Journal of
Language and Translation
Volume 11, Number 5, 2021 (pp. 199-219)

Analyzing the Effect of Using Meta-cognitive Strategies on Iranian EFL Learners' Writing Skill

Mohammad Sharif Hosseini[1]*

[1] [1]PhD in TEFL, Department of English language teaching, Gachsaran branch, Islamic Azad University, Gachsaran, Iran

Received: 18 February, 2021 Accepted: 10 July, 2021

Abstract

The present paper was an endeavour to explore the impact of using metacognitive strategies on EFL learners' writing performance of a language institute in Gachsaran, Iran. Also, the students' views on the use of these strategies in EFL classes and their effect on the writing performance were assessed. To this end, 40 intermediate learners were recruited to participate in this study. The experimental group included 20 students who adopted metacognitive writing strategies, while the control group included 20 students who followed a conventional teaching writing skill. Firstly, all participants took part in the same pre-test of writing, and the scores were recorded. Then, implementing the mentioned strategies started after running the pre-test. Finally, the students of both groups took part in the post-test and the scores were recorded carefully. Moreover, a metacognitive writing questionnaire was published to explore the views toward employing the mentioned strategies. The data were analyzed descriptively and inferentially. The results indicated that the employment of metacognitive strategy significantly affected the Iranian EFL learners' writing performance. Further, the EFL learners hold positive views on the effectiveness of the mentioned strategies regarding planning, monitoring, and evaluating their writing performance, and among all, "Monitoring" was used mainly by the participants.

Keywords: EFL Context; Evaluating; Metacognitive Strategies; Monitoring; Planning; Writing Skill

* Corresponding Author's email:
msh.hosseini2@gmail.com

INTRODUCTION

Metacognitive strategy is a term applied in information-processing theory to highlight an "executive function". It refers to the strategy employed by students as the means to monitor, manage and evaluate their learning activities. Metacognitive strategies are approaches, skills, thinking, and actions that students apply to control their cognition and learning processes. They have been identified as a characteristic of a perfect response to eradicating in general (Hertzog & Dunlosky, 2004) and expert writing (Flower, 1989; Flavell, 1999). Skillful writers are more aware of what they write and make more decisions about planning and controlling the text. Also, they are more likely to self-evaluate their writing skill as they are more proficient. To prove the role of metacognitive strategies in writing process, the relationship between cognitive and metacognitive strategies should be considered. Cognitive strategies have been used to help students to get their cognitive objectives. An efficient writer used a wide range of cognitive strategies for accomplishing writing tasks (Flavell, 1999). Cognitive strategies for writing skills involve brainstorming ideas, making an outline, preparing the prewriting, writing the first draft, writing sound sentences, or proofreading grammatical errors. Unlike the cognitive strategies, metacognitive strategies have been formed to assess cognitive progress. Language learners use metacognitive strategies to plan their engagement in writing process (Harris, Graham, & Mason, 2003).

Emerging a proficient writer depends on metacognitive understanding and possessing the required knowledge and skills. Goh and Taib (2006) viewed the term metacognition to highlight the knowledge and awareness of the cognitive process, cognitive strengths, shortcomings and self-control. Since writing is a complicated task, it considers how a writer manages all the related tasks as evidence of self-regulatory knowledge and metacognitive strategies (Mohamed & Rashid, 2017). Proficient writers employ metacognitive awareness and expertise during each phase of the writing process and access their writing performance through mediation. However, skilful writers have a well-grounded executive or control structure that examines and makes the entire writing process (Amani, 2014). By engaging in self-talk, one mediates his/her thought process during the stages of writing. Metacognition focuses on the awareness and control of an individual's mind and thinking processes and metacognitive strategies are the processes that expect the students to reflect upon their reasoning when they partake in academic tasks. As students have an essential role in new teaching methodologies, increasing their awareness of learning strategies and helping them utilize these strategies is a vital goal of education. Metacognitive strategies are one type of these learning strategies, which include planning, self-monitoring, and self-evaluation. Despite the crucial role of such strategies on language learning, very few studies have explored its effect on writing skill. Accordingly, the present study aimed at

examining the impact of metacognitive strategies (planning, self-monitoring, and self-evaluation) on EFL learners' writing performance.

Most writers take a run at writing processes with a little metacognitive knowledge (Muthanna, 2016). Studies by Gustilo (2013), Wei, et al. (2012) concluded that L1 and L2 writers could be categorized as possessing metacognitive knowledge, which adds to their cognitive type of writing process. Some studies (e.g., Bitchener et al., 2005) have identified the relationship between how learners adopt metacognitive strategies and their writing performance. Ashman and Conway (2017) proposed that students need both cognitive and metacognitive strategy designed for them by a teacher and knowledge regarding the types of plans available. Another way is to give the students longer hours of constant mastering and awareness, which "perform a vital part in the building up of metacognitive knowledge and regulatory skills" (p. 201). People with a written expression disorder have challenges and difficulties in using writing to communicate that means. They will have a problem in formulating sentences, organizing paragraphs, and the usage of correct grammar. Also, they may have a problem generating thoughts to put in writing and may be gradual to get their views on paper. As a result, their writing may be incoherent and disorganized, and their capacity to spell is poorly advanced. The difficulties in written expression noticeably interfere with academic achievement or daily living activities that need writing skills (Ibor, 2001). On the other side, there have been some obstacles in front of some students who have been trying to master English as one of their main objectives in their academic purposes. These obstacles are related to teaching methods that language teachers apply to support their students to master English. Students have no idea about the components of writing as an integrative skill. The components that make the language are varied and master all of them do not look easy and fully mastered (Corkery, 2014).

