

## Applying self-regulated strategy development model of instruction to teach writing skill: Effects on writing performance and writing motivation of EFL learners

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### **Abstract**

The present study examined the effect of self-regulated strategy development (SRSD), an instructional model to teach writing, on writing performance and writing motivation of EFL learners. To this end, 30 pre-intermediate EFL writers received a ten-session self-regulatory strategy development instruction on persuasive writing with specific focus on planning, goal-setting, monitoring, and evaluating. Several instruments including persuasive probes together with a validated Writing Motivation Questionnaire were utilized to collect data. The comparison of pretest and posttest scores on different measures revealed that SRSD instructional model resulted in improved writing performance of EFL learners. Moreover, the results of data analysis indicated an increase in the motivation of participants as regards foreign language writing.

**Keywords:** writing performance; self-regulated strategy development; writing motivation; writing genre

## **Applying self-regulated strategy development model of instruction to teach writing skill: Effects on writing performance and writing motivation of EFL learners**

### **1. Introduction**

Vygotsky's sociocultural theory has been widely referred to in the field of second language learning research (Gutiérrez, 2003; Ohta, 2000; Swain, 2000). Socioculturally-oriented theories provide researchers with theoretical perspectives to examine language learning basically as social practice. Such theories consider students as active participants in constructing learning processes, and try to examine the interaction between different factors involved. Sociocultural theories emphasize the social nature of learning and investigate the intricate social interaction involved in language learning process. One of the central concepts in the domain of sociocultural theory regards self-regulation or self-regulated learning. Self-regulated learning is defined as "an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features in the environment" (Pintrich, 2000, p. 453). In fact, as Zimmerman (1999) argues, self-regulated learning is viewed as a cyclical model in which each of the elements involved are dependent on each other.

Zimmerman (1986) contends that self-regulation focuses on how students personally activate, change, and sustain their learning practices in particular contexts. Self-regulated students achieve tasks with success because they make attempts to close the gap between their current status and goals (Leventhal & Cameron, 1987). The findings of previous studies (Graham & Harris, 1994; Zimmerman & Risemberg, 1997) have identified self-regulation as an influential strategy to learn a foreign language. Self-regulation is also effective in the process of writing. Zimmerman and Kitsantas (1999) contend that writing competencies derive from social aspects such as writers who function as models in standard writing. This in itself highlights the role social cognitive theory of writing (Bandura, 1986, 1991b) plays in justifying the use of self-regulation skills in writing. Based on this theory, writing competencies are first learned from models and then individuals start to write on their own through observation, similar to what occurs in the concept of scaffolding in Vygotskian sociocultural theory (Vygotsky, 1978, Lantolf, 2000). Then, the individual follows what has been observed by imitating and adopting the pattern and style of the model, hence approaching mastery or acquisition.

As far as the self-regulation of learning in writing skill is concerned, an approach has been developed in recent years under the notion of self-regulated strategy development. Self-Regulated Strategy Development (SRSD) is a recent instructional approach to writing skill which combines powerful writing strategies with strategies for self-regulation in the process of L2 writing. In other words, such an approach combines strategy instruction with explicit instruction on self-regulation procedures. According to Harris, Graham, Mason, and Friedlander (2008), SRSD not only addresses writing difficulties, but also examines attitudes and beliefs about writing, motivation, and self-efficacy. Self-regulated strategies help learners as they apply the processes within and across domains and regulate the learner's application and overall performance of a task (Mason, & Shriner, 2008). According to Graham & Harris (2003), there are generally six stages involved in the SRSD model of writing instruction which include developing and activating background knowledge, discussing it, modeling it, memorizing it, supporting it, and finally independent performance.

### **2. Theoretical background**

One of the complex skills to master in first and foreign language learning has been and continues to be that of writing. As Richards (2002) puts it, the development of the writing skill necessitates something beyond the accurate use of grammar and a good range of vocabulary, or linking the written words. Rather, writing is assumed to be an aggregation of many components the most crucial ones are suggested to be evaluated for a course (Raines, 2002).

