Iranian Journal of Applied Linguistics (IJAL), Vol. 15, No. 2, September 2012, 107-138

Impact of Self-Regulated Strategy Development on the Persuasive Writing and Self-Efficacy of Iranian EFL Learners

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Received 19 January 2012; revised 29 July 2012; accepted 28 August 2012

Abstract

This study explored the effect of using Self-Regulated Strategy Development (SRSD) instruction on the persuasive writing and self-efficacy of Iranian EFL learners and compared the effectiveness of such instruction with nonstrategy-based (i.e., traditional) instruction. In so doing, this study followed the SRSD model, using a mnemonic and transition word chart, essay examples, and a graphic organizer. To achieve the objectives, 60 Iranian EFL undergraduate students at two universities participated in this study, which used a pretest-posttest control group quasi-experimental design. The analyses of covariance on the persuasive essays and self-efficacy tests in the control and experimental groups revealed that both SRSD and non-SRSD instructions had a positive impact on the participants' persuasive writing ability. But the effect of SRSD instruction was significantly greater on the participants' writing (i.e., format and content, organization and coherence, sentence construction and vocabulary in writing). In addition, the self-

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efficacy of the SRSD group improved, but the difference in posttest self-efficacy scores between the SRSD and non-SRSD groups was not statistically significant. The findings draw language instructors' attention to the metacognitive dimension of writing and importance of teaching self-regulatory strategies as a way for achieving autonomy and self-efficacy in writing.

Keywords: L2 learning; Persuasive writing; Self-efficacy; Self-Regulated Strategy Development (SRSD); Strategy-based and nonstrategy-based instruction

Introduction

As Zimmerman and Reisemberg (1997, cited in Santangelo, Harris, & Graham, 2008) state, writing is one powerful form of communication; it develops critical thinking (Tierney, Soter, O'Flahavan, & McGinley, 1989) and facilitates learning (Deshler, Palincsar, Biancarosa, & Nair, 2007). Also, language learners' pedagogical achievement across content areas is often dependent on their ability to express knowledge through written expressions (Mason, Benedek-Wood, & Valasa, 2009). But even expert writers sometimes have difficulty in effective planning, composing, evaluating, and revising their compositions (Zimmerman & Reisemberg, 1997, cited in Santangelo et al., 2008).When writing a text, second or foreign language (L2) learners are required to work through multiple writing stages, perhaps, simultaneously; that is, they have to plan, organize their ideas, write and review materials. Planning, organizing ideas and writing at once involve, of course, demanding cognitive processes. Furthermore, across writing genres, language learners have even more difficulties with the persuasive writing because they have trouble developing arguments and supporting their points of views (Crammond, 1997, cited in Cuenca-Sanchez, 2008). Thus, L2 learners often need to learn writing strategies and instruction that will prime them with the necessary support to better develop their writing; strategy instruction "should be facilitated in a way that encourages and directs students to effectively express knowledge or opinions" (Mason et al., 2009, p. 305).

Self-Regulated Strategy Development (SRSD) is an approach to writing which can help language learners learn specific strategies for planning, drafting, and revising text (Graham & Harris, 2005; Santangelo et al., 2008). The strategies in this approach typically focus on planning, drafting, revising, editing, or some

combination of the processes (Harris, Graham, & Mason, 2003). The key is self-regulation, that is, "self-generated thoughts, feelings, and behaviors that are directed toward achieving goals" (Leins, 2011, p. 3), so self-instruction, goal setting, self-monitoring, and self-reinforcement are important in this approach. According to Graham and Harris (2005) and Santangelo et al. (2008), SRSD approach follows six stages: develop background knowledge with students about the writing genre and about powerful writing strategies; discuss students' current strategies and abilities; model effective writing strategies and composing process; help students memorize strategies and self-instructions; support what students have learned through collaboration and revision, and establish independent performance.

However, the majority of SRSD studies (e.g., De La Paz, 2005; Graham & Harris, 2005, Graham & Perin, 2007; Mason & Cramer, 2008) have investigated the effectiveness of this strategy with the students that have learning disabilities or low-achieving adolescent students struggling with writing. A few studies on SRSD have also been conducted with students in the elementary grades, middle schools and high schools (Lane, Harris, Graham, Weisenbach, Brindle, & Morphy, 2008). Thus, the results from investigating a strategy-based instruction such as SRSD in an advanced English writing course can shed some light on helping L2 learners write more effectively, given that strategies for developing writing skills, such as generating ideas, monitoring or evaluating one's text are seldom mentioned in their textbooks. The above issue motivated the present researchers to explore a process-oriented strategy-based instruction (i.e., SRSD) with regard to the persuasive writing among Iranian undergraduate students who study English as a foreign language (EFL).

In addition, in difficult tasks such as writing, which includes some recursively employed cognitive processes, self-efficacy can play a key role, and, perhaps, be part of SRSD. Self-efficacy is defined as "the beliefs one holds about their capabilities to organize and execute the courses of action required to produce given attainments" (García & Fidalgo, 2008, p. 415). A high level of self-efficacy (i.e., "I can do this" attitude) can result in intrinsic motivation, which might influence a writer's outcome (Pajares, 2003). The demanding nature of writing requires L2 learners' engagement to develop both writing competence and skills. Writing "demands a level of behavioral engagement", which makes L2 learners "exert more

effort and persist longer on language tasks, and seek instrumental help if necessary" (García & Fidalgo, 2008, p. 415). Likewise, persuasive writing, which is a demanding task, requires writers to offer appropriate evidence to support their claims "in a way that is clear, convincing, and considerate of diverse points of view" (Nippold, Ward-Lonergan, & Fanning, 2005, p. 125). In this sense, as Linnenbrink and Pintrich (2003) state, self-efficacy may be the key factor in promoting students' cognitive, behavioral and motivational engagement and learning. Also, as research (e.g., Pajares, 2008; Santangelo et al., 2008; Schunk, 1989; Schunk & Zimmerman, 2007) suggests, self-efficacy may be connected reciprocally to students' use of self-regulatory procedures. That is to say, those students who learn to use cognitive and self-regulatory strategies in writing may increase their perceptions of self-efficacy to write effectively. This issue deserves investigation within the EFL classroom.