Learning to write in English as a foreign language is very important for EFL language learners. Different forms of communication in academic life are challenged through writing as a means of communication. They are considering the aims to grasp the whole picture of the complex nature of writing, this study aimed at exploring the effectiveness of metacognitive strategies in developing the EFL learners' writing performance. That is to say, the mentioned problems have been identified in the EFL learners' performance in writing and are hardly avoided with the students' progress. Logically, students should have acquired the rules about using the metacognitive strategies and got familiar with them through different subjects in writing. Being unaware of such problems was a question that needs investigation. Therefore, the present work attempted to provide the students with metacognitive strategies to find out whether they can be useful in improving writing skill. More specifically, the paper analyzed the effect of using metacognitive strategies on language learners' writing performance. Moreover, the students' views on the use of these strategies in language classes and were assessed. Also, the

most frequently used metacognitive approach by the EFL learners would be identified. To meet the objectives of the study the following research questions were designed;

1. *To what extent does using metacognitive strategies affect EFL learner's writing performance?*
2. *How do EFL learners negotiate the use of metacognitive strategies on their writing performance in the context of EFL classes?*
3. *Which metacognitive strategy is mainly used by EFL students of language institutes?*

In phase of the first research question, the present study proposes the following null hypothesis;

4. *H1. Using metacognitive strategies does not have any effect on EFL learner's writing performance.*

Previous Studies

In the process of investigating metacognitive strategies, some studies indirectly involve the strategies specifically applicable to language skills. In a more recent experiment, Zhang and Qin (2018) validated a questionnaire on EFL writers' metacognitive awareness of writing strategies in multimedia environments. The findings showed that there were substantial differences between the two effective and two less effective learners. Typically, these differences played out in their use of metacognitive strategies for planning, organizing, evaluating and resourcing. In another recent study, Asikcan, and Saban (2018) evaluated teachers' metacognitive awareness levels of reading strategies. Results indicated that prospective teachers' global reading and problem-solving strategies levels are high while their support reading strategies level is medium. Female students' metacognitive awareness level was found to be higher compared to the male ones. Prospective language teachers' problem-solving strategies level was higher than that of prospective primary teachers. Prospective primary teachers preferred historical and psychological books more while prospective language teachers favored all types of books equally. In the other recent study, Trapman et al. (2017) explored the roles of linguistic and metacognitive knowledge and fluency on reading comprehension level and development in native and language minority adolescent low achievers. Findings revealed that language minority students profit from gains in vocabulary, more so than native students. In the same year, Cho (2017) assessed the effect of metacognitive strategy on college students' listening, and significant differences between the two groups in terms of metacognitive strategy use and listening comprehension were found. Students of the experimental group showed greater outcomes in planning and evaluation and mental knowledge strategy use, as well as listening abilities than learners in the control group.

Maftoon and Fakhri Alamdari, (2016) explored the effect of metacognitive strategy instruction on metacognitive awareness and listening performance through a process-based approach. Results indicated that metacognitive strategy instruction led to a considerable

variance in overall listening performance and metacognitive awareness of learners. The analysis of five MALQ factors showed a significant impact of metacognitive strategy instruction on the metacognitive awareness of listeners. Furthermore, Furnes and Norman (2015) compared three forms of metacognition in normally developing readers. Findings highlighted that dyslexic reading and spelling problems are not generally associated with lower levels of metacognitive knowledge, metacognitive strategies or sensitivity to metacognitive experiences in reading situations. Additionally, Dabarera, Renandya, and Zhang (2014) investigated the effect of metacognitive scaffolding and monitoring on reading comprehension. Results showed a relationship between metacognitive awareness-raising and reading comprehension improvement. Also, metacognitive strategy instruction was found to be effective in increasing metacognitive awareness, and was linked to small but statistically significant reading comprehension gains. The other study conducted by Movahed (2014) identified the impact of metacognitive strategies on listening performance of beginner EFL students. Findings presented that the experimental group significantly outperformed the control group on the post-tests and the positive impact of the metacognitive strategy instruction on students' listening performance, metacognitive awareness and listening anxiety were approved.

All in all, some of the recent studies evaluated teachers' metacognitive awareness levels (Asikcan & Saban, 2018), and explored the roles of linguistic and metacognitive knowledge and fluency on reading comprehension level (Trapman et al., 2017; Furnes & Norman, 2015; Dabarera, Renandya, & Zhang, 2014). Also, some of the studies investigated the effectiveness of the mentioned strategies on EFL students' listening skill (Cho, 201; Maftoon & Fakhri Alamdari, 2016; Movahed 2014). However, none of the studies examined the impact of using metacognitive strategies on intermediate EFL learners' writing performance and explored their views simultaneously. In other words, there has been no work in analyzing the effectiveness of metacognitive strategies on intermediate students of language institute. This research may fill the gap in literature by analyzing the students' achievement in writing skill by employing metacognitive strategies in language institute. After conducting this research, it is hoped that more researchers interested in applying such strategies of teaching and learning on different levels of students in different educational settings.