As far as the teaching of writing in both first and second languages is concerned, two prominent approaches can be contrasted; i. e., product and process. In the former, the writing skill is often taught with an emphasis on punctuation, spelling, and correct usage where the teachers provided the students with comments on the finished products. In such an approach, as Raimes (2002) argues, writing merely consists of practicing grammatical exercises. In the latter approach; i. e., process, writing is conceived as a process encompassing four main stages (i.e. planning, drafting, revising, and editing) each of which functioning on their own rules, activities, and behaviors to be displayed (Seow, 2002). It follows from this approach that to master the processes involved in writing, learners need instruction. In other words, various strategies applied while performing a writing task have to be taught to the students. One example of such strategies is seen in what has come to be called self-regulation strategies. Several researchers (Zimmerman, 1990; Zimmerman & Riesemberg, 1997; Hayes, 1996) acknowledge the role of self-regulation in writing skill. It acts as a writing monitor. According to Zimmerman & Riesemberg (1997), skilled writing depends on high levels of self-regulation because writing is typically an intentional, self-initiated and self-sustained activity.

The development of self-regulation in writing is an important instructional goal and such strategies can be explicitly taught to beginning and developing writers. The social cognitive model of self-regulated writing (Flower & Hayes, 1980, cited in Harris, Graham, and Mason, 2006) describes the self-initiated thoughts, feeling, and actions that writers use to attain various literacy goals including improving their writing skills and enhancing the quality of the compositions they create. According to this model, self-regulation occurs when a writer uses personal processes to strategically regulate behavior or the environment, for instance, regulating one's behavior to write two pages each day.

### *2.1 Self-Regulated Strategy Development (SRSD) model*

The instructional model of teaching writing known as Self-Regulated Strategy Development (SRSD) and developed by several researchers (Harris & Graham, 1996; Graham & Harris, 2000, 2003; Harris et al., 2006) refers to a model of instruction in writing skill whose major function is teaching students strategies for planning and organizing their writing together with self-regulation procedures like monitoring and goal-setting. The findings of previous studies on SRSD have indicated that SRSD model of writing instruction positively affects students' writing (Graham & Harris, 2003).

### *2.2 Stages of SRSD*

Self-regulatory strategy development, according to Graham & Harris (2003), encompasses six stages (1) Develop background knowledge, (2) Discuss it, (3) Model it, (4) Memorize it, (5) Support it, and (6) Independent performance. Concurrently, as Graham (2008) puts it, four strategies for self-regulation are taught alongside, which include engaging students in goal setting, self-instruction, self-monitoring, and self-regulation of their writing. Students engage in learning the strategy through explicit instruction, modeling, and practice (Harris, Graham, and Mason, 2002). The results of previous research carried out in the framework of SRSD model point to the improved writing performance of participants (Graham & Harris, 2003), fostered writing knowledge (Graham, S., Harris, K.R., & Mason, 2005), and their motivation (Graham & Harris, 2003; Graham et al., 2005). These stages are flexible in that they provide general guidelines for teaching writing strategies and can be re-ordered, combined or modified in order to meet the needs of the students and the teachers (Graham & Harris, 2003). The stages are clearly described below (Table 1). It is most likely that the explicit teaching of writing on the basis of the stages described helps learners throughout the overall process of writing, enabling struggling writers to monitor and control their progress and manage their affective reactions while they are engaged in the composition process.

In the first stage of SRSD model, as Graham & Harris (2003) argue, instruction will focus on ascertaining the fact that students possess the necessary skills for strategy instruction. For instance, students may be asked to read example texts and identify key components. The self-regulation procedures of goal-setting and

self-monitoring are commonly presented during this stage. Students are taught how these procedures are used and why each is important throughout the writing process. A particular self-regulated strategy, such as argumentative writing strategy, is taught in the second phase of SRSD approach. During this second stage, the specific strategy is selected to build upon the particular writing needs of the learners. Specific procedures are directly taught so as to accomplish the novel strategy. The instructor then sets to make the students aware of, through elaborate discussions, certain self-regulation techniques including goal-setting and self-instruction.

**Table 1**

*The Six Stages of SRSD Model*

Stage	Description
1. Develop Background Knowledge	Existing prior knowledge is activated and discussed to ensure students have pre-requisite knowledge and skill necessary for the writing task.
2. Discuss It	Students' current writing performance is examined. The new strategy is introduced and discussed. Students commit to mastering the new strategy.
3. Model It	Using "think-alouds" and visual aids, the teacher models the new strategy for students.
4. Memorize It	Students use mnemonic devices and visual aids to memorize the new strategy.
5. Support It	Students practice the writing strategy with scaffolded assistance.
6. Independent Performance	Students independently use the writing strategy.

