The Efficacy of Meta-Cognitive Strategies Instruction in Enhancing Saudi EFL Students' Academic Writing

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Abstract: The aim of the present study is to investigate the effect of meta-cognitive strategies instruction in enhancing the Saudi EFL students in their English academic writing quality. The study adopted a quasi-experimental research design. The sample of the study consisted of fifty female students majoring in English at Al-Baha University. They were divided into two groups: experimental group (N. 25) and control group (N. 25). Pre and post-tests were administered to evaluate the participants' academic writing. A questionnaire survey was conducted to the experimental group to elicit their attitude towards the treatment. The findings of the study show that meta-cognitive strategies enhance students' motivation to set their goals and plans through cooperative learning, which in turn assists in the improvement of their academic writing in English. The study concluded with recommendations in the light of the findings and suggested further studies that can be conducted on similar issues of concern.

Keywords: Metacognitive Strategies, Saudi EFL Students, Academic Writing

1. Introduction

'Writing Strategies' is considered to be an interesting topic for research studies, as it entails varied cognitive and meta-cognitive techniques such as drafting, planning, and brainstorming among others. Meta-cognition can thus be defined as the individual's knowledge of own cognition along with the way, in which it can be optimally used to attain the learning objectives (Pitenoee, Modaberi, & Ardestani, 2017). In this regard, providing English foreign language (EFL) learners with instruction about meta-cognitive strategies would help them in improving their writing skills in English.

1.1 Statement of the Study Problem

In Saudi Arabia, a considerable number of students face difficulties in English writing. This not only affects their academic achievement but also their future job prospects. Based on the report by Education First English Proficiency Index (2018), Saudi Arabia ranks 83 in English proficiency out of 88 non-native English speaking nations. In the Middle East, it ranks 8th out of the 9 nations, indicating a lower level of proficiency. The report by Education First English Proficiency Index (2018) further claimed that English proficiency among the females in Saudi Arabia is extensively low as compared to males. In Saudi universities, a number of EFL teachers of English observed that the students have serious English academic writing problems in their exam scripts, which in turn may affect their academic achievement. This issue is more prominently noticed among female students. As a an instructor at one of Saudi

universities (Al-Baha University), it has been observed that most female students exhibit grave problems in their academic writings in terms of coherence, language use, organization and vocabulary. The observation of such problems among the female students contributed largely in conducting the study.

1.2 Objective of the Study

In light of the problem statement scenario, the researcher suggests an effective treatment that hopefully improves the students' academic writing. The present study, therefore, attempts to investigate the efficacy of the meta-cognitive strategies instruction in enhancing the Saudi EFL students' academic writing. To accomplish the objective of the study two group students (experimental and control) are selected and given pre-and post-tests in their writing skills.

1.3 Hypotheses of the Study

1. Hypothesis 1: There are significant differences at 0.05 levels between the pre-and-post-test mean scores of the experimental group in the writing test and that will be in favour of the post test;

2. Hypothesis 2: There are significant differences at 0.05 levels between the post-test mean scores of the experimental group and the control group in writing test and that will be in favour of the experimental group.

1.4 Significance of the Study

The significance of the present study lies in its attempt to enhance the Saudi EFL students' level in their academic writing skills. It creates the opportunity of getting them aware of the metacognitive strategies and monitor their writing process in general and academic writing in particular. Such a process might benefit the students in expressing their ideas and thoughts appropriately and effectively in their academic achievement.

2. Literature Review

The concept metacognition was introduced by Flavell in 1979 in the field of psychology. It is defined as "Knowledge and cognition about cognitive phenomena." Brown (1987) states "metacognition refers loosely to one's knowledge and control of own cognitive system." According to Schraw's model (1998), metacognition had two distinct components, namely knowledge of cognition (i.e., what individuals know about their own cognition or about cognition in general) and regulation of cognition (i.e., set of activities that help students control their learning). Knowledge of cognition includes three different kinds of metacognitive awareness: declarative knowledge (i.e., knowing "about" things), procedural knowledge (i.e., knowing "how" to do things) and conditional knowledge (i.e., knowing the "why" and "when" aspects of cognition). Regulation of cognition includes planning (i.e., involving the selection of appropriate strategies and the allocation of resources that affect performance), monitoring (i.e., one's on-line awareness of comprehension and task) and evaluation (i.e., appraising the products and efficiency of one's learning; including re-evaluating one's goals and conclusions).

2.1 Meta-Cognitive Strategies

Du-Toit and Kotze (2009) defined meta-cognitive strategies as the "conscious monitoring of one's cognitive strategies to achieve specific goals, for example when learners ask themselves questions about the work and then observe how well they answer these questions" (p.58). Iftikhar (2014) further mentioned that meta-cognitive strategies are important, as they lead to the development of the cognitive skills, understanding, and learning of the students. They also lead to the improvement of reflective thinking, critical understanding, along with interpreting and relating varied concepts of the students.

DeBoer (2003) mentioned that meta-cognitive strategies are important for the improvement of comprehension skill, which particularly relates to reading. They assist an individual to interact with the supervisors and peers, thereby supporting them to effectively understand the texts and successfully construct knowledge. In this context, Sonleitner (2005) stated that meta-cognitive strategies are highly applicable in academic studies, as it improves comprehension skills, which are important for students' learning. It not only enhances the reading comprehension skill but also that of writing. In this regard, Sonleitner (2005) suggested that they improve the skill of the students to write in a concise manner and reflect their understanding in written form. In writing texts, this strategy helps in identifying the main idea of the context and then inferring it accordingly (Sonleitner, 2005).