METHODS

Based on the research objectives, three instruments were used in this study. Oxford Placement Test, Metacognitive Strategies Questionnaire (MWQ), and pre and post-tests of writing are the instruments that were used to collect data and analyze. The questionnaire was translated into Persian and the validity and reliability were checked by the researchers. The reliability of the questionnaire was analyzed by Cronbach's alpha test and reported in the following table (Cronbach's $\alpha = .82$). As seen

in the table, all proposed items in the questionnaire represented Cronbach's alpha value greater than 0.70, indicating an acceptable reliability level.

Table 1

Reliability Statistics

Number of Items	Cronbach's Alpha
23	.82

Moreover, the instrument's validity, the wording of the survey instrument, and the ease of the implementation of the procedures were examined by two experienced professors to avoid any ambiguity and if any final adjustments needed to be made. In other words, the adapted research instruments were checked according to research questions and objectives.

Participants

Selecting the participants was based on convenience sampling in which the participants (EFL students) were recruited based on their availability. The researchers had limited access to some number of classes with good number of students and levels. The participants of this study were intermediate EFL learners who were studying English at a language Institute in Gachsaran, Iran. That is to say, three intact classes of 48 students between the ages of 15 to 18 were chosen to participate in the study. The reason for selecting these learners is based on the idea that they had already received the required instruction to learn language skills. These learners understand simple sentences and able to answer the questionnaires. The learners used predefined procedures and books defined by the institute to learn English. It is worthy to note that ethical approval for this study was obtained from the institutes administers. After that, a standard and reliable test (Oxford Placement Test) was used to assess a homogenized sample. All participants were at the level of B2 which is one of the CEFR levels described by the Council of Europe. English learners at this level can 1) understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in their field of specialization; 2) interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party; 3) produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options (Cambridge English, 2016).

Design

The main objective of this study was to find out the possible effect of using metacognitive strategies on the writing performance of EFL learners. Also, the subjects' attitudes on these strategies were assessed. This study seeks to answer the research questions formulated for educational purposes in a language institute in Gachsaran. This study was based on the quasi-

experimental design in which two groups (an experimental and a control group) receiving different treatment, using metacognitive strategies for the experimental group and traditional way of teaching for the control group. After the treatment, the test scores of the two groups are compared to see the effectiveness of using metacognitive strategies on the students' writing ability. It should be stated that using metacognitive strategies is the independent variable, and the writing performance of the EFL learners is considered as the dependent variable of this study.

Pre and Post-tests of Writing

To achieve the purpose of the study, the researchers employed writing tests as the instrument to gather data. A pre and posttests were administered to investigate the students' writing performance. The purpose of the pre-test was to identify the students' level before using the treatment. In this task, learners were asked to write three paragraphs with 300-words about their hometown. The post-test aimed to compare the results of the pre-test with the results of the post-test. In this task, the students were asked to write three paragraphs with 300 words about their hobbies. In both tests, the student's scores were calculated out of 20. The allocated time to each task was 45 minutes. One recent method of scaling writing is incorporating a multiple-trait scoring procedure. In this method, the priority of scoring is given to three categories of "Arrangement of Ideas and Examples" (AIE), "Communicative Quality (CQ) or Coherence and Cohesion" (CC), and "Sentence Structure Vocabulary" (SSV). This method of scoring benefits from the obvious advantage that it taps both the construct validity and reliability of the scoring procedure.

Data Collection Procedure

In the first step, 48 intermediate students of both genders were selected from 3 intact classes of a language institute in Gachsaran that were willing to cooperate voluntarily. They were given a placement test of grammar and vocabulary to ensure students were at the same level of proficiency. After the papers were scored, the results showed that 40 students met the criteria (the necessary level of skills) to attend the study. All the students were asked to fill in the consent. After assuring the homogeneity of their English proficiency level, the students were divided into two groups of the same size, i.e., 20 by computerized randomization. In the second step, a pre-test was administered and all of the students (EG & CG) had to participate in the pre-test. The test included a topic to write about 300 words. The papers were corrected, and the scores were recorded by the researchers. After that, one of the groups was assigned to the experimental and the other one was identified as a control one to see the possible effect of applying metacognitive strategies on students' writing performance. In class 1 (EG) metacognitive strategies (planning, self-monitoring, and self-evaluation) were taught for five seasons for every technique, which made 20 seasons of 30

minutes of teaching and practice in one semester.

The same techniques which were taught in semester 1 were reinforced and focused and reviewed during the second semester lasting for 20 sessions. However, the other class (CG) took only the usual teaching schedule and materials and did not get any treatment. Both groups had the same materials and books and were at the same level of the language course except for EG, which took metacognitive strategies and techniques in addition to the usual material and practices. After practicing the strategies for two semesters of 40 sessions for group one (EG), both groups were given the post-test which was scored by two trained raters. Immediately after collecting their writing pieces, the experimental group were also asked to take the Metacognitive Writing Questionnaire (MWQ) to assess their views on the mentioned strategies. They were told to check the right option if they had found the strategy really useful/useless.

Data Analysis Procedure

In data collection stage, the scores of the tests and questionnaire were taken for analysis. Descriptive and inferential statistics along with SPSS version 24 and Excel 2013 were used. Descriptive statistics, including frequency, percentage, and mean score were reported to investigate the students' views on using metacognitive strategies and analyze the effect of these strategies on their writing performance. To compare the participants' performance on the post-test, the mean scores of both tests were reached through a paired sample tests to highlight the possible significant difference between the students' performance. In the inferential statistic section, the Chi-square test was used to highlight the most frequently used metacognitive strategy by the EFL learners of this study.