*Source:* Santangelo, Harris, & Graham, 2008, p. 82

At the third stage of SRSD instructional model, according to Graham & Harris (2003), the teacher directly models the specific components of the new SRSD strategy together with the procedures essential to the process of writing. During the fourth stage, an acronym is developed for each SRSD strategy; i. e., POW+WWW, where each letter in the acronym stands for one of the elements of the steps involved in accomplishing the strategy. The acronym functions as a mnemonic (device) to help learners remember the components involved in the strategy (Graham & Harris, 2003). The writing strategy is collaboratively practiced during the fifth stage of SRSD instruction through scaffolding on teacher's part. As a group, the teacher and students apply the new strategy together with an emphasis on fostering self-regulation skills. Throughout this stage of the model, the students, as Graham & Harris (1994, 2003) contend, become more aware of the procedures of the strategy and practice setting goals, monitoring the self, and reinforcing their performance.

Finally, it is in the last stage of instruction that the students put their learning into use through independent use of the new strategy. The six stages function as a collection to present students to new strategy and self-regulation procedures; hence helping the students develop self-regulatory strategies. The self-regulation procedures emphasized in SRSD instruction, as Graham & Harris (1994) contend, normally starts with setting writing goals, monitoring one's use of the strategies involved, self-instruction, and finally reinforcing one's performance.

### *2.3 The role of motivation in self-regulated learning (SRL)*

Self-regulated learning is determined by a set of interrelated factors which control its development and sustainability as several theorists point out (Bandura, 1993; Boekaerts, 1999; Pintrich, 2000; Zimmerman, 2008). Within such a framework of interrelated factors, motivation plays an important role (Kurman, 2001; Wang & Holcombe, 2010). If learners are potentially inclined to assign value to learning tasks, they would probably spend much time setting goals and planning strategies to complete those tasks. More importantly, as Zimmerman

(2000) holds, students' efficacy beliefs; i. e., their confidence in their ability to accomplish tasks successfully, has a lot to do with task accomplishment in the forethought, planning, and monitoring phases.

In the monitoring stage where students scrutinize their performance, they willingly evaluate the meaningfulness of the learning task (Zimmerman, 2000, 2008). Intrinsic motivation is one of the factors that determine the level of effort and persistence on the individual's part exerted in accomplishing the task and use of other self-regulation strategies. Overall, self-regulation works in tandem with motivation to ascertain individual learning and success in the classroom (Zimmerman, 2000, 2002). If students are motivated to learn, then they are more likely to allocate the time and energy required to learn and apply appropriate self-regulation strategies, and at times when students successfully apply self-regulation strategies, they often feel more motivated to bring the learning tasks to a desirable end (Zimmerman, 1986, 2002).

#### *2.4 Research into Self-regulated Strategy Development*

Mason, Harris, and Graham (2002) argue that instruction on SRSD is a strong approach to address writing deficiencies of learners with regard to various processes involved in composition, stages such as planning, editing, and managing the writing process. Teaching self-regulated strategies has been a hot topic for discussion in the field of education. As far as classroom learning, as opposed to independent learning, is concerned, there is a persistent need to implement specific and well-designed instructional procedures if students are likely to display promising learning behavior in the classroom. Several studies have been conducted to determine the effectiveness of self-regulated strategies and student achievement.

In their study, Souvignier and Mokhesgerami (2006) investigated the effects of self-regulated learning in classrooms to find an answer to the question whether strategy instruction could improve reading comprehension skills. Taking an experimental design, three groups of students received instruction based on the principles of motivational aspects of self-regulation, cognitive self-regulated and reading strategies. The instructional treatment encompassed almost 20 sessions of 45-minute lessons over a period of six months. The findings of the study revealed significant outcomes for students in the intervention group who received instruction through the program while outperforming the control group students (Souvignier & Mokhesgerami, 2006).

De La Paz (1999) investigated the effects of SRSD on writing expository essays for middle school students with and without specific behavioral disabilities. Twenty-two learners took part in the study and received explicit (direct) instruction via two well-known self-regulatory strategies as far as writing skill is concerned; i. e., the PLAN (Pay attention to the prompt, List main ideas, Add supporting ideas, and Number your ideas) + WRITE (Work from your plan to develop your thesis statement, Remember your goals, Include transition words for each paragraph, Try to use different kinds of sentences, and Exciting, interesting, \$1000,000 words) strategy. Results of the study revealed that the majority of students were able to develop sequential, multi-paragraph essays, and students were seen to be engaged in planning and pre-writing strategies that resulted in an improvement in the quality of written compositions.