Literature review

Strategies are defined as "specific methods of approaching a problem or task, modes of operation for achieving a particular end, planned designs for controlling and manipulating certain information" (Brown, 2007, p. 119). There are various strategy studies regarding language skills which report limitations of strategy training or learners' differences on strategy use in L2 contexts, but, as Manchon (2008) points out, there seems to be a consensus among many strategy researchers that strategy use is closely linked to success in language learning.

Strategies-based instruction includes "a combination of direct instruction and modeling, as well as guided and independent practice" (Zumbrunn, 2010, p.15), and it is interlinked with the communicative L2 teaching approach (Oxford, 2003). Several methods for strategies in writing have been developed. But one of the most influential instructional models can be SRSD, taken from the work of such researchers as Harris and Graham (1996, 1999). The purpose of this model is to teach the students strategies through a series of six stages, starting with activating prior knowledge, and ending with independent work (Sanders, 2010).

SRSD model, as described by Santangelo et al. (2008, p. 82), consists of six stages:

- Develop Background Knowledge: Teachers should identify what prerequisite skills are required and assess whether students possess these skills.
- Discuss It: Teachers have students discuss writing performance, their perceptions of the writing process, the purpose and potential benefit of the new strategy.
- Model It: The new strategy is modeled by teachers multiple times.
- Memorize It: Students become familiar with the steps in the strategy, memorize and use them automatically.
- Support It: Teachers scaffold instruction, provide constructive feedback, and positive reinforcement.
- Independent Performance: Students use the strategy over time with little support.

According to Santangelo et al. (2008), the first stage makes sure that students understand, learn, and use the strategy. This may involve introducing the genre of writing (e.g. expository writing) and developing new vocabulary. The second stage makes sure that students are motivated enough to learn the new strategy. Teachers discuss the writing performance, process of the writing process, and benefits of applying a strategy in order to have a plan while writing. At this stage, the concept of self-mentoring can be introduced. Within the third stage, teachers may have to model each stage for students several times before students understand the strategy well. In the next stage, students get more familiar with the strategy. The goal of this stage is that students will be able to become comfortable enough with the strategy so that they can use it easily. Teachers can use flash cards, mnemonic devices, and other techniques for those students who have difficulty with memorization. The fifth stage passes responsibility for using the strategy to students; support and positive reinforcement are given to students when necessary. The final stage of the model requires that students be able to self-regulate so as to reflect on their performance. The goal is that students will successfully utilize the strategy over time in different contexts.

In addition, there are many mnemonic devices which are used in the SRSD instruction. One is POW + TREE. As Zumbrunn (2010) explains, the POW

acronym in the SRSD instruction "serves as a mnemonic to help students memorize the strategy components" (p. 5). Each letter in the mnemonic would show a major component in planning for a *pow*erful writing task. The first letter in POW is P (Pick my idea); teachers may ask their students to help them with ideas (e.g., a good story idea). To do this, they have to allow students' minds to be free and creative. For instance, teachers may have a picture practice; they can ask their students to look at pictures and come up with things they might say in their heads to help them think of good story ideas; if students have trouble, teachers can let them borrow a statement from theirs. The second letter in POW is O (Organize my notes); teachers can use different reminder sheets and graphic organizers (e.g., WWW or TREE). For instance, teachers can write the story ideas or story part ideas down on different parts of the board as they think of ideas. Then, they will ask students to help them with the ideas they see in the pictures. They should let students talk out and fill in notes for Who, When, Where (WWW), that is, for "who" they see, for "when" they can write, and for "where". Moreover, TREE (Topic sentence, Reasons, Examine, Ending), another mnemonic device, can be used to "help students develop and organize (the *O* in *organize*) ideas for basic elements [of essay writing]" (Mason et al., 2009, p. 305). Each part of TREE is related to a living tree. For instance, *Topic* is like a trunk of a tree and *Reasons* look like the roots supporting a tree (Karen, Harris, Graham, & Mason, 2002). As Mason et al. (2009) describes, in the first step of TREE, i.e. *Topic sentence*, students are asked to tell readers what they believe or think. In the second step, i.e., *Reasons*, they should tell readers why they believe what they believe. Students are taught in the next step, *Examine*, to explain reasons with supporting details from what had already been learned. In the last step, i.e. *Ending*, students are taught to wrap up their writing like the earth, which wraps around the roots of a tree and hold it all together (Karen et al., 2002). Finally, the third letter in POW is W (Write and say more). According to Zumbrunn (2010), teachers can have their students generate some examples on their own, that is, they can encourage them, for instance, to write their own stories.

The SRSD was originally designed for use with struggling writers and learning disabled students. Several studies (e.g., Graham et al., 2010; Leins, 2011; Nicholas, Menchetti, & Nettles, 2005) have shown that students with learning disabilities can benefit from SRSD instruction. For instance, Nicholas et al. (2005) explored the

effects of a structured writing strategy on the quality of expository compositions produced by 36 African-American college undergraduates, selected from the students with learning disabilities at Florida Agricultural and Mechanical University. Results showed that students in the strategy instruction group significantly improved their use of supporting ideas in producing an expository essay. Also, Ennis (2013) investigated the effects of an SRSD persuasive writing intervention on the writing achievement of 44 middle and high school students with emotional and behavioral disorders in a residential school in the US. The results of study showed significant gains over the course of the intervention in writing and academic engagement.

Some studies have been done on the self-regulatory instruction including SRSD instruction even though the (in)effectiveness of such instruction in improving students' writing has been studied much less in L2 courses than L1 (first language) programs. In a pullout L2 writing program consisting of journal writing, SRSD instruction, and composing reports, Sanders (2010), for instance, looked at using explicit writing instruction and its impact on eight L2 students' attitude and ability, specifically in the area of summary writing. Findings showed that the participants improved their ability to write expository texts. Also, with a focus on general strategy instruction, Yu-wen (2007) aimed to find out the effects of writing strategy instruction on 79 non-English major Chinese graduate students writing performances. Results showed that pre-writing strategy instruction helped learners generate richer ideas and organize information logically. Moreover, the majority (91%) of the subjects welcomed the writing instruction and felt more confident in their writing.

As Graham and Harris (2005) state, many students struggle with the writing process as a complicated task and have an unrealistic sense of self-efficacy; they do not learn how to develop their points of views and self-efficacy skills. Possibly self-efficacy is linked to their self-regulatory skills (Graham, Harris, & Mason, 2004; Schunk, 1989), and writing achievement (Shell, Murphy, & Bruning, 1989). The term "self-efficacy" in an educational psychology refers to "how confident someone feels about performing a specific task" (Bandura 1997, p. 11). Self-efficacy theory comes from social cognitive theory, which postulates "internal personal factors in the forms of cognitive, affective and biological events,

behavioral patterns, and environmental events all operate in interacting determinants that influence one another bidirectionally" (Bandura, 1999, p. 23). Further, Bandura (1996), the developer of the theory, maintains that human behaviors are neither automatically shaped and controlled by the environment, nor are controlled totally by global traits. In light of Bandura's view, it is possible to assume that our language performance is less affected by genetically determined factors. Perhaps, if students learn to use cognitive and self-regulatory strategies and have better metacognition, they are more likely to demonstrate a better writing performance. For instance, Leins (2011) examined the effectiveness of self-regulation micro-analytic assessment in improving the development of self-regulation through attribution training with seven high school students with learning difficulties. The study also investigated the effectiveness of SRSD on improving self-efficacy, attribution style, and academic performance. Findings revealed that the self-regulation instruction with attribution training significantly improved the seven participants' overall self-efficacy for learning and attributions for strategy use.

However, there is not strong empirical evidence in L2 contexts confirming the reciprocally positive relationship between self-regulatory strategy-based instruction and self-efficacy. Thus, a gap is felt to see whether strategy-based instruction such as SRSD intervention can improve L2 students' self-efficacy in writing. In addition, the literature on the aforementioned areas tend to focus more on elementary, middle or high school populations or low-achieving native-speaker students when they concern writing, in general, or persuasive writing, in particular (e.g., Harris et al., 2003; Mason & Cramer, 2008) and few studies have focused on the effect of SRSD on the persuasive writing and self-efficacy of university students, particularly in EFL contexts. In an EFL context such as that of Iran, many students experience difficulties with the writing, developing content, arranging their thoughts in a coherent way, setting up goals for writing, and managing the mechanics of writing. Moreover, when writing persuasively, they find the writing task more challenging because they may have trouble developing discussions and supporting their ideas. Thus, the results of such a study can be of great benefit to EFL learners and teachers. In light of the above issues, this study seeks to address the following research questions:

1. Is using SRSD instruction significantly more effective than non-SRSD instruction in increasing Iranian EFL learners' persuasive writing gains?

2. Is using SRSD instruction significantly more effective than non-SRSD instruction in improving Iranian EFL learners' self-efficacy?

Method

Participants

The participants in this study were 60 Iranian EFL undergraduates who enrolled in an advanced English writing course at two universities. All of the participants were female and their age range was from 21 to 25. The participants at Islamic Azad University, Najafabad Branch constituted the control group and those at Amin Nonprofit University, Fooladshahr Branch constituted the experimental group, each having 30 university student participants. All the participants, who were taught by the same instructor, were at the third year of study at the university and were homogenous in terms of the scores on the Oxford Placement Test (OPT). Meanwhile, since complete randomization was not possible to be executed, in the present study, which had a quasi-experimental design, analysis of covariance was selected as a statistical technique to factor out the effects of possible pre-existing differences in writing ability. Having learned English as a foreign language for about eight years in high school, pre-university school and university, the participants were able to write English sentences, so they could attend the advanced English writing course which focused on providing practice in argumentative and persuasive writing among other types of writing.

Instruments

This study made use of three instruments for data collection: Oxford Placement Test (OPT, 2004), two timed-writing essays and a writing self-efficacy questionnaire. OPT includes 200 items, measuring listening as well as grammar, vocabulary and reading skills. The test provides a reliable and efficient means of placing students at different levels of language ability. Allen (2004), the developer of the test, claims that the OPT is capable of being utilized with any number of students of English to ensure efficient, reliable and accurate grading and placing of students into classes at all levels from elementary to advanced. According to Allen, the OPT has been calibrated against the proficiency levels based on the Common

European Framework of Reference for Languages (CEFR), the Cambridge ESOL Examinations, and other major international examinations. Having utilized the OPT to determine proficiency level of participants, Birjandi and Sayyari (2010) also established the concurrent validity of the OPT with TOEFL scores. The results revealed a high correlation between the OPT and TOEFL scores. Meanwhile, the reliability of the test as measured by Cronbach's alpha in the current study was found to be 0.85. The 50-minute essays included two topics, not requiring any special knowledge. For one of them, the participants were asked to write persuasively whether students should be allowed to have cell phones in elementary and high schools, and for the other, they were asked to argue persuasively whether high school students should be allowed to access the Internet freely. Care was taken to make the titles of the essays as similar as possible in terms of complexity of language, readability and frequency of words.

Also, the EFL participants' self-efficacy was assessed using a 19 item summative rating scale (see Appendix C). The writing self-efficacy questionnaire was developed and validated (through factor analysis) by Fidalgo, Torrance, and García (2008), following guidelines on self-efficacy scale construction proposed by Bandura (2001) and the response format proposed by Pajares, Hartley, and Valiante (2001). The scale is divided into four subscales: *self-efficacy for managing surface structure* (i.e., belief in ability to construct grammatically and correctly punctuated sentences and to choose appropriate vocabulary); *self-efficacy for managing deep structure* (i.e., belief in ability to generate and organize appropriate content); *self-efficacy for presentation* (i.e., belief in ability to present their text well), and *self-efficacy for spelling*. According to Fidalgo et al. (2008), the questionnaire demonstrated an adequate reliability for all four subscales (above 0.80). The internal consistency, measured through Cronbach's alpha, was found to be 0.84 for the whole test in the present study. The reliability indices of the subscales of the test were also above .80 ($\alpha_{\text{managing surface structure}} = 0.83$, $\alpha_{\text{managing deep structure}} = 0.84$, $\alpha_{\text{presentation}} = 0.85$, $\alpha_{\text{spelling}} = 0.83$).