RESULTS

Test of Normality

Table 2 analyzed the normality of data to use the T-test. Normality is achieved if the number of Skewness and Kurtosis is between (+2 to -2). As the following table shows all data were normal for using sample T-test.

Table 2

Test of Normality

		Control. Pretest	Control. Posttest	Experimental. Pretest.	Experimental. Posttest.
N	Valid	20	20	20	20
	Missing	0	0	0	0
Std. Deviation		2.210	1.986	2.149	1.704
Variance		4.884	3.945	4.618	2.905
Skewness		-.404	-.597	-.643	.009
Std. Error of Skewness		.512	.512	.512	.512
Kurtosis		-.505	.468	.597	-.816
Std. Error of Kurtosis		.992	.992	.992	.992

Results of Pre and Posttests

First, the control and experimental group students participated in the same writing test as a pre-test. After that, the teacher employed metacognitive strategies in the experimental group. The EFL learners of the control group received no treatments, but they participated in pre and post-tests. However, in this group (control), the teacher followed the conventional method of teaching. After gathering all the scores, sample t-tests were run to analyze the quantitative data, including pre-test and post-test results. Eventually, the differences between the mean scores in the first examination and the second examination difference were measured. The significant level was considered to be 0.05. If ρ value is less than 0.05, it means there is a substantial difference between the mean scores of two tests in the control and experimental group.

Table 3

Descriptive Statistics of Pre-Tests

Pre-test of Control & Experimental Groups						
	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Control Group	20	11	19	15.40	2.210	4.884
Experimental Group	20	10	19	15.25	2.149	4.618

The above table analyzed the students' scores of the pre-test and highlighted the mean and standard deviation of the students' scores in both groups. As the table shows, the control group's mean score is 15.40 and SD is 2.21 (M1=15.40, SD1=2.21), and in the experimental group, the mean and SD are reported as 15.25 and 2.14 respectively (M_2=15.25, SD_2=2.14). Thus, based on the results, the mean score of pretests in the control and experimental groups are very close to each other, and no significant difference was observed in the students' writing skill.

Table 4

Paired Sample Test of Control Group

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Control Group	Pre-Test - Post-Test	-.150	1.531	.342	-.867	.567	-.438	19	.666

As can be seen in table 4, the p-value or the significance level is more than .05 (Sig. =.66), so it can be concluded that the two samples are not statistically different from each other. In other words, the scores of the control group in pre-test and post-test are not significantly different from each other.

Table 5

Descriptive Statistics of Post-Test

Post-test of Control & Experimental Groups						
	N	Minimum	Maximum	Mean	Std. Deviation	Variance
Control Group	20	11	19	15.55	1.986	3.945
Experimental Group	20	14	20	17.20	1.704	2.905

Table 5 analyzed the students' scores of post-tests and shows the mean and standard deviation of the students' scores in the control and experimental group. For example, in the above table, the control group's mean score is 15.55 and SD is 1.98 (M_1=15.55, SD_1=1.98), and in the experimental group, the mean and SD are reported as 17.20 and 1.70 respectively (M_2=17.20, SD_2=1.70). According to findings, the mean scores of posttests in the control and experimental groups are different from each other and a remarkable difference was observed in the students' writing skills.

Table 6

Paired Sample Test of experimental Group

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Experimental Group	Pre-Test - Post-Test	-1.950	2.373	.531	-3.060	-.840	-3.676	19	.002

As can be seen in table 6, the p-value or the significance level is less than .05 (Sig. =.002), so it can be concluded that the two samples are statistically different from each other. In other words, the scores of the experimental group in pre and post-test are significantly different from each other.

Data Analysis of Questionnaire

Frequency, Percentage and Mean score of each item were used in order to investigate every question, and the results are presented in the form of a table.

Table 7

Analyzing Students' Views on Metacognitive Strategies

N	Items	Strongly disagree	Disagree	Partly disagree	Partly agree	Agree	Strongly agree	Mean
I	**Planning**							
1	I had a plan in my mind for how I would structure each paragraph in my essay.	1 5%	2 10%	1 5%	3 15%	8 40%	5 25%	4.55
2	I made an outline, including a list of the key points of view that I want to include in my essay.	2 10%	2 10%	1 5%	4 20%	7 35%	4 20%	4.20
3	I planned what language features I was going to use in my essay with reference to the writing topic.	3 15%	2 10%	3 15%	5 25%	4 20%	3 15%	3.70
4	I thought about the goal I wanted to achieve in my writing (e.g., to use a new word or a new sentence structure I have learned, to avoid a mistake I had made before, or to get a high score, etc.).	2 10%	2 10%	1 5%	4 20%	5 25%	6 30%	4.30
5	I thought about how much time I should spend on each part of the essay.	2 10%	1 5%	2 10%	5 25%	7 35%	3 15%	4.15
6	I collected relevant materials based on the writing topic, doing some reading preparation.	2 10%	3 15%	2 10%	5 25%	5 25%	3 15%	3.85