Alhaqbani and Riazi (2012) further supported the raised arguments and said that meta-cognitive strategies lead to the improvement of writing skills, especially at the time of learning foreign languages. Alhaqbani and Riazi (2012) also conveyed that this strategy has proved to be effective in the Middle East for students' learning and writing Arabic languages. It benefits the students with the improved ability to remain attentive and concentrated, thereby developing a specific purpose for writing. Thus, it largely improves the students' understanding of own writing. On a further note, Menbet (2018) asserted that meta-cognitive strategies instruction is highly effective in improving EFL Saudi EFL dyslexic learners' writing skills. This has been mainly because it facilitates the improved flow of information among EFL learners. It facilitates the EFL students to plan, monitor, and analyze their own writing as well as to assist them in identifying their strengths and weaknesses in writing in the English language. Correspondingly, by utilising the meta-cognitive strategies, they can maintain their strengths and neutralise their weaknesses, thereby enabling them to learn English writing properly (Menbet, 2018).

Du-Toit and Kotze (2009) further mentioned that there are varied strategies of meta-cognition, which are implemented for bringing about improvement in the students' academic learning. In this regard, the first phase is the planning strategy, wherein the teacher at the initial stage informs the students about the rules, time restrictions, and goals among others. Lv and Chen (2010) also supported the raised arguments and stated that planning in the learning phase involves five strategies, namely advance organizers, selective attention, directed attention, functional planning, and self-management. In addition, Du-Toit and Kotze (2009) referred to another strategy, which is the generation of questions to enquire one's own understanding. It further helps the students to realize that by questioning, they get to infer all those things that they know about and the ones that they are completely unaware of. It leads to the clarification of any misconception along with the examination of the previous experiences (Du-Toit&Kotze, 2009).

Moreover, Du-Toit and Kotze (2009) also mentioned the strategy of choosing consciously, wherein the involved teachers influence the students to evaluate the results of their selections. This, in turn, supports in making appropriate decisions along with the realisation of the underlying relationships between the

decision taken and the possible outcome. Farahian (2017) supported the arguments and stated that choosing consciously is important in decision-making, which occurs through effective self-regulation. Furthermore, as per the strategy Pitenoee, Modaberi, and Ardestani (2017) stated that the learners must possess an appropriate determination of the goal so that the desired outcome of learning can be obtained. Du-Toit and Kotze (2009) also stated the importance of setting and pursuing of goals and defined the concept as "expectations about the intellectual, social and emotional outcomes for students as a consequence of their classroom experiences" (p.59).

In addition, Wichadee (2011) conveyed that another strategy of meta-cognition is the identification of the possible difficulties and problems associated with the particular learning topic or curriculum. This largely supports the creation of precautionary measures so that the issues do not rise. Du-Toit and Kotze (2009) also raised similar arguments and stated that to address the identified problems, the learners realise the scope to effectively utilise the gained knowledge, resource, and skill. Moreover, Du-Toit and Kotze (2009) conveyed that meta-cognition strategy involves effective evaluation in the way of thinking and acting. This supports in realising whether the students in the self-learning process thinks and acts in the correct direction.

Moreover, Hussein (2015) claimed that reflection writing is an excellent strategy of meta-cognition, through which the individual students can enhance their own understanding. It helps the students to rethink new ideas and concepts along with the improvement of the writing performance. Du-Toit and Kotze (2009) further stated that along with the reflection writing, paraphrasing and elaborating the written texts improves the learning of the students, which also assists in articulating the ideas of the individual writers. Furthermore, Du-Toit and Kotze (2009) mentioned that understanding all the related terms is important for effective self-learning and understanding. In addition, Dülger (2011) stated that problem-solving is a crucial strategy of meta-cognition, which supports the learners to address all the doubts that they are facing with reference to the relevant books and articles. Moreover, thinking aloud is an effective strategy for meta-cognition, which encompasses the process of expressing or speaking to the other students and the teachers about a specific aspect he/she is thinking about. It supports the students in attaining better understanding through the attainment of feedback (Gafoordeen & Abubakar, 2014). Besides, Du-Toit and Kotze (2009) stated that the journal-keeping strategy of meta-cognition involves possessing a personal diary for expressing ones' thoughts and actions, which largely improves learning. The meta-cognitive strategy also involves cooperative learning, wherein the individual students learn from others. It also involves the strategy of modelling, wherein the teachers specify the process for addressing a difficult academic task (Du-Toit&Kotze, 2009).

Berkner (2004) mentioned that writing skills among the students can be developed by following both the direct and indirect instructions along with the understanding of the proper writing process. The writing skills of the students also get improved with the knowledge of story structuring and substitution writing. It also develops in the students with good knowledge of the content, sentence structuring, and vocabulary. In this context, Mohammad (2008) asserted that in the Middle East nations, to ensure the development of writing skills of the students, the teachers ask them to write more. The teachers also allocate the students with tasks to write letters and prepare short transcript from the lessons. The teachers also dictate various texts in the class, which the students need to write exactly.

Moreover, Saba (2014) stated that the teachers in Saudi Arabia continuously provided feedback to the students so that they could improve their writing skills. This supports the students to understand the

issues in their writing and get them rectified based on the teachers' feedback. Saