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The Effects of Different Types of Reflective Journal Writing on Learners' Self-regulated Learning

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Abstract

This study aimed to examine the impact of three different journal writing techniques; namely, individual journal writing, collaborative journal writing with peers, and collaborative journal writing with the teacher, on the self-regulation of Iranian EFL learners. One hundred and fifty female English learners studying in a language institute were asked to answer the Academic Self-Regulated Learning Scale (ASRL-S). Out of the initial participants, sixty upper-intermediate learners whose scores on ASRL-S pretest fell one standard deviation from the mean were chosen and randomly assigned to four groups. The ASRL-S was administered again after the treatment to the participants. The results of a one-way analysis of variance of the ASRL-S posttest indicated that collaborative journals that provide the chance to benefit from their teacher's or peer's feedback could significantly boost learners' self-regulatory skills. The learners who kept a reflective journal but did not share it with either their teacher or their peers were also found to

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outperform the ones who did not use the reflective technique. Therefore, the findings of the study also confirmed the individual journal writing as a form of reflective practice to improve learners' self-regulation significantly.

Keywords: Reflection; Reflective journals; Collaborative journals; Self-regulation; Self-regulated learning; The Academic Self-regulated Learning Scale

Introduction

Defined as people's ability to regulate and direct their feelings, thoughts, and behaviors (Bandura, 1986), self-regulation is a concept in psychology, which has attracted considerable attention (Boekaerts, Pintrich, & Zeidner, 2000). Kanlapan and Velasco (2009, p. 79) identified self-regulation as "any thought, action, or feeling towards attaining educational goals and evidently the management of one's own thinking." Similar accounts have been given by Zimmerman (2000, 2002) to whom self-regulation refers to planned self-generated thoughts, feelings, and actions leading to the attainment of goals with the use of feedback from prior performance which makes the process cyclical.

Psychological research on self-control gave rise to self- regulation theory and led to the emergence of models of self-regulatory learning (SRL) (Bidjerano & Yun Dai, 2007; Schunk, 2005). In learning and teaching literature, SRL has been defined as the dynamic process enabling learners to feel in charge of their own learning and to consistently organize and direct their thoughts, emotions, behaviors, and environment in order to attain their goals (Aksan, 2009; Boekaerts & Corno, 2005; Ramdass & Zimmerman, 2011; Van den Boom, Paas, & Van Merriënboer, 2007; Zimmerman, 2000).

The majority of SRL models draw on Bandura's (1986) socio-cognitive theory of human functioning, which postulates that people are not passively influenced by their environment, on the contrary; they are proactive, self-regulating agents. Aksan (2009) reports the identifiable sub-processes of SRL as self-observation, self-judgment, and self-reaction/-evaluation. Self-regulated learning has also been characterized as regular modification of one's cognitive activities and processes to meet the demands of a particular learning situation (Bidjerano & Yun Dai, 2007). The primary goal of SRL has been known to create autonomous, metacognitively, motivationally, and behaviorally active learners capable of taking responsibility for their own learning and problem-solving processes, self-efficacious learners who

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use self-evaluation in the process of acquiring and remembering knowledge (Kanlapan, & Velasco, 2009; Schunk & Zimmerman, 1997; Zimmerman, 1989, 2000). Self-regulated learners have been reported to be good at processing the learning material cognitively due to the possession of a wide repertoire of learning strategies and metacognitive strategies. Self-regulated learners are also known to be more determined and to have a larger number and more valued set of distant goals to pursue (De Bilde, Vansteenkiste, & Lens, 2011).

Many scholars maintain that reflection is a crucial factor for SRL development (Schunk & Ertmer, 2000; Van Den Boom et al., 2007; Van Velzen, 2002; Winne & Perry, 2000; Zimmerman, 1998, 2001); many others also state that self-regulation plays a central role in individuals' learning (Azevedo, Cromley, & Seibert, 2004; Boekaerts, 2002; Pintrich, 2000); nevertheless, only a few researchers in educational contexts have been interested to provide empirical evidence on ways self-regulated learning can be fostered through reflection. Moreover, very few studies have explored the impact of journals/diaries, as reflective tools, on individuals' self-regulation (Nückles, Hübner, & Renkl, 2009; Van Den Boom et al., 2007), and even these few studies have not considered all reflective techniques. Van Den Boom et al. (2007) and Arsal (2010) called for more research on the effect of journal writing on self-regulation in various educational settings, and with other populations. Nückles et al. (2009) also believes more research is needed to investigate the impact of learning journals on self-regulated learning.

Background

SRL Models and Reflection

A review of available literature suggests that over the last two decades, researchers have tried to construct models of SRL (Miller & Brown, 1991; Pintrich 2000; Zimmerman, 1998, 2000), and drawing on the SRL models, many scholars have focused on the ways in which educational programs can help promote SRL among learners.

Miller and Brown (1991) developed a seven-step model in which self-regulation may decline due to the failure or insufficiencies at any of the proposed steps: receiving relevant information, evaluating the information and comparing it to norms, triggering change, searching for options, formulating a plan, implementing the plan, and assessing the plan's effectiveness (reflection).

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Three phases of the forethought (pre-cognition), performance (volitional control), and reflection were later identified in a cyclical model by Zimmerman (1998, 2000), who viewed self-regulation from a social cognitive perspective. To him, forethought refers to processes preceding efforts to act and "sets the stage for it". Performance, which influences attention and action, involves processes which "occur during motoric attempts", and reflection involves processes following the performance efforts that affect "a person's response to that experience" (Zimmerman 2000, P. 16).

In the conceptual framework developed by Pintrich (2000), the self-regulation process contains four not essentially linearly and temporally structured phases: planning and activation, monitoring, control and reaction, and reflection.

It is clear that reflection is an indispensable component of all these models, and might be assumed to be a central element of self-regulation construct. Therefore, it can be argued that this study draws upon all these models. However, given the use of the Academic Self-regulated Learning Scale (ASRL-S) in this study, the SRL model which shapes the main theoretical framework here is the model proposed by Zimmerman and Martinez-Pons (1986) who believe that organizing, goal setting, seeking assistance, environmental structuring, and memory strategy are the components of SRL.

Research on SRL Promotion and Reflection

Drawing on Van Merriënboer 's (1997) constituents of SRL (cognitive, affective, planning, and contextual constituent components) and Zimmerman's (1998) three stages of self-regulation, Van Den Boom et al. (2007) conducted a study aiming at examining the effectiveness of students' reflective activities for the development of their SRL abilities. They chose their participants from among the learners of a distance learning university. In their study, two experimental conditions in which learners used on-line reflective activities and received prompts and feedback were compared with a control condition (n=18) in which learners did not reflect on their learning process. In one of the experimental conditions (n= 15), the feedback intended to evoke reflections was provided by a tutor, while in the other experimental condition (n=16), peers were the feedback providers. The researchers attempted to answer three questions one of which directly concerned SRL. They aimed to find out whether students' reflective activities, combined with peer or tutor suggestive feedback, were beneficial for the development of students' SRL and learning outcomes. To measure the development of students' SRL, the Dutch

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version of the Motivated Strategies for Learning Questionnaire, consisting of a motivation section and a learning strategy section, was used. The results of their study showed that reflection combined with feedback positively impacted students' self-regulated learning. According to the findings, tutor feedback helped students to improve their learning outcomes.

In another study carried out by Nückles et al. (2009), learning protocols as tools for elaboration and reflection on learning content were used to enhance self-regulated learning. In this study with 103 undergraduate participants from different departments of the University of Freiburg, a one-factorial between-subjects design comprising of five experimental conditions was used. The participants were randomly assigned to one of five conditions. Learners' protocols were coded to investigate the effect of each type of prompting on their SRL and learning outcomes. They reported that prompts in general were very effective means to stimulate cognitive and metacognitive strategies in writing learning protocols. The results of their study revealed that providing learners with organization and elaboration prompts noticeably raised the amount of organization and elaboration strategies in the learning protocols. Similarly, when prompts for monitoring and planning of remedial strategies were provided, students' efforts to monitor and regulate their understanding of the subject increased significantly. In the discussion section of their article, they argued that journal writing is rhetorically less demanding as it "requires little genre knowledge from the writer" (p. 269), and thus, might be more proper to assist self-regulation of the learning process.

Jenson (2011) investigated the role of electronic portfolios in prompting first-year writing students to self-regulate their learning behaviors and to write more critical reflection statements in a digital environment. In the study, surveys specifically designed to uncover learners' strategies were used to document the ways self-regulation would be promoted. The results revealed that using students' surveys and focused in-class discussion along with consistent e-portfolio assignments noticeably promoted the length as well as the quality of reflection statements, and increased the learners' self-regulation skills. According to the findings, e-portfolios enabled learners realize task demands and proper learning strategies. The results also proved that having used e-portfolios, learners were able to monitor their own behaviors.

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The Present Study

Building on Dewey's (1933) original ideas about "reflection" and Schön's (1983) concept of "reflective practitioners", numerous articles have been written on the impacts reflection can have on the quality of one's life in general and learning in particular (Van Velzen, 2002).

The increasing number of studies indicating the importance of self-regulation as an influential factor in both education-related success, as well as out of school achievement (Azevedo et al., 2004; Pintrich, 2000; Schunk & Ertmer, 2000), reflects the necessity to look for techniques to develop and increase self-regulation among foreign language learners. Self-regulation has been reported not to develop automatically as learners mature; instead, pedagogical interventions are known to be required to promote self-regulatory abilities (Randi & Corno, 2000). Hence, empirical studies aiming at shedding lights on ways in which teachers can help learners move towards self-regulated learning seem to be warranted.

On the other hand, Schunk and Ertmer (2000, p. 645) called for more attention to the issue and stated that, "[self-reflective practice] is a critical component of self-regulated learning, but to date little effort has been made to link it systematically with interventions." However, since 2000, only a few studies (e.g. those by Jenson (2011), Nückles et al. (2009), and Van Den Boom et al. (2007)), have focused on the role of reflection as a type of intervention in promoting self-regulatory skills. The present study, thus, has aimed at finding out whether collaborative and non-collaborative journal writing technique can help increase self-regulated learning, and whether collaborative journal writing can be more effective in terms of increasing self-regulated learning when the journals are shared with the teacher. More specifically, the following research questions were formulated:

1- Does collaborative journal writing technique help increase self-regulated learning?

2- Does non-collaborative reflective journal writing technique help learners increase self-regulated learning?

3- Is collaborative journals writing more effective in terms of increasing self-regulated learning when the journals are shared with the teacher?

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Method

Participants

Sixty upper-intermediate female learners, between 17 and 35 years of age, participated in this study. The participants were mostly university students and graduates, studying General English at a language school in Iran.

Instrumentation

The instruments used in this research include individually written reflective journals and collaborative reflective dialogue journals, as well as the Persian version of the ASRL-S which was originally developed by Magno (2010).

The aforementioned scale, consisting of 55 items, "was anchored on the framework of self-regulated learning by Zimmerman and Martinez-Pons (1986)" (Magno, 2010, p. 61). In the development of this scale, seven factors, considered as strong indicators of self-evaluation, organizing, goal setting, seeking assistance, environmental structuring, learning responsibility, and memory strategy, were extracted. The construct validity of the ASRL-S was established through its functional correlation with the Motivated Strategies for Learning Questionnaire (MSLQ), developed by Pintrich, Smith, Garcia, and McKeachie (1991), and Learning and Study Strategies Inventory (LASSI), developed by Weinstein, Schulte, and Palmer in 1987 (Magno, 2011).

In the present study, the scale was translated to Persian. To ensure the quality of the translated version, an English teacher holding a Master's degree in *Translation Studies* was asked to help the researcher to translate the statements in the scale into Persian. Table 1 demonstrates the internal consistency of the subscales of the Persian version applied in this study. In the present study, as shown in Table 1, the internal consistency of the subscales ranged from 0.79 to 0.98.