7	I planned the use of online materials, aiming at the efficient use of network resources.	0 0%	3 15%	2 10%	4 20%	8 40%	3 15%	4.30
II	**Monitoring**							
8	I tried to focus my attention on choosing appropriate words and phrases.	0 0%	2 10%	2 10%	3 15%	8 40%	5 25%	4.60
9	I tried to think about whether the arguments followed the instruction of the essay.	0 0%	1 5%	2 10%	6 30%	6 30%	5 25%	4.60
10	I tried to mark the places in the composition with different colors on the computer screen that I thought required revision. I wouldn't revise them until I had completed my writing because I wouldn't like to break into my thoughts.	2 10%	3 15%	4 20%	3 15%	3 15%	5 25%	3.85
11	I tried to think about how much time I had remaining, adjusting my time arrangements to ensure completion of the writing task.	2 10%	3 15%	3 15%	4 20%	5 25%	3 15%	3.80
12	I tried to think about how to connect different parts of my essay (e.g., using transitional words).	0 0%	1 5%	2 10%	5 25%	8 40%	4 20%	4.60
13	I tried to think about whether I was using the correct grammar (e.g., tenses, prepositions, etc.).	0 0%	0 0%	2	6	9	3	4.65
14	I tried to think about whether I was using appropriate punctuation as well as the letter case.	0 0%	1 5%	1 5%	5 25%	7 35%	6 30%	4.80
15	I tried to modify the mistakes, following the prompts on the computer screen.	2 10%	3 15%	2 10%	5 25%	5 25%	3 15%	3.85
16	I tried to think about how many arguments I should have in the essay.	2 10%	2 10%	1 50%	6 30%	5 25%	4 20%	4.10

17	I tried to seek help from an online dictionary if I did not know how to express my own opinions.	1 0%	0 0%	1 10%	5 30%	7 45%	6 15%	4.75
18	I tried to think about what parts my essay should have.	0 0%	1 5%	2 10%	4 20%	6 30%	7 35%	4.80
19	I tried to monitor my writing actively, focusing my attention on the current writing task to avoid being distracted by other irrelevant information.	1 5%	2 10%	3 15%	4 20%	5 25%	5 25%	4.25
III	**Evaluating**							
20	I reread my essay and made sure that the language of my essay was clear.	1 5%	0 0%	0 0%	5 25%	8 40%	6 30%	4.85
21	I reread my essay and made sure that the organization was easy to follow.	2 10%	1 5%	1 5%	4 20%	6 30%	6 30%	4.45
22	I reread my essay and made sure that I had covered the content fully before I submitted it to my teacher.	2 10%	2 10%	2 10%	3 15%	5 25%	6 30%	4.25
23	I thought back to how I write, and about what I might do differently to improve my English writing next time.	2 10%	3 15%	2 10%	6 30%	4 20%	3 15%	3.80

The above table analyzed metacognitive strategies as “planning”, "monitoring" and "evaluating". As the above table shows, the first part of the questionnaire consists of 7 items, which evaluated the "planning". Based on the careful analysis, a high percentage of the students (80%) agreed on having a plan in their mind for how they were going to structure each paragraph in their essay, and most of them (75%) agreed on outlining, including a list of the key points of views that they want to include in their essay. Also, the same percentage (75%) thought about the goal they wanted to achieve in their writing: using a new word or a new sentence structure they had learned, avoiding a mistake, or getting a high score. After that, more than half of the subjects (60%) preferred to plan what language features they were going to use in their essay concerning the writing topic, and 60% of them agreed on collecting relevant materials based on the writing topic, doing some reading preparation. Once again, a high percentage of the participants (85%) thought about how much time they should spend on each part of the essay, and 75% of them planned the use of online materials, aiming at the efficient use of network resources.

The second part of the questionnaire examined "monitoring" as another metacognitive strategy which discussed 12

related items. As data indicates, most of the subjects (80%) tried to focus their attention on choosing appropriate words and phrases, and also 85% of them tried to think about whether the arguments followed the instruction of the essay. Besides, more than half of the students (55%) attempted to mark the places in the composition with different colours on the computer screen that they thought required revision. they wouldn't revise them until they had completed their writing because they wouldn't like to break into their thoughts. Additionally, 60% of the EFL learners tried to think about how much time they had remaining, adjusting their time arrangements to complete the writing task. Moreover, most of the participants (85%) tried to think about how to connect different parts of their essay as using transitional words, and a significant percentage of them (90%) tried to think about whether they were using the correct grammar like tenses, prepositions, etc., and also the same rate (95%) tried to think about whether they were using appropriate punctuation as well as the letter case. Additionally, 65% of the respondents attempted to modify the mistakes, following the prompts on the computer screen, and 75% of them tried to think about how many arguments they should have in the essay. Furthermore, most of the subjects (90%) tried to seek help from an online dictionary if they did not know how to express their opinions. Finally, in this part, most of the participants (85%) tried to think about what features their essay should have, and 70% of them tried to monitor their writing actively, focusing their attention on the current writing task to avoid being distracted by other irrelevant information.

The last part of the questionnaire assessed four items on the "evaluating" metacognitive strategy. Surprisingly, all of the EFL learners except 1, (95%), reread their essay and made sure that the language of their report was clear. Also, most of the students (80%) reread their articles and ensured that the organization was easy to follow. In addition, 70% of the subjects reread their essay and made sure that they had covered the content fully before they submitted it to their teacher, and the last item displayed that 65% of the participants thought back to how they write, and about what they might do differently to improve their English writing next time.