Procedure

This study was based on quasi-experimental design. Two classes of undergraduate EFL students, which could be accessed by the present researchers, from Islamic Azad University, Najafabad Branch and Amin Nonprofit University were selected.

They included a sample of junior undergraduate students (n = 72) who enrolled in an advanced English writing course in their third year of study in the second semester of 2012 at the above-mentioned universities. First, the OPT was administered to them; twelve students (i.e., outliers) who received extreme scores on the OPT (i.e., beyond about 1.5 standard deviation below and above the sample mean) were excluded from further data analysis. Those who enrolled at Najafabad Branch were randomly assigned as the control group (n =30) and those at Fooladshahr Branch were assigned as the experimental one (n =30). To ensure the homogeneity and comparability of the participants in two groups, the Levene's test of equality of variance was run on the OPT scores of 60 participants in both groups. The OPT mean score of the participants (n =30) in the control group was 97.07, and that of the experimental group (n = 30) was 97.73. The significance value of Kolmogrov-Smirnov did not show the violation of normality of the OPT scores in the control (F = .155, P = .062) and experimental groups (F = .125, p = 200). Also, the t-test did not indicate any significance differences of the OPT scores between the two groups (t = -.130, p = .897).

Second, before instructions were given, the participants in both groups completed the self-efficacy questionnaire (Fidalgo et al., 2008) and were asked to take a timed essay used as pretests; the prompting opinion question for the pretest essay was whether high school students should be allowed to access the Internet freely or not. Fourth, the control group received traditional writing instruction (i.e., non self-regulatory strategy-based instruction) while the experimental group received SRSD instruction. Instructions in both groups were given in six weeks, for two hours each week, by the same teacher. The control group received the instruction about the mechanics of writing, spelling, grammar and the characteristics of writing, such as, structural features of persuasive essays. The participants in the control group were asked to write essays, which were corrected by the teacher. Then, they received feedback from teachers on features such the organization of paragraphs in their essays, sentence grammar, word spelling, and punctuation, so the writing course was more product-oriented whereas the course in the experimental group was more process-oriented.

Following Graham and Harris (2005) and Santangelo et al. (2008), the SRSD instruction of the study included six stages, i.e., *Develop Background Knowledge*,

Discuss Strategy, *Model It*, *Memorize It*, *Support It*, and *Independent Performance*, which allowed the students to learn a writing strategy (see the Literature Review). The general planning strategy included three steps, represented by the mnemonic POW: *Pick my ideas*, *Organize my notes*, and *Write and say more* (see Appendix A). The participants in the experimental group were taught to use POW to write persuasive essays. As a means of helping the participants carry out the second step of POW (organizing notes), they were also taught a genre-specific strategy that prompted them to generate ideas for each of the basic parts of a persuasive writing. This strategy, represented by the mnemonic TREE (see Appendix A), reminded the students to do the following: Tell what they believe (state their Topic Sentence), Provide three or more reasons (Why do they believe this?), End it (wrap it up right), and Examine (look closely at all parts of their writing).

During *Developing Background Knowledge* stage, POW was only reviewed, and the instruction focused on the characteristics and parts of persuasive essays (i.e., TREE). During the second stage of instruction, *Discuss It*, the students were first assessed to determine whether they remembered what POW and the essay part reminder mnemonic stood for. They practiced looking for different parts in essays as the instructor read out a persuasive essay loud, but this time they used a graphic organizer wherein they made notes for each part of the essay (see Appendix B). At this point, self-monitoring and graphing were introduced. Then the instructor introduced the idea of goal setting, indicating that students' goal in writing persuasive essays was to include all parts, as well as to ensure that each was well done. During the third stage of instruction, *Model It*, they were shown how to apply POW and the persuasive essay part reminder; the use of self-instructions (self-talk) was introduced, too. In the fourth stage of instruction, *Memorize It*, they memorized the steps, the mnemonic, and their self-statements. The next stage, *Support It*, started with a collaborative writing experience. The instructor and students set a goal to include all elements in their persuasive essay and started planning and writing persuasive essays together using POW, the persuasive essay part reminder, the graphic organizer, and their self-instructions. This time, however, they directed the process, and the instructor provided support when needed. They were asked to read their persuasive essays to each other and discuss how the strategies help them write better. Scaffolding included instructor or peer support in carrying out the strategies. Students moved into the final stage,

Independent Performance, in which each student could use POW and the persuasive essay part reminder to write a persuasive essay without using any of the prompts or receiving help from the instructor or peers.

Fifth, after conducting the instructions, both the experimental and control groups participated in the posttests taking a timed essay; the prompting opinion question for the posttest essay was whether high school students should be allowed to access the Internet freely or not. In addition, they completed the Fidalgo et al.'s (2008) self-efficacy questionnaire again as posttests. In order to measure the quality of the participants' writing performance in the pretests and posttests, an analytic scoring rubric developed by Hyland (2003) was used. The scale includes format and content (40 marks), organization and coherence (20 marks), and sentence construction and vocabulary (40 marks). To increase the dependability of the data, both pretest and the posttest essays were graded by two raters and inter-rater reliability was computed. The inter-rater reliability indices for the pretest and posttest were found to be 0.98 and 0.97 respectively. Finally, pretest and posttest scores were compared to address the research questions of the study.

Meanwhile, given pretest-posttest design of study, analysis of covariance (ANCOVA) was used as a statistical tool for data analysis. According to Larsen-Hall (2010, p. 357), "such a technique may be useful when you assume that there is some external factor, such as pre-test … which will affect how your students will perform on the response variable". ANCOVA is like repeated-measures or mixed-effect procedures and can "reduce the amount of variability in the model that is unexplained" (p. 357).