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Table 1
Reliability Indices for Different Subscales of the ASRL-S

Scale	Cronbach's Alpha
Goal-setting	.93
Memory	.97
Self-evaluation	.94
Assistance-seeking	.98
Environmental-Structuring	.86
Learning-Responsibility	.79
Organizing	.81
The scale as a whole	.95

Instructional Materials

The course, which lasted for ten weeks, consisted of 42 hours of general English instruction. All the four skills – speaking, writing, reading, and listening – were worked on during the course. Most of the class activities, however, were designed to help the learners improve their speaking skill. The upper intermediate book of the *Total English* series was taught as the main course book. The rationale for using this book lies in the fact that it includes activities designed to promote all the four skills and provides the learners with opportunities to work in groups and pairs in oral and written tasks, which in turn demanded more students' contribution, encouraged output production, and emphasized the significance of the speaking skill as the main focus of the course.

Procedure

One hundred and fifty Iranian female English learners studying at upper-intermediate level were given the Academic Self-Regulated Learning Scale (ASRL-S; Magno, 2010) (Min=55, Max=330). Out of the 150 English learners, sixty upper-intermediate learners whose scores on questionnaire (M=176.01, SD=77.31) ranged between 99 (one standard deviation above the mean) and 253 (one standard deviation below the mean) (M=176.01, SD=77.31) were chosen and randomly assigned to four groups. This was done to make sure that the students in the four conditions would be homogenous.

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The learners in the first group were asked to keep reflective journals in which they were encouraged to collect and record their reflective notes regarding the materials and the way they were presented by their teacher. They were also required to write notes about the problems they encountered while trying to learn the new lesson and internalize the language, as well as the strategies they applied to overcome those problems. However, they were required to keep their journals as private and not to share their reflective notes with other learners or their teacher. This condition was labeled "no-feedback" condition.

On the other hand, the learners in the second and third groups were asked to keep collaborative reflective journals. The learners in the second group were instructed to share their reflective journals with their teacher, while the third group of learners were required to share their reflective notes with their peers. These conditions were respectively named "teacher-feedback" and "peer-feedback" conditions.

Teacher-feedback learners were briefed on how to use collaborative reflective journals and exchange them with their instructor. They were asked to hand in their journals to their teacher every other session and get them back the following session to receive their teacher's feedback on form and content of their reflective notes. The teacher commented on the use of strategies reported by the learners in this condition and asked questions pertaining to the learning-related events documented in journals. At times, the teacher commented on the structure of the learners' sentences as well. Nevertheless, this was done cautiously to make sure the learners would not feel journals were designed to teach them the structure of the target language.

The learners in the peer-feedback condition were, however, asked to use collaborative reflective journals with their peers. They were given the opportunity to choose their partners and were asked to exchange their reflective journals with their classmates and add their written feedback in their journals every other session. They were asked to comment on the strategies documented in their friends' journals and share ideas freely on the form, as well as on the content of their fellow classmates' reflective notes. The learners in the three experimental conditions collected their reflective notes in nine to eleven entries in their journals.

Finally, the last group of learners did not use reflective journals throughout the term. Therefore, this condition was labeled the "no-journal" condition.

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At the end of the term consisting of forty-two hours of learning general English, all students in the four groups were asked to answer ASRL questionnaire, and their self-regulation scores were estimated.

Data Analysis

To find out whether parametric tests could be applied to examine the differences between groups, test of normality was run for the total score of all the four groups, using SPSS .16. The gained Kolmogorov-Smirnov value for all groups were more than .05 (.20 for the no-journal condition, .07 for the no-feedback condition, .19 for the peer-feedback condition, and .06 for the teacher-feedback condition, which indicated normality of the distribution of scores. Besides, the skewedness ratio for the population was calculated as 1.42 indicating that the normality was not violated (Weinberg & Abramowitz, 2002).

A one-way ANOVA was applied to probe whether the difference in means was significant, both for the ASRL-S posttest total score and for the mean score gained for each subscale. The post hoc Scheffe's test was also run in order to locate the exact place of differences between the mean scores.

Results

To find the answer to the question whether different types of reflective journal writing have a differential effect on learners' self-regulatory skills, descriptive statistics for the total score, as well as descriptive statistics for all subscales for all groups in the ASRL-S posttest were calculated. Table 2 shows the mean score of the total score and subscales gained by all the four groups in the study in the posttest.

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Table 2
Mean and Standard Deviation of the Total Score and Subscales for the Four Groups

	Scale	no-feedback	Teacher-feedback	Peer-feedback	No-journal
Mean	Total	138.2	215.8	201.1	93.05
	Memory	40.9000	52.4000	50.5000	20.350
	Goal-setting	10.1000	15.1500	16.0500	8.200
	Self-evaluation	30.8500	61.9500	54.7500	15.600
	Assistance-seeking	20.2500	40.5500	37.5500	12.400
	Environmental-Structuring	10.6500	16.2500	14.0500	12.750
	Learning-Responsibility	10.3500	13.7500	13.6000	11.900
	Organizing	15.4000	16.6500	14.8000	12.600

As Table 2 presents, the teacher-feedback condition gained a higher mean score (M=215.8) compared to other conditions. The learners in the peer-feedback condition also outscore the no-feedback and no-journal conditions. The results also indicated that the learners in the no-feedback condition (M=138.2) outscored the learners in the no-journal condition (M=93.05) in the total score.

Given that, through the use of the pre-test, the learners who were assigned to the four conditions were chosen in a way that learners in all conditions would be homogeneous in terms of self-regulated learning skill, their performance in the ASRL-S posttest were compared. To do so, a one-way ANOVA was applied both for the total score and for the mean score gained in each subscale in ASRL-S posttest for all groups. Table 3 presents the results of the analysis of the one way ANOVA.

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Table 3
One Way Analysis of Variance for mean differences among the four conditions in Posttest

		Sum of Squares	Df	Mean Square	F	Sig.
Memory total	Between Groups	12932.737	3	4310.912	117.846	.000
	Within Groups	2780.150	76	36.581		
	Total	15712.887	79			
Goal-setting total	Between Groups	876.250	3	292.083	38.910	.000
	Within Groups	570.500	76	7.507		
	Total	1446.750	79			
Self-evaluation total	Between Groups	27519.338	3	9173.113	402.504	.000
	Within Groups	1732.050	76	22.790		
	Total	29251.388	79			
Assistance-Seeking total	Between Groups	11034.737	3	3678.246	178.004	.000
	Within Groups	1570.450	76	20.664		
	Total	12605.187	79			
Environmental -Structuring total	Between Groups	330.550	3	110.183	14.314	.000
	Within Groups	585.000	76	7.697		
	Total	915.550	79			
Learning-Responsibility total	Between Groups	154.300	3	51.433	8.162	.000
	Within Groups	478.900	76	6.301		
	Total	633.200	79			
Organizing total	Between Groups	172.137	3	57.379	4.508	.006
	Within Groups	967.350	76	12.728		
	Total	1139.488	79			
Total score	Between Groups	195061.438	3	65020.47	292.240	.000
	Within Groups	16909.250	76	222.490		
	Total	211970.688	79			

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As it can be seen in Table 3, the difference in means in total score as well as in all subscales were proved to be significant (alpha= 0.5). In fact, a one way ANOVA yielded a significant main effect of the experimental conditions on the scale as a whole, F (3, 76) = 292.240, the Organizing subscale, F (3, 76) = 4.508, the Learning Responsibility subscale, F (3, 76) = 8.16; the Environmental Structuring subscale, F (3, 76) = 14.31, the Assistance Seeking subscale, F (3, 76) = 178.004, the Self-Evaluation subscale, F (3, 76) = 402.50, the Goal Setting subscale, F (3, 76) = 38.92, and the Memory subscale, F (3, 76) = 117.84.

Besides, to locate the exact place of differences between the mean scores, the post-hoc Scheffe's test was run. Table 4 demonstrates the post hoc analysis for the total score.

Table 4

Multiple Comparisons of the Posttest Scores (Scheffe's Test)

Dependent Variable	(I) groups	(J) groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Total score	No-journal	No-feedback	-45.15000*	4.71689	.000	-58.6364	-31.6636
		Peer-feedback	-108.10000*	4.71689	.000	-121.5864	-94.6136
		Teacher-feedback	-122.80000*	4.71689	.000	-136.2864	-109.3136
	No-feedback	No-journal	45.15000*	4.71689	.000	31.6636	58.6364
		Peer-feedback	-62.95000*	4.71689	.000	-76.4364	-49.4636
		Teacher-feedback	-77.65000*	4.71689	.000	-91.1364	-64.1636
	Peer-feedback	No-journal	108.10000*	4.71689	.000	94.6136	121.5864
		No-feedback	62.95000*	4.71689	.000	49.4636	76.4364
		Teacher-feedback	-14.70000*	4.71689	.027	-28.1864	-1.2136

*. The mean difference is significant at the 0.05 level.

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The post hoc test revealed a significant difference between the students in the control condition and the combined mean of the students in the three experimental conditions (ρ= .000). This finding is congruent with the expectation that reflection positively affects the development of SRL. As the results of the post hoc analysis of means revealed, with regard to the total score learners gained from ASRL-S posttest, the difference between the means proved to be significant among all four conditions. In fact, the difference between the peer-feedback condition (M=201.1) and the teacher-feedback condition (M=215.8) was also found to be significant, indicating the effect of feedback type on the development SRL.

The learners in the teacher-feedback condition performed significantly better compared to the learners in the other three conditions. Besides, the learners in the peer-feedback condition gained a mean score significantly higher than the mean scores obtained by the learners in the no-feedback and no-journal conditions. The results also indicate that the learners who kept a reflective journal but did not receive feedback from a peer or their teacher managed to perform significantly better than learners in no-journal condition.

However, the same pattern was not observed with regard to the performance of the four groups in each subscale. Therefore, the results pertaining to each subscale will be explained in detail in the following paragraphs. The Table demonstrating the post hoc analysis for the subscales has not been included due to the lack of space.

Organizing Subscale: The learners in the teacher-feedback condition performed significantly better than the learners in the no-journal condition. However, no statistically significant difference was found regarding the performance of the peer-feedback and other conditions.

Learning Responsibility Subscale: Unlike the organizing subscale in this subscale, the significant difference was observed between the performance of the learners in the no-feedback and teacher-feedback conditions. The difference between the mean score gained by the peer-feedback learners and the learners in the no-feedback condition was also proved statistically significant.

Environmental-Structuring Subscale: In this subscale, the teacher-feedback condition gained significantly higher scores, compared to the learners in the no-feedback and no-journal conditions. However, no significant difference was found when the mean scores of the teacher-feedback and peer-feedback conditions were compared. A statistically significant difference was also found when the mean

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score of the learners in the peer-feedback condition was compared to that of the learners in the no-feedback condition. Despite this, no significant difference could be observed between the mean score obtained by no-feedback and no-journal condition learners.

Assistance-Seeking Subscale: All but one mean difference proved to be statistically significant, in this subscale. In fact, no statistically significant difference could be observed when the mean scores gained by the two conditions in which collaborative journals were applied, were compared.

Self-Evaluation Subscale: All mean differences proved statistically significant in this subscale.

Goal-Setting Subscale: The mean difference between the teacher-feedback and peer-feedback conditions, as well as the one between the no-feedback and no-journal conditions were not found significant in the goal-setting subscale.

Memory Subscale: Similar to the result gained in the assistance-seeking subscale, all but one mean difference proved to be statistically significant in the memory subscale. This means that no statistically significant difference was found in comparing the mean scores gained by the two conditions in which collaborative journals were applied.