Table 8

Mean Rank of Metacognitive Strategies

Metacognitive Strategies	Mean Rank	Priority	Chi-square	N	df	P-Value
Monitoring	4.38	The first	4.77	20	2	0.000
Evaluating	4.33	The Second				
Planning	4.13	The Third				

More importantly, the above table analyzed three metacognitive strategies of the questionnaire. As the table indicates, "Monitoring" received the first rank with the highest mean score (4.38). After that, "Evaluating" received the second rank with the mean score of 4.33, and finally "Planning" placed the third rank with the lowest mean (4.13). Therefore, based on the results of the table, "Monitoring" as one of the metacognitive strategies, was used mainly by the Iranian EFL learners of the language institute.

DISCUSSION

Based on the research objectives, three research questions have been formed, and the results are discussed.

Considering the first research question, descriptive statistics illustrated the students' improvement in writing ability by implementing metacognitive strategies in the EFL class. Based on the related tables (3 & 5), the students' mean scores in the control group were 15.40 and 15.55 in pre-test and post-test respectively, but in the experimental group the mean score of students' pre-test is 15.25, and the post-test is 17.20. The EFL learners of the experimental group had better performance in writing post-test (15.55<17.20). Moreover, the results of the paired sample t-test showed that in the control group, the significance level is more than .05 (Sig. =.66), so no significant difference was observed between the two tests. In other words, the scores of the control group in pre-test and post-test are not significantly different from each other. However, in the experimental group, the significance level is less than .05 (Sig. =.002). Thus, a remarkable difference was achieved between the mean scores of pre and post-test. That is to say, the scores of the experimental group in pre and post-test are significantly different from each other, and the null hypothesis of this study "Using metacognitive strategies does not have any effect on EFL learner's writing performance" cannot be accepted.

Regarding the second research question, descriptive statistics illustrated the students' views by 24 items on the use of metacognitive strategies in language classes and its effect on their writing performances. The first part examined a metacognitive approach as "planning". The findings revealed that a high percentage of the students agreed on having a plan in their mind to structure each paragraph and thought about the time they should spend on each part of the essay. Also, most of them agreed to outline, think about the objective of their writing, and planned the use of online materials to use network resources efficiently. Besides, more than half of them preferred to design the language features and collected relevant materials based on the topic. Then analyzing the second metacognitive strategy as "monitoring" indicated that a significant percentage of the EFL learners tried to think about the correct grammar and appropriate punctuation, and they seek help from an online dictionary. Also, most of the participants tried to choose proper words and phrases, thought about the instruction and parts of their essay, and actively monitored their writing. Then, more than half of the students tried to mark the

places in the composition, adjust their time arrangements, and modify the mistakes. Eventually, the "evaluating" results as the last metacognitive strategy highlighted that most of the subjects of this study reread their essay and made sure that the language of their essay was clear and organization was easy to follow. They also reread their essay and made sure that they had covered the content fully.

The current paper also analyzed three metacognitive strategies used by EFL learners. That is to say, the related table ranked the mentioned metacognitive strategies, and based on the inferential statistical analysis, "Monitoring" received the first rank with the highest mean score (4.38). Monitoring is an aspect of metacognition with an executive function. It is a worthy tool for better understanding in the process of writing. It is essential for writing skill which directs writers' cognitive process as they strive to make sense of incoming information. It also enables learners to determine whether the resources available to them are sufficient and are being well employed, whether the ability they have are suitable and sufficient, and whether they are doing what they planned to do.

It is worth mentioning that the study achievements are in line with some other studies that followed metacognitive strategies in the language classes. The present study found empirical support to Iobidze (2019) which investigated effective metacognitive strategies for teaching English as a foreign language reading skill, and findings revealed that using metacognitive strategies can be advantageous to improve EFL learners' reading comprehension skills. Also, metacognitive awareness in learners leads to higher self-efficacy among learners. As a result, they become high achievers at learning EFL. Moreover, findings of this study supported the study conducted by Lv and Chen (2010) on metacognitive strategies-based writing instruction for vocational college students and a significant difference was found between the experimental group and control group in their post-test writing which means that students in EG have made significant progress in their writing performance. However, the results of this study contradict the findings of Azizi et al. (2017) where they found that metacognitive strategy categories such as planning, monitoring, and self-awareness did not predict students' writing performance. Their study aimed to examine metacognitive awareness of writing strategy use among Iranian EFL learners and its impact on their writing performance. Dobson and Dobson (2016) concluded that even though there are evidence that highlight the impact of metacognition training on the construction of written texts, not all metacognitive experiences influence the production of written communication.

CONCLUSION

The present work explored the role of metacognitive strategies in the writing performance of EFL students. This paper has obtained some major findings by analyzing the data collected from English writing tests and a questionnaire on metacognitive strategies. The experimental group showed a noticeable

improvement from the pre-test to the post-test; this is likely due to adopting metacognitive writing strategies received. The EG which received metacognitive strategies indicated more excellent performance than CG receiving traditional writing instruction. Accordingly, the study concluded that using metacognitive strategies can significantly affect EFL learners' writing improvement. Moreover, data of the questionnaire highlighted the overall students' satisfaction on using mentioned strategies and proved that applying metacognitive strategies had a significant effect on the EFL learners' writing performance. Also, "monitoring" is one of the metacognitive strategies, mostly used by the participants of this study. That is to say, they employed "monitoring" strategy more than "planning" and "evaluating", so they were able to focus their attention on choosing appropriate words and adjust their time arrangements to ensure completion of the writing task. In addition, they tried to use the correct grammar and arguments of the essay. On the whole, they tried to monitor their writing actively, focused their attention on the current writing task to avoid being distracted by other irrelevant information. Finally, it should be noted that employing metacognitive strategies in the language class presented advantages over the standard method in teaching writing skills. Analysis of data illustrated that this difference was due to the mentioned strategies of writing since the researchers previously controlled all extraneous variables. Additionally, the difference was because metacognitive strategies could encourage success in learning and the use of individual learning could enhance an individual's ability to become a more conscientious learner. In such a classroom, teachers educate metacognitive strategies to help students plan, manage, and compare their studying. The results also highlighted the importance of metacognitive writing strategies in EFL instruction. They provide regular practice that can lead EFL students to connect to what they are writing on the topic, and repeated practice can result in the development of students' writing performance.