Results

Descriptive statistics of both writing and self-efficacy scores in both groups were obtained and summarized in Table 1. To better compare the performance of SRSD and non-SRSD groups, the summative raw scores of participants' self-efficacy have been divided by number of items in the questionnaire, so the participant's self-efficacy scores, like their writing scores, are reported on a 0-100 scale. That is, the participants' writing and self-efficacy scores can range from 0 to 100. As demonstrated in Table 1, the minimum and maximum writing scores belonged to the pretest and posttest respectively, and both were observed in the SRSD group.

Also, the pretest writing mean scores in the non-SRSD (53.25) and SRSD (52.05) groups were smaller than the posttest writing mean scores in the non-SRSD (57.57) and SRSD (67.47) groups. Furthermore, the minimum self-efficacy scores belonged to the pretest in the non-SRSD group and the maximum self-efficacy scores belonged to the posttest in the SRSD group. Moreover, as shown in Table 1, the pretest self-efficacy mean scores in the non-SRSD (54.82) and SRSD (59.21) groups were smaller than the posttest self-efficacy mean scores in the non-SRSD (60.10) and SRSD (69.46) groups.

Table 1
Descriptive statistics of essay and self-efficacy scores in the non-SRSD and SRSD groups

Group	Variable	N	Min	Max	Mean	Std. dev.
Non-SRSD	Pre-test Writing Scores	30	30	88	53.25	14.61
	Post-test Writing Scores	30	35	82	57.57	11.94
	Pre-test self-efficacy	30	12	80	54.82	19.06
	Post-test self-efficacy	30	16	89	60.10	16.17
SRSD	Pre-test Writing Scores	30	18	86	52.05	14.54
	Post-test Writing Scores	30	38	95	67.47	15.21
	Pre-test self-efficacy	30	30	93	59.21	15.50
	Post-test self-efficacy	30	40	95	69.46	14.83

To address the first research question of the study concerning the effect of the non-SRSD and SRSD instructions on the participants' writing gains and the

comparison of their effectiveness in terms of performances on the persuasive essays, covariate analysis (an extension of analysis of variance) was conducted. Meanwhile, before running the covariate analysis, it was important to check several assumptions, so no significant variance difference across both groups was first ensured through Levene's test of equality of variance, which checked the assumption that the essay writing scores would have similar variances for the non-SRSD and SRSD groups. The results of the Levene's test for homogeneity of variance showed that the variance was equal and there was no significant difference between both groups in terms of writing scores (p = .343; see Appendix D, Table D1). Also, the assumption of the reliability of the covariate, i.e. the pretest writing scores, was met as the inter-rater reliability of the pretest essay scores was found to be high (0.98). In addition, as Pallent (2007) states, ANCOVA "requires that the relationship between the covariate and dependent variable for each of the groups is the same" (p. 293). Thus, a preliminary ANCOVA was conducted to see whether there was an interaction between the treatment and pretest writing scores (see Appendix D, Table D2). The results showed that the treatment for the pretest scores was not statistically significant, F (1, 56) = 1 .130, p = .292. In other words, there was not an interaction between the treatment and the participants' essay writing scores in the pretest.

The above-mentioned results put the present researchers in a stronger position to make claims about the effect of the treatment, i.e. the type of instruction, on the posttest writing scores. The results of analysis for the treatment effect are reported in Table 2. According to Table 2, there was a strong linear relationship between the pretest and posttest writing scores, F (1, 57) = 168 *p < .01. This can be interpreted as a positive result since ANCOVA "assumes that the relationship between the dependent variable and each of covariates is linear" (Pallent, 2007, p. 293); the writing mean scores increased from the pretests to the posttests. More importantly, the group variable, i.e. the type of instruction, had a significant impact on the participants' posttest essay scores F (1, 57) = 36.66, *p < .05. The partial eta squared, indicating the effect size of the treatment, was found to be large (about .40). Also, the posthoc comparison test, reported in Table 3, showed that the writing mean difference between the two groups was significant in the posttests; the SRSD group *significantly* performed better than the non-SRSD group on the writing posttest scores.

Table 2
Analysis of covariance for the treatment effect on essay scores

Source	Sum of Squares	*df*	Mean Square	*F*	*Sig.*	Partial Eta Squared
Corrected Model	9561.65	2	4780.83	99.01	.000	.776
Intercept	1628.31	1	1628.31	33.72	.000	.372
Pre-test	8091.50	1	8091.50	167.57	.000	.746
Group	1770.12	1	1770.12	36.66	.000	.391
Error	2752.33	57	48.28			
Total	246814	60				

Table 3
Comparison test on estimated margin means

Non-SRSD	SRSD	Mean difference	*Std. error*	*Sig.*	99% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-10.87	1.80	.000	-15.66	-6.09
2	1	10.87	1.80	.000	6.09	15.66

Before addressing the research questions of the study, it was important to examine the homogeneity of variance in both non-SRSD and SRSD groups in terms of the participants' self-efficacy scores. This assumption of normality was investigated by the Levene's test. The Levene's statistics was found to be larger than .05 (see Appendix D, Table D3). Thus, there was no significant difference between the two groups in terms of the variance of self-efficacy scores. In addition,

the reliability of pretest self-efficacy scores, measured through Cronbach's alpha, was found to be high (0.84). Thus, the reliability of the covariate, i.e., pretest self-efficacy scores, was met, too. More importantly, there was no interaction between the treatment and participants' self-efficacy scores in the pretest (see Appendix D, Table D4), that is, the treatment for the pretest self-efficacy scores was not statistically significant, F (1, 56) =.817, p = .370.

To address the second research question, intending to examine the effect of non-SRSD and SRSD instructions and the comparison of their effectiveness in terms of self-efficacy, covariate analysis was again carried out on the participants' pretest and posttest self-efficacy scores. As displayed in Table 4, the results revealed a strong linear relationship between the pretest and posttest self-efficacy scores because the p value of the pretest scores was found to be significant, F (1, 57) = 33.06 *p < .05. Additionally, the treatment variable had an impact on the participants' posttest self-efficacy scores; the type of instruction had a significant effect at .05, F (1, 57) = 5.36, *p = .024. But the effect size of the treatment was found to be small (.086), explaining 8.6% of the variance in the participants' posttest self-efficacy scores.