Discussion

Data analysis revealed that learners who used collaborative journals and received feedback either from their teacher or from a fellow classmate performed better than the learners in the other two groups in the ASRL-S posttest, and they obtained a mean score significantly higher than the mean scores gained by the no-feedback and no-journal condition learners not only in the scale as a whole but also in most subscales. This is in line with the results of Van den Boom et al.'s (2007) study that revealed that reflection combined with feedback positively influenced learners' self-regulated learning. However, with regard to the role of peer feedback, some inconsistencies exist between the present study and that of Van Den Boom and his colleagues. They argued that it was mostly the tutor feedback which helped students to improve their SRL, however, according to the findings of the present study, learners who received feedback from a fellow classmate could perform better than the learners who either received no feedback or did not use reflective journals, in the ASRL-S posttest and obtained a significantly higher mean score in the scale as whole and also in all but one subscales.

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The findings of this study also chime with the ones obtained by Jenson (2011) who concludes that reflection prompts included in e-portfolios increased the learners' self-regulation skills. This shows that in both computer-enhanced and non-computer enhanced learning environments self-regulatory behaviors can be induced by encouraging the learners to reflect on their learning experience.

However, as mentioned earlier, in the organizing subscale, learners who kept individually written reflective journals and did not receive feedback either from their teacher or from a peer proved to have gained better results compared to the learners who received peer feedback. Yet, in the same subscale, learners in teacher-feedback condition managed to outperform those in no-feedback and no-journal conditions. This may suggest that feedback given by learners to each other was not effective enough to increase this aspect of self-regulation. It may also indicate that feedback does not play a crucial role in the augmentation of organizing skills. Results gained from the analysis of the organization subscale can also raise the question as to whether the presence of specific characteristics in feedback can potentially enhance organizing skills. Qualitative analysis of learners' journals can also provide valuable insights regarding the content of the peer feedback. In this study, this was not possible due to the fact that the teachers/researchers did not have access to the journals in peer-feedback condition. Provided that ethical issues can be overcome, copies of these dialogue journals can assist the researchers with better interpretation of the results. The investigation of certain characteristics of the feedback and their impact on learners' organizing skill is, therefore, left to further research.

Analysis of the data also showed the learners in no-feedback condition to outperform those in no-journal condition in both total score and most subscales. This is congruent with what Nückles et al. (2009) claimed about the effectiveness of journals in enhancing self-regulation. The results are, however, inconsistent with those gained by Van den Boom et al. (2007) who reported that reflection without feedback especially from the teacher's side did not significantly improve SRL.

The analysis of the ASRL-S posttest revealed that learners in teacher-feedback condition outperformed those in peer-feedback group in the total score and in two out of seven subscales.

Finally, the findings of this study provided experimental data to support the theoretical models which view reflection as a component of self-regulation (e.g.

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the models by Zimmerman (1998, 2000), and Zimmerman and Martinez-Pons (1986)).

Conclusion

The findings of this study shed light on the ways in which instructors can assist their learners with developing their self-regulation skills that have been reported to positively contribute to individuals' educational, as well as non-educational achievement. Enhancing learners' self-regulatory skills is of considerable significance as such skills have been reported to affect individuals' ability to set goals, make use of effective strategies and adjust these strategies to meet their needs in new learning circumstances, monitor their performance, gain self-awareness about the process of their own learning, and become more self-efficacious (Azevedo et al., 2004; Pintrich, 2000; Schunk & Ertmer, 2000).

The results of the present study can also underscore the value of both teacher and peer feedback. It can be concluded that the role of peer feedback cannot be overlooked, as the learners who received feedback from a peer were able to perform better than the learners who either received no feedback or did not use reflective journals in the ASRL-S posttest. However, teacher feedback still seems to be more effective compared to the feedback provided by peers as in this study, with regard to the total score, the learners in the teacher-feedback condition performed significantly better compared to the learners in the ones in peer-feedback condition. As it was mentioned earlier, qualitative analysis of the quality of peer feedback is required to help gain more insights into the reasons why these results were gained in this study.

The empirical evidence provided by this study can be an incentive for educators to use reflective journals in different forms and to foster reflection among learners with the aim of promoting their learners' self-regulation.

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