In a nutshell, this paper has revealed that metacognitive strategies can be valuable and improve Iranian students' writing quality as Zimmerman and Schunt (2011) found that metacognitive strategies help students to reach desired goals and have better control over their behaviour and their learning which is in good agreement with the findings of this study. This study has gone some ways on increasing our understanding of the effect of metacognitive writing strategies instruction on the content of intermediate students' writing. In Iobidze's (2019) idea, metacognitive strategies can effectively use the instructional time for EFL teachers. When students reflect upon their learning strategies, they become better prepared to make conscious decisions about improving their writing. Strong metacognitive skills empower language learners. He also noted that developing metacognitive strategies provides the key to language students to perceive their learning as active and not passive. Thus, the crucial role of metacognition in successful education clarifies how EFL learners must be taught, and apply metacognitive strategies in a better way.

Applying metacognitive strategies means moving some responsibilities to students, which in turn might increase their pressure, precisely on the less proficient students. It is therefore suggested that obvious and straightforward instructions and modeling, and monitored practice should be readily available. In teaching EFL writing metacognitively, the teacher should encourage and motivate students, pay attention to their voices, and employed the mentioned strategies appropriately. Moreover, improving EFL learners' metacognitive awareness in an integrative writing class implies that the process and the outcome of approaches are not considered as negative but complementary (Mbato, 2013). It also helps learners and teachers to access and regulate their efforts and makes an effective EFL writing class. The results can be deliberately applied to support students' English learning in educational environments. In the case of weak students, the implication of the research can help and support their writing skill in many ways. Metacognitive strategies can be applied in the EFL classes as methods of teaching and learning. For instance, teachers can also assign such strategies in order to immerse weak students in effective English learning. The results of this work can provide insights for EFL students in demonstrating the importance of employing writing strategies to present better writing and improve the quality content of it. The practical implication of this research is the contribution to materials and syllabus design to show which of metacognitive strategies are most likely to be instructed in the language classes. The inferences that can be drawn from the conclusion is that the intervention of teaching metacognitive strategies has advantages for EFL students. One of the keys to improve students' writing performance in the target language is to learn what strategies are, when and how to employ them, and, finally how to evaluate the use of these strategies. In the process of learning, instructors try not only to engage students, but also to encourage them to be active in this process. More importantly, students should definitely be taught strategies of writing. Students need to be informed about the steps they have to take before, during and after a writing activity, and then they need to practice the mentioned strategies. In other words, students should be informed how to plan their writing, how to monitor it, and how to evaluate it when finished. Language learners should be taught the steps to be taken and the strategies to be applied in producing a good work. More long-term studies should be held on learning language skills in the areas where metacognitive strategies are used efficiently.

References

Al-Besher, K. (2012). *Developing the writing skills of ESL students through the collaborative learning strategy* (Published doctoral dissertation). Newcastle University.

Amani, S. (2014). *Metacognitive Strategy Instruction and Pre-task Planning: Impact on L2 Argumentative Writing Ability*. Published doctoral dissertation, Auckland University.

Ashman, A. F., & Conway, R. N. (2017). Using cognitive methods in the classroom. *Routledge. 1*(2), 210-220. https://doi.org/10.4324/9781315271019.

Asikcan, M., & Saban, A. 2018. Prospective Teachers' Metacognitive Awareness Levels of Reading Strategies. *Cypriot Journal of Educational Sciences, 13*(1), 23-30.

Bitchener, J., Young, S., & Cameron, D. (2005). The effect of different types of corrective feedback on ESL student writing. *Journal of Second Language Writing, 14* (3), 191-205. https://doi.org/10.1016/j.jslw.2005.08.001.

Cho, Y. A. (2017). Metacognitive Strategy Instruction in L2 Listening Development for EFL College Students. *Review*, *43*(3), 185-205.

Corkery, F. (2014). *An analysis of year 8 poor comprehenders' responses to the PAT Reading Comprehension test.* A thesis submitted in partial fulfilment of the requirements for the degree of Master of Literacy Education at Massey University, Palmerston North, New Zealand (Published doctoral dissertation). Massey University.

Dabarera, C., Renandya, W. A. & Zhang, L. J. 2014. The impact of metacognitive scaffolding and monitoring on reading comprehension. *System, 42*, 462-473.

Dobson, D., & Dobson, K. S. (2016). Evidence-based practice of cognitive-behavioral therapy. *Guilford Publications, 5* (1), 195-210.

Flavell, J. H. (1999). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American psychologist, 34*(10), 906. https://doi.org/10.1037/0003-066X.34.10.906

Flower, L. (1989). *Problem-solving strategies for writing*. Orders, Harcourt Brace Jovanovich, 7555 Caldwell Ave., Chicago, IL 60648.