Table 4
Analysis of covariance for the treatment effect on self-efficacy scores

Source	Sum of Squares	*df*	Mean Square	*F*	*Sig.*	Partial Eta Squared
Corrected Model	8595.0	2	4297.52	36.69	.000	.563
Intercept	3872.80	1	3872.80	33.06	.000	.367
Pretest	7283.47	1	7283.47	62.18	.000	.522
Group	627.60	1	627.60	5.36	.024	.086
Error	6676.58	57	117.13			
Total	267064	60				

Table 5
Comparison test on estimated margin self-efficacy means

Non-SRSD	SRSD	Mean difference	*Std. error*	*Sig.*	99% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-6.52	2.82	.024	-14.03	.97
2	1	6.52	2.82	.024	-.99	14.03

Also, the posthoc comparison test, reported in Table 5, showed that the self-efficacy mean difference between the two groups of the study was significant in the posttests; the SRSD group (Mean = 68.04) performed better than the non-SRSD group (Mean = 61.52) in terms of self-efficacy scores on the posttests.

Discussion

Language learners who struggle with persuasive writing often write too little or give too much information which is sometimes irrelevant (Mason et al., 2009). They sometimes believe that they cannot succeed in writing. Thus, there is a need to find ways to help them with effective writing and change the pessimistic belief that they lack the ability to succeed in persuasive writing. The results of the present study revealed that the L2 learner writers who received instructions on essay writing, in general, improved their persuasive writing and writing self-efficacy in both non-SRSD (traditional) and SRSD groups. Explicit instructions given by the L2 teacher improved the L2 students' performances on the writing test tasks, on the one hand, and their perception of being effective as writers, on the other. The L2 participants' improvements, of course, were not perfect or flawless, yet significant, as indicated by the increased persuasive essay and self-efficacy scores. That is, writing instructions, whether they reflect more product-oriented approaches (like non-SRSD), as they are so common in many L2 writing courses in Iran, or echo

more process-oriented approaches (like SRSD), can meaningfully improve the global features of writing such as organization, structure and content.

To move further, the above-mentioned results obtained in this study showed that one type of instruction (i.e., SRSD), in which the L2 students learned to regulate their use of the target strategies, the writing task, and their behavior during the writing, proved to be more effective. It can be argued that the better improvement of the essay scores can be due to their improvement in strategic behavior, knowledge, and maintenance during the writing process and managing the tasks associated with the strategy based SRSD instruction. The examination of the treatment in the experimental group reveals that the SRSD condition focused on explicit instruction in goal setting, self-assessment and self-regulation in relation to the acquisition, maintenance, and generalization of planning strategies. Goal setting occurred during the first and second stages of SRSD instruction (i.e., *Develop Background Knowledge* and *Discuss It*). The participants instructed themselves during *Model It* and *Memorize It* stages and they practiced self-monitoring and self-reinforcement during the *Support It* and *Independent Performance* stages. At the same time, the L2 participants in the SRSD group were treated as active collaborators in the learning process for the writing skill. All the aforementioned elements are associated with the development of writing, particularly the persuasive type. As Hayes and Flower (1980, cited in Rogers, 2010) have asserted, one of the cognitive processes that is identified as essential to successful writing is the ability to plan (i.e., set goals and strategies to meet goals); skilled writing is a "goal-directed activity that involve[s] considerable planning" (p. 3). And those students who have more elaborated, specific goals can generate high quality essays (Newell, Beach, Smith, & VanDerHeide, 2011). García and Fidalgo (2006) also state that the process of writing a text consists of components that are used recursively. Coordinating the processes such as planning, drafting and revising in a way that results in an effective text needs attention control and self-regulation. And, with the conception of writing as a process (rather than a product), the SRSD instruction for POW+TREE promoted self-organizing, self-editing, self-revising and student self-regulating. The POW+TREE must have taught the L2 participants to break down their ideas into manageable components before and during the writing process.

In fact, most of the participants in the non-SRSD group typically embarked on writing their essays by stating their position immediately, giving a single or a few supporting reasons, and then ending abruptly without a concluding statement, perhaps because only their teacher monitored their products. But, following SRSD instruction, most participants in the SRSD group typically planned their essays in advance before starting to write and supported their premise through more compelling reasons by the help of the POW+ TREE mnemonic chart and TREE graphic organizer. In the posttest essays, the number of reasons supporting the premise increased, the sentences were more coherently ordered, and the basic elements of a good persuasive essay (i.e., topic sentence, reasons and ending) were often present. The above argument developed for the use of the SRSD instruction is supported by the recent claim made by Mason, Kubina and Taft (in press, cited in Mason et al., 2009) that "self-regulation procedures (e.g., setting goals for writing, monitoring writing, self instructions, and self-reinforcement), when directly taught and practiced, support students' learning over tasks and time" (p. 311) Meanwhile, the above results are supported by the results obtained by Nicholas et al. (2005), who maintained that strategy-based instruction could improve their subjects' use of supporting details of topic sentences in producing an expository essay. Also, Graham et al. (2010) reported that SRSD for 13 second-grade students with behavioral and writing difficulties led to gains in number of persuasive elements, number of words written, and high quality of writing.

The results of the current study also indicate that the SRSD instruction increased the students' writing self-efficacy gains even though it did not result in very statistically significant changes in amount of self-efficacy, compared with the non-SRSD instruction. The better improvement of self-efficacy in the strategy-based instruction is not against expectation. As Graham and Harris (1997) argue, writing requires students' cognitive engagement as well as the engagement of their motivation in the task, in terms of interest, value, and feelings towards writing. Linnenbrink and Pintrich (2002) also point out that self-efficacy is positively related to cognitive engagement and use of self-regulatory strategies. Compared with the non-SRSD instruction, the SRSD instruction could allow the L2 participants to better boost their cognitive and metacognitive dimension of writing and learn valuable writing strategies without using a formulaic writing style for persuasive essays, which would often demand much skill, patience, effort to