De La Paz and Graham (2002) investigated the effects of strategy instruction on writing performance of middle school students focusing on the development of knowledge as regarded the features of quality writing, writing evaluation norms, and the use of interesting vocabulary, transition words, and various sentence types. The experimental group received instruction on the PLAN and WRITE writing strategies four days each week over the course of six weeks. Statistical tests were conducted to examine the relationship between the two instructional conditions and planning, vocabulary, essay length, and overall quality. Findings showed that students in the experimental group wrote essays which were longer, involved more mature vocabulary, and were qualitatively better than essays constructed by students in the control group. The writers suggested that PLAN and WRITE strategies helped students analyze demands of various writing tasks and develop and organize the content of their own writing. At the end, De La Paz and Graham (2002) point out that SRSD has in common some features with other types of instruction. Teachers' think-aloud demonstrations which help students gain

independence using the target strategies is, for example, a common feature for both SRSD and other types of instruction.

Saddler, Moran, Graham, and Harris (2004) examined the effect of self-regulated strategy development model of instruction on the writing ability of struggling writers. Personal narrative and story writing were the target genres investigated in their study. The participants consisted of three male and three female students. During the treatment, students were taught how to plan and write a story on the basis of the SRSD strategy for writing a story. Having received instruction, the students were able to write both stories and personal narratives on their own; the essays were then assessed for number of paragraphs (length), number of story components, and the overall writing quality. It was found that students' written stories were more mature, longer, and qualitatively improved. Further, findings showed similar effects in almost all personal narratives, an uninstructed genre.

Within similar lines of inquiry, Saddler (2006) carried out a study similar in design, instrumentation, procedures, and materials to that of Saddler et al. (2004) study but he added less proficient writers. The findings indicated that as a result of SRSD instruction students wrote longer, improved, and more complete stories. Moreover, participants were reported to spend more time planning their compositions far after the instructional intervention had terminated. As the results of these studies clearly illustrate, explicit teaching of self-regulatory writing strategies to students focusing on planning, monitoring, drafting, evaluating, and revising is a promising instructional activity to be included in both first and foreign/second language teaching, and learning. Moreover, the procedures encompassed in SRSD are most often informed by research findings in the domains of writing instruction, self-regulation, and other similar effective instructional practices (Harris, Graham, and Mason, 2003).

Nevertheless, the focus of the studies reviewed here was on the efficacy of SRSD in improving the composition ability of struggling young learners as far as their first language is concerned. Moreover, very few studies to date have investigated the effect of SRSD model of instruction on writing performance of EFL learners at lower levels of English language proficiency. Therefore, in an attempt to broaden the scope of SRSD studies within the domain of foreign language writing, the present study set out to explore the effect of self-regulated strategy development on the writing performance and writing motivation of Persian EFL learners putting forth the following research questions:

- Does self-regulatory strategy development (SRSD) enhance the writing performance of Iranian EFL learners?
- Does writing motivation of Iranian EFL learners increase as a result of self-regulatory strategy development?

### **3. Method**

This study examined the effects of explicit self-regulatory strategy instruction in the form of self-regulatory strategy development (SRSD) on the writing performance and writing motivation of Iranian EFL learners.

#### *3.1 Participants*

A group of 60 Iranian intermediate EFL learners were selected on the basis of their performance on an actual English proficiency test out of 85 students majoring English Language Teaching in the Faculty of Foreign Languages at the Islamic Azad University, Kermanshah Branch. The students whose scores on the language proficiency test fell within  $\pm 1$  standard deviation of the mean score were selected as the main participants for the study. The sample comprised of 21 male and 39 female students with age range of 19 to 26. Out of the total 60 participants, one did not take part in the post-administration of the writing and motivation questionnaire and two of them did not respond to several items in the motivation questionnaire and finally, one participant wrote only three sentences in the writing post-test. 30 students were assigned to the experimental group and the rest (N= 30)

were assigned to the control group. The participants had 4-7 years of experience of English learning and none of them had received writing instruction based on the SRSD model nor were they aware of the various steps involved in writing persuasive essays.

### 3.2 Instruments

Three instruments were used in the present study. First, an actual test of language proficiency, validated and used by ETS at a worldwide test administration in 2003, was administered to the participants to ascertain their homogeneity in terms of English language proficiency prior to the instructional phase of the study. Second, the subjects were provided two persuasive essay prompts both as pre- and post-test to write about. The persuasive prompts for pre- and post-tests were selected based on the current proficiency and the background knowledge of the subjects. Prompts involved specific statements or questions to write about; these included questions asking students their opinion on school or home issues (e.g., Should parents make children clean their bedrooms? and should children do house chores?). As it is clear from the preceding example and to foster student motivation, two writing topics were presented to them for selection before writing. Keeping in mind the issues of reliability and validity, the overall quality of the essays (i. e., in pre- and post-tests) were assessed on the basis of a holistic rubric from 0 representing the lowest quality (no persuasive parts) to 10 representing the highest quality. This rubric was adopted from Miller (2013) and had been previously used in Mason and Shriner's (2008) study and several others. Two experienced raters read through each composition attentively to obtain a general impression of overall writing quality. To avoid bias, the raters did not consider spelling errors and handwriting in rating the compositions. The inter-rater reliability of the two ratings was 0.88.

Third, a motivation questionnaire adopted from Hawthorne (2008) was also administered to the participants prior to and after the instructional treatment. The questionnaire consisted of 40 items on a 5-point Likert scale (1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Unsure, 4 = Somewhat Agree, 5 = Strongly Agree) and was used to gather information about participants' reported levels of motivation to engage in writing tasks. This scale had been developed based on another questionnaire containing 95 items through precise statistical procedures such as factor analysis and was reported to have high reliability ( $r = 0.91$ ) and validity.

### 3.3 The Intervention Program

Self-regulated strategy development (SRSD) instructional model was implemented to teach students to plan and write persuasive essays with specific focus on the POW+TREE self-regulatory strategies. The instructional phase of the study was carried out on the basis of the six stages of SRSD instruction (Harris and Graham, 1996; Graham and Harris, 2003, Harris et al., 2006). These stages were accordingly incorporated into six writing lessons. The lessons were covered during eight 75-80 minute time periods for the experimental group.

During the first stage of instruction (lesson 1), *develop background knowledge*, participants were taught the knowledge and skills needed to apply POW and the genre-specific strategy for persuasive writing. At first, the participants, guided by the instructor, discussed the elements of an acceptable persuasive essay. Afterwards, the POW+TREE mnemonic were introduced to the participants and the graphic representation of a tree and the words represented by the mnemonic were given to them. The words represented by the mnemonic POW+TREE were each explained as follows: **P**OW stands for **P**ick my idea, **O**rganize my notes, **W**rite and say more. The genre-specific strategy for persuasive writing (TREE) was exploited to help the participants to carry out the second step of POW (organizing notes). On the basis of this strategy, students were taught to generate ideas/sentences relevant to persuasive essays. The students were told that mnemonic **TREE** symbolizes the four main elements of persuasive essays: **T**opic, **R**easons and counter reasons, **E**xplanations, and **E**nding (wrap it up). Next, the whole class worked on a sample essay to figure out the elements represented by the word TREE. Having gone through the essays, the students were asked to identify the topic sentence, the reasons (three or more), specific explanations for each reason, and the concluding sentence in the sample essay and to write them in the appropriate space (blank) provided in the graphic organizer. The first lesson was terminated having the

participants memorize the mnemonic.

At the outset of the second lesson and as warm up, the class (i. e., participants and instructor) reviewed the main parts of lesson one collaboratively. More specifically, the participants talked about the main elements of a good persuasive essay and reiterated different aspects of the essay represented in the POW+TREE mnemonic. As the main focus of the second lesson, counter reasons were discussed together with the steps adroit writers take to refute those counter reasons. As the reinforcement practice, the class analyzed another sample essay to specify the counter reasons along with the other essay components.

During the second stage of instruction (lesson 3), *discuss it*, students reviewed different parts of POW and TREE mnemonic to examine their understanding. As the next step, the instructor talked about the importance of self-monitoring in the writing process and introduced a technique called graphing to help students monitor themselves while writing. Additionally, the teacher and students discussed the beneficial effects of using POW and TREE mnemonic together with the graphing sheet in helping students to write persuasive essays with all of the parts included. As the last part of this lesson, the notion of goal setting was introduced clarifying the point that the persuasive writer's goal is to make sure all of the parts are included and to memorize the mnemonics POW+TREE. The students were told that the goal of the next lesson is to chart different parts of an essay using the graphing sheet. This worksheet was intended to provide students with an opportunity to check their writings and the sample essays for different parts of persuasive essays and to monitor their progress. The class then reviewed some of the essays which have been worked upon in the previous sessions and charted them collaboratively on the graph.