Furnes, B., & Norman, E. (2015). Metacognition and reading: Comparing three forms of metacognition in normally developing readers and readers with dyslexia. *Dyslexia, 21(*3), 273-284.

Gay, I.R. & Airasian, P. (2003). *Educational Research: Competencies for analysis and application.* Seventh Edition. New Jersey: Merrill Prentice- Hall.

Goh, C., & Taib, Y. (2006). Metacognitive instruction in listening for young learners. *ELT Journal, 60* (3), 222-232. https://doi.org/10.1093/elt/ccl002

Gustilo, L. E. (2013). An analysis of writer's performance, resources, and idea generation processes: The case of Filipino engineering students. *Language Testing in Asia, 3*(1), 2. https://doi.org/10.1186/2229-0443-3-2

Harris, K. R., Graham, S., & Mason, L. H. (2003). Self-regulated strategy development in the classroom: Part of a balanced approach to writing instruction for students with

disabilities. *Focus on Exceptional Children, 35*(7), 1.

Hertzog, C., & Dunlosky, J. (2004). Aging, metacognition, and cognitive control. *The psychology of learning and motivation: Advances in research and theory, 45*, 215-251. https://doi.org/10.1016/S0079-7421 (03)45006-8.

Ibor, J. (2001). *DSM-IV-TR: manual diagnóstico y estadístico de los trastornos mentales: texto revisado*. Masson.

Iobidze, M. (2019). Effective Metacognitive Strategies to Boost English as a Foreign Language Reading Comprehension. *Journal of Education in Black Sea Region, 4*, Issue 2.

Lv, F., & Chen, H. (2010). A Study of Metacognitive-Strategies-Based Writing Instruction for Vocational College Students. *English Language Teaching, 3*, No. 3.

Maftoon, P., & FakhriAlamdari, E. (2016). Exploring the effect of metacognitive strategy instruction on metacognitive awareness and listening performance through a process-based approach. *International Journal of Listening, 1*-20.

Mohamed, A. F., & Rashid, R. A. (2017). The metadiscourse markers in good undergraduate writers' essays corpus. *International Journal of English Linguistics, 7*(6), 213-220.

Movahed, R. 2014. The effect of metacognitive strategy instruction on listening performance, metaconitive awareness and listening anxiety of beginner Iranian EFL students. *International Journal of English Linguistics, 4* (2), 88.

Muthanna, A. (2016). *Teaching and learning EFL writing at Yemeni Universities: A review of current practices*. In Teaching EFL Writing in the 21st Century Arab World (pp. 221-243). Palgrave Macmillan, London.

Narang, D., & Saini, S. (2013). Metacognition and academic performance of rural adolescents. *Studies on Home and Community Science, 7*(3), 167-175.

Nietfeld, J. L., & Schraw, G. (2002). The effect of knowledge and strategy training on monitoring accuracy. *The Journal of Educational Research, 95*(3), 131-142.

Pitenoee, M., Modaberi. A., & Ardestani, E. (2017). The Effect of Cognitive and Metacognitive Writing Strategies on Content of the Iranian Intermediate EFL Learners' Writing. *Journal of Language Teaching and Research, 8*, No. 3, pp. 594-600.

Stewart, G., Seifert, T. A., and Rolheiser, C. (2015). Anxiety and Self-Efficacy's Relationship with Undergraduate Students' Perceptions of the Use of Metacognitive Writing Strategies. *Canadian Journal for the Scholarship of Teaching and Learning, 6* (1), 4.

Talafhah, R., Al-Jarra, T., Mansor, N., & Al-Jarrah. J. (2018). The Effect of Using Metacognitive Strategies on Writing Performance of EFL Students in

Jordanian Private and Public Schools: A Comparative Study. *Scholars International Journal of Linguistics and Literature, ISSN: 2616-8677.*

Thiede, K. W., Anderson, M., & Therriault, D. (2003). Accuracy of metacognitive monitoring affects learning of texts. *Journal of educational psychology*, *95*(1), 66.

Trapman, M., van Gelderen, A., van Schooten, E., and Hulstijn, J. (2017). Reading comprehension level and development in native and language minority adolescent low achievers: Roles of linguistic and metacognitive knowledge and fluency. *Reading and Writing Quarterly, 33*(3), 239-257.

Wei, Z., Shang, H., & Briody, P. (2012). The Relationship between English writing ability levels and EFL learners' metacognitive behavior in the writing process. *International Journal of Academic Research in Progressive Education and Development, 1*(4), 154-180.

Wong, C. S., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The Leadership Quarterly*, *13* (3), 243-274.

Zhang, L. J. and Qin, T. L. (2018). Validating a Questionnaire on EFL Writers' Metacognitive Awareness of Writing Strategies in Multimedia Environments. *In Metacognition in Language Learning and Teaching* (pp. 157-177). London, England: Routledge (Taylor & Francis Group).

Zimmerman, B. J., & Schunk, D. H. (2011). *Handbook of self-regulation of learning and performance.* New York: Routledge.

Biodata

Mr Mohammad Sharif Hosseini is a PhD candidate in TEFL at the Islamic Azad University, Gachsaran branch in Iran. His research areas include technology-assisted language learning, teacher education, and psycholinguistics.

E-mail: msh.hosseini2@gmail.com