of cognitive engagement, processing effort and motivation required for handling writing tasks. The second major outcome, however, contradicted the earlier findings by demonstrating that male learners with higher self-regulation ratings surpass the female learners who also enjoy high self-regulation skills.

Evidently, the present results offer promising implications for teaching the writing skill. In fact, they are encouraging in at least two main respects. Firstly, raising the consciousness of the learners with poor self-regulatory behaviors by providing them with explicit instruction of self-regulation strategies can be quite rewarding. Secondly, writing teachers must pay attention to individualism and the fact that gender variable can be a significant indicator of male and female achievement variations due to different ways utilized to perform a language task. However, more research on this topic needs to be undertaken before the exact nature of the correlation between self-regulation, gender and academic writing achievement is clearly understood.

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