During the third stage of instruction (lesson 4), *model it*, the instructor practically showed learners how to apply POW and the story part reminder and introduced the use of self-statements (i.e., self-talk) as well. In fact, the instructor modeled how to write a good persuasive essay. More specifically, he talked out loud how to plan and write a persuasive essay while following all of the steps in POW—**P**ick my idea, **O**rganize my notes, **W**rite and say more. For instance, the instructor stated, 'now, I'm thinking about the topic to generate ideas related to it'.

Following the instructor, students spoke out several self-talks (self-statement) that they would apply while planning and writing. This was especially done to let students reinforce themselves verbally as regarded the planning strategy. Later, using the graphing sheet, the class charted the instructor-modeled essay. Using the same essay, students filled out the sheet, checking each element on the self-monitoring (graphing) chart. This was accompanied by goal-setting, that is, the students were asked to include all of the essay parts.

Throughout the next stage of instruction, the teacher encouraged the students to memorize the genre-specific strategy introduces in the previous stages. That is, the participants were asked to memorize the mnemonics POW and TREE. It should be noted that the students were motivated to memorize the strategy at the outset of the instruction. However, since the SRSD model has been developed to specifically help struggling young writers and those with certain behavioral disorders improve their first language writing ability, the fourth stage is of prime importance for such learners. This is while the participants in the present study were not suffering any behavioral disorders and since they were mature enough to memorize the new strategy easily, the instructor did not spend considerable amount of time on this stage although participants' attention was drawn to the importance of memorizing the strategy almost during the first fourth stages, the fact that such memorization contributes to automaticity in writing persuasive essays.

During the fifth stage, *support it*, the instructor and participants set out to write a persuasive essay collaboratively with decreased support on the part of the instructor. They accordingly used POW, the graphic organizer (TREE), their own self-statements, and the self-monitoring graph to fulfill the goal they have set in the previous stage, i. e., to include all of the essay parts. At this stage, it should be noted that the participants controlled the process with the instructor supporting them when necessary. Therefore, each participant wrote his or her own essay. Next, the participants were asked to go through their essays and graph the parts, examining

whether they achieved the collaboratively-set goal. The students were provided with sufficient assistance as to ascertain that they were using the strategies successfully throughout this stage.

During the final stage, *independent performance*, participants used the strategies they have learned in the previous stages to write a persuasive essay on their own. It has to be noted that at this stage the participants were not allowed to use the POW strategies chart, the graphic organizer (TREE) and any of the self-statements (they might have recorded during the previous sessions) nor were they provided with any help on the part of the instructor or their peers. Instead, the participants were asked to be creative and sketch the graphic organizer mentally and implement it to plan and write a persuasive essay. The students were encouraged to set the goal (to include all of the parts) and try to fulfill it throughout. As the participants were over with the writing, they were asked to graph their essay in the self-monitoring chart to check out whether they have achieved the goal.

#### 4. Results

To respond to the first research question focusing on the effect of self-regulated strategy development on learners' writing performance, the data was statistically analyzed. This was carried out to ensure that there was no significant difference between the two groups in terms of their persuasive writing performance. Additionally, the results of the comparison of the two groups' performances on the persuasive writing pre-test was taken as a baseline from which improvements in participants' performance on the post-test could be measured. Therefore, an independent sample t-test was run to determine if the two groups performed significantly differently on the persuasive writing pre-test or not. It has to be stressed that the results of Shapiro-Wilk (test of normality) showed that the scores were normally distributed ( $p (0.067) > 0.05$ ). The results of the t-test (Table 2) indicated no significant difference ( $p (0.174) > 0.05$ ) in subjects' performance on the pre-test, that is, the two groups did not differ significantly in their performance on the persuasive writing pre-test.

**Table 2**

*Independent t-test comparing the performance of the two groups on the persuasive writing pre-test*

	VAR00002	N	Mean	SD	Std. Error Mean	t	df	Sig (2-tailed)
VAR00001	1.00	30	3.600	1.275	.23212	1.37	58	.174
	2.00	30	4.33	1.179	.21126	1.37		

After eight weeks of instruction, the participants in both experimental and control groups were administered the persuasive writing post-test. In order to see whether the performance of participants in the experimental group was significantly different from that of the control group, an independent t-test was run to analyze the persuasive writing scores obtained in post-test from the two groups. Table 3 below illustrates the statistical results of the persuasive writing post-test.