resolve discussion. This focus on the metacognitive dimension of writing in the SRSD group was efficacious to foster critical thinking skills, allowing the participants to have ownership of their writing. It can be assumed that when students learn how to be critical, develop arguments, and advance their points of view simultaneously, they are learning independence and self-efficacy skills. Also, Mason et al. (2009, p. 305) argue that in SRSD instruction, "teachers scaffold responsibility for strategy use of the writing process by gradually shifting from teacher-led instruction to student-led self-regulation." This shift helps learners be more independent, efficacious and confident. The results of the present study, then, support Zimmerman and Reisemberg's (1997, cited in Lesgold & Welch-Ross, 2012) assertion that L2 students who learn to use self-regulatory strategies in writing can enhance their perceptions of self-efficacy to write effectively. They can be more confident about their ability to write a good essay, and more positive about the role of effort in writing. More studies are however required to make a definitive judgment on the amount of variation shared between self-regulation and self-efficacy. Additionally, the above findings are consistent with the findings of the study by Yu-wen (2007), who reported that strategy instruction led his L2 participants to feel more confident in generating ideas and organizing information in English witting, and with the findings of Fidalgo et al. (2008), who reported that instruction in strategies for planning and revising writing could improve the self-efficacy of their subjects in expository writing in L1.

Conclusion

As L2 students progress academically, persuasive writing, as a fundamental social interaction skill and a tool for analytical thinking, becomes increasingly important (Newell et al., 2011). In addition, recent psychology of education focuses on intrinsic motivation and the development of autonomous learning in the process of teaching (Lesgold & Welch-Ross, 2012). Thus, instructions in writing essay courses should enhance students' spontaneous learning desire by empowering them and increasing their ability to perform effectively in writing. This study put traditional product-oriented (non-SRSD) and process-oriented strategy-based (SRSD) instructions under spotlight. Results showed that even advanced-level university students, who were making academic progress, could benefit from explicit teacher directed instructions. But with the use of SRSD, the L2 student writers had a better performance on persuasive essays, perhaps because they were

able to set a goal to work quickly when writing and better monitor the writing process. Also, the findings supported that a cognitive and self-regulation strategy instruction program in writing was effective, to some extent, in improving the participants' self-efficacy. By an active role in writing process and applying the strategy being taught, L2 students' self-efficacy in the writing process improves. Therefore, there is a need to inform L2 writing instructors and learners about the importance of teaching self-regulatory strategies as a feasible way for achieving autonomy, self-efficacy and success in L2 writing.

Notes on Contributors:

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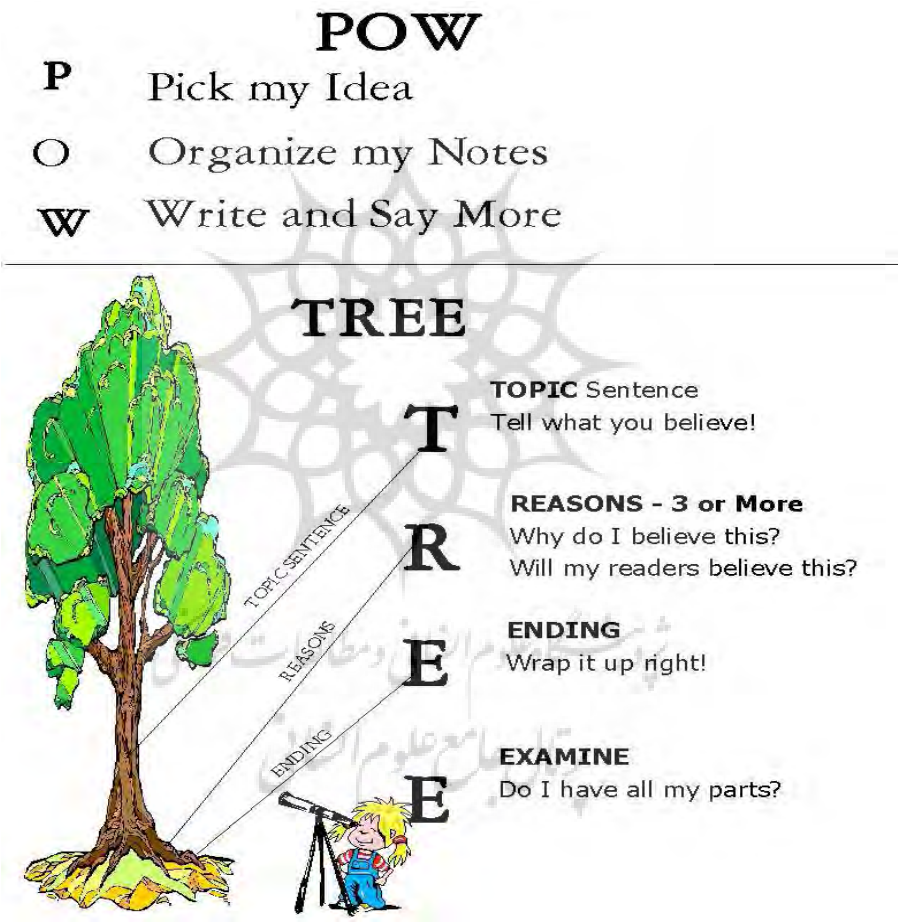
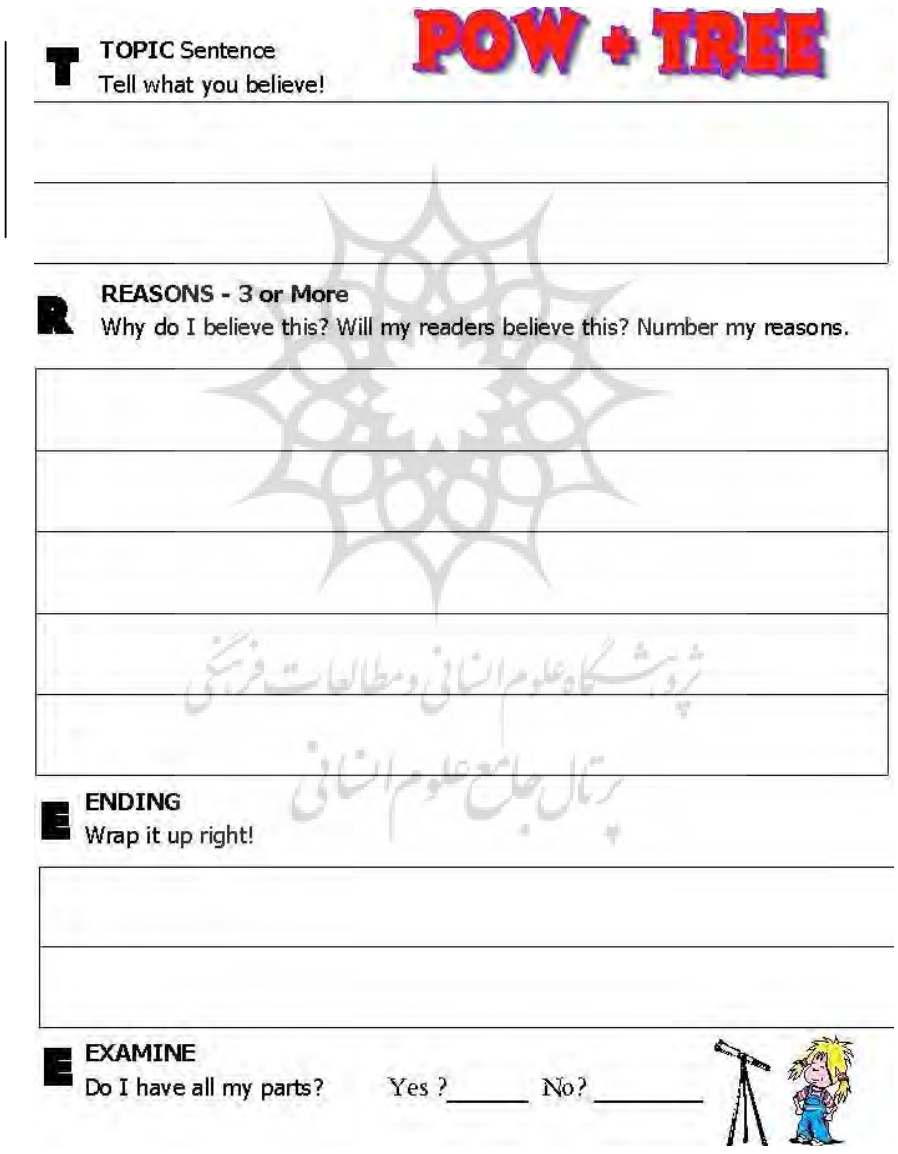
Appendices

Appendix A
POW + TREE Mnemonic Chart



Appendix B
TREE Graphic Organizer



Appendix C

Writing Self-Efficacy Questionnaire

Directions: *Please use the following scale when reading the statements below. Circle the number that best describes how sure you are while performing each of the English writing tasks or skills below.*

0 10 20 30 40 50 60 70 80 90 100

No Chance **20% Certain** **40% Certain** **60% Certain** **80% Certain** **100% Certain**

1	You can make the necessary connections to link together the individual paragraphs of the text	0 10 20 30 40 50 60 70 80 90 100
2	You can conjugate the verbs of your text correctly	0 10 20 30 40 50 60 70 80 90 100
3	You can use a suitable vocabulary	0 10 20 30 40 50 60 70 80 90 100
4	You can use appropriate cohesive ties to link sentences into a paragraph	0 10 20 30 40 50 60 70 80 90 100
5	You can write the sentences of your text with proper punctuation	0 10 20 30 40 50 60 70 80 90 100
6	You can get agreement between the subject and predicate of a sentence	0 10 20 30 40 50 60 70 80 90 100

7	You can write sentences without grammatical mistakes	0 10 20 30 40 50 60 70 80 90 100
8	You can get a variety of interesting details in your text	0 10 20 30 40 50 60 70 80 90 100
9	You can have the necessary knowledge about the themes of the text	0 10 20 30 40 50 60 70 80 90 100
10	You can include lots of good ideas	0 10 20 30 40 50 60 70 80 90 100
11	You can get a clearly developed organization of the ideas in the text	0 10 20 30 40 50 60 70 80 90 100
12	You can write it, so people understand	0 10 20 30 40 50 60 70 80 90 100
13	You can organize sentences into a paragraph so as to clearly express an idea	0 10 20 30 40 50 60 70 80 90 100
14	You can clearly express the purpose of your text	0 10 20 30 40 50 60 70 80 90 100
15	You can write your text neatly	0 10 20 30 40 50 60 70 80 90 100
16	You can write in good handwriting	0 10 20 30 40 50 60 70 80 90 100
17	You can write your text without blots or corrections	0 10 20 30 40 50 60 70 80 90 100

18	You can write the words of your text with correct spelling	0 10 20 30 40 50 60 70 80 90 100
19	You can put in the accents in your text	0 10 20 30 40 50 60 70 80 90 100

Appendix D
Tables for checking the Assumptions of ANCOVA

Table D1:
Tests of Equality of Variance for Essay Writing Scores

Test	Variable	*F*	*df1*	*df2*	*Sig.*
Levene	Persuasive Writing	.913	1	58	.343

Table D2:
Analysis of Covariance on Essay Writing Scores for the Interaction Effect

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Corrected Model	9616.08	3	3205.36	66.53	.000
Intercept	1632.07	1	1632.07	33.88	.000
Pre-test	8097.59	1	8097.59	168.08	.000
Group * Pre-test	54.43	1	54.43	1.13	.292
Error	2697.90	56	48.18		
Total	246814	60			

Table D3:
Tests of Equality of Variance for Self-efficacy Scores

Test	Variable	*F*	*df1*	*df2*	*Sig.*
Levene	Self-Efficacy	1.095	1	58	.300

Table D4
Analysis of Covariance on Self-efficacy Scores for the Interaction Effect

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Corrected Model	8691.04	3	2897.02	24.65	.000
Intercept	3396.87	1	3396.87	28.90	.000
Pre-test	7317.96	1	7317.96	62.27	.000
Group * Pre-test	95.99	1	95.99	.817	.370
Error	6580.58	56	117.51		
Total	267063.99	60			