**Table 3**

*Independent t-test comparing the performance of the two groups on the persuasive writing post-test*

	VAR00002	N	Mean	SD	Std. Error Mean	t	df	Sig (2-tailed)
VAR00001	1.00	29	6.6897	1.71346	.31818	5.443	54	.000
	2.00	27	4.4074	1.39392	.26826	5.484		

The Sig. (2-Tailed) value as shown in Table 3 above is 0.000. This value is less than .05. Therefore, it is evident that there is a statistically significant difference between the performances of the learners in the two groups. In other words, since the Group Statistics box revealed that the Mean for the experimental group was greater than the Mean for the control group, we can conclude that participants in the experimental were able to write more persuasively than those in the control group.

The other question the present study put forth was whether writing motivation of Iranian EFL learners increases as a result of self-regulated strategy development. To this end, the participants' responses to the items

of the Writing Motivation Questionnaire (WMQ) in both groups were calculated and subjected to statistical analysis. An independent t-test was therefore run to analyze the participants' pre-test scores on this particular measure to see whether the writing motivation of participants in the experimental group differed significantly from that of students in the control group at the very outset of the study. Table 4 below illustrates the results of the independent t-test comparing the performance of the two groups on the writing motivation questionnaire pre-test.

**Table 4**

*Independent t-test comparing the performance of the two groups on the WMQ pre-test*

	VAR00002	N	Mean	SD	Std. Error Mean	t	df	Sig (2-tailed)
VAR00001	1.00	30	113.23	12.102	2.209	.074	54	.921
	2.00	30	112.98	12.374	2.259	.074		

The results of the t-test (Table 4) above indicated no significant difference ( $p (0.921) > 0.05$ ) in subjects' performance on the pre-test, that is, the two groups did not differ significantly in their performance on the Writing Motivation Questionnaire pre-test. After the treatment was over with the experimental group, the researchers administered the WMQ once more as post-test to determine if the self-regulated strategy development model of instruction had any influence on the motivation of the participants as they engaged in writing essays. Hence, the two groups' performances on the WMQ post-test were compared using another independent t-test the results of which are presented in table 5 below.

**Table 5**

*Independent t-test comparing the performance of the two groups on the WMQ post-test*

	VAR00002	N	Mean	SD	Std. Error Mean	t	df	Sig (2-tailed)
VAR00001	1.00	29	142.41	20.367	4.769	5.398	54	.000
	2.00	27	119.66	14.623	4.824	5.474		

As illustrated in the table, the  $p$  value (.000) is less than .05; thus the null hypothesis is rejected and claims can be made accordingly that there is a statistically significant difference between the performances of the learners in the two groups on the WMQ post-test. The writing motivation of learners in the experimental group increased as a result of the instructional treatment as compared to the participants in the control group.

## 5. Discussion

The main impetus behind the conduct of this study was to examine the effects of SRSD instructional model on the writing performance and writing motivation of pre-intermediate Persian EFL learners. 60 pre-intermediate students took part in the study whose writing performance was evaluated at baseline, i. e., prior to experiment, and after the treatment. The results of the study pointed to the finding that self-regulated strategy development model of instruction implemented to teach persuasive writing improved the learners' writing ability. Specifically, the findings revealed that enriched with self-regulatory strategies the foreign language writing classes can benefit a lot from such a model in developing persuasive composition skills among low intermediate EFL learners.

The findings of the present study support previous research examining the effectiveness of the self-regulated strategy development on the writing performance of foreign language learners and participants with or without certain behavioral disorders. Several studies carried out with students with EBD (Santangelo et al., 2008; Mason, Kubina, and Hoover, 2011; Mason & Shriner, 2008, among others) point to self-regulated strategy development as a useful strategy resulting in considerable improvement in the time, length, number of essay parts and finally overall quality of persuasive essays composed by learners with EBD.

In so far as the effects of SRSD on the motivation and other similar affective variables such as attitude and self-belief are concerned, the findings from the present study seem to be in line with the results of past studies

(Garcia & de Caso, 2004; Harris & Graham, 2006; Harris et al., 2006). In their study, Garcia and de Caso (2004) came up with the fact that participants who received writing instruction through SRSD model showed fairly higher levels of attitude towards writing than those in the comparison group. Studies carried out by Harris & Graham (2006) and Harris et al. (2006) focused in part on the effects of SRSD model of writing instruction on students' motivation towards writing. The results of these studies revealed that SRSD students scored higher on a motivation questionnaire than the students in the comparison group. However, Harris et al. (2006) call for further studies to explore in depth the effects of self-regulated strategy development on the writing performance of the learners. Accordingly, the present study sheds more light on the potential role SRSD model of writing instruction can play in increasing the motivation of the learners of English as a foreign language. More specifically, the present study found out that writing instruction through SRSD is most likely to foster the intrinsic motivation of learners to write persuasively.

The findings of this study support the effectiveness of SRSD instructional procedures in improving the writing performance of students with specific reference to pre-intermediate EFL learners. The results of data analysis revealed that the writing scores of the participants on the posttest were substantially higher than those on the pretest. The findings of the study adds to the body of research on the relevance of SRSD to teach writing to students with certain behavioral disorders in general and to foreign language learners in particular (Graham & Harris, 1994; De La Paz & Graham, 2002; Graham & Harris, 2000; Harris & Graham, 2006; Harris et al., 2006). Despite the fact that the majority of research projects on SRSD have been carried out with behaviorally disordered and young students, the present study broaden the scope of such research line to teach writing to foreign language learners. Importantly, the results of this study support and highlight the efficacy of SRSD instructional program to teach writing to pre-intermediate EFL learners.

Furthermore, the SRSD students were more concerned with the planning phase of the overall writing process than the participants in the comparison condition and their compositions included more persuasive writing parts than those written by students in the control group. Additionally, the overall gains of the students in the experimental group, interestingly enough, were considerably higher than the ones achieved by the participants in similar past studies an observation which might be due to the fact that the students taking part in the present study were pre-intermediate EFL learners while those participating in the previous studies were mainly younger students with certain behavioral disorders not mature enough to develop sophisticated persuasive propositions.

Previous studies on SRSD have not taken into consideration the effects of such an instructional approach on students' writing motivation or at least they have failed to base their judgments of student motivation on the participants' own self-reports; an aspect the present study tried to explore through the administration of a motivation questionnaire. In this regard, this study seems to be successful in broadening the scope of the SRSD investigations. The results of data analysis obtained through the writing questionnaire revealed that students' motivation fostered as a corollary of SRSD intervention. More specifically, the results indicated that the writing motivation of the participants in the SRSD condition improved in comparison to the students in the comparison condition.

## **6. Conclusions and pedagogical implications**

The findings of the present study point to the fact that self-regulated strategy instruction together with teaching certain specific strategies can potentially enhance the writing performance and motivation of pre-intermediate EFL learners. Obviously, the self-regulatory strategies seem to be an asset for the novice and pre-intermediate writers to develop the knowledge and experience to successfully apply the general and specific strategies to particular genres of writing in the second/foreign language. Additionally, the results obtained from the present investigation corroborate the findings of the previous studies highlighting the importance of scaffolded instruction on the part of the teacher in the form of explicit teaching of self-regulated strategies to improve the writing performance of students. Nevertheless, it has to be reiterated at this point that the present

study broadened the scope of SRSD research to foreign language contexts where learners need explicit instruction on certain self-regulatory and specific writing strategies to help them express their ideas in the foreign language code, i. e., English.

Apart from the results discussed earlier, the findings of the present study have several pedagogical implications as far as second/foreign writing pedagogy is concerned. The researchers were able to use the SRSD model of instruction to teach writing to the pre-intermediate students without any specific problem in that the six stages of the model are so clearly stated that even inexperienced teachers can build upon it. Moreover, the SRSD model can be implemented in the foreign language writing curriculum to provide learners with general and specific strategies to help them self-regulate the writing process. As a corollary of this, the approach explored in the present study can be effectively implemented by writing instructors to scaffold the composition processes struggling and less proficient writers have to go through.

Another implication drawn from the findings concerns the point that the SRSD approach can function as a collection of procedures and techniques to guide students towards independent performance. In other words, the model of instruction starts with fairly complete dependence (the first stage) on teacher to total independence (the sixth stage), a journey towards learner autonomy. Finally, the SRSD model to teach foreign language writing takes into account the vital elements of the process approach to composition in which goal-setting, self-monitoring, self-evaluating and self-revising behaviors are highly emphasized.

Future investigations are to be carried out addressing the effect of SRSD model of instruction on the writing performance of beginner EFL learners. Gender differences may be taken into consideration in future studies to examine the extent to which such variable can influence the success of the SRSD model of writing instruction. The present study applied the SRSD model to teach persuasive genre of writing to pre-intermediate EFL learners. Therefore, future research may explore the effect of the model on other genres of writing. Finally, the SRSD model has been specifically developed to teach writing to the struggling and less proficient learners; hence future studies may opt to examine the efficacy of implementing the model to teach other skills with specific reference to reading comprehension. However, such a line of research has to consider the idea that some stages of the model may require serious revision and/or adaptation to be applied in teaching other skills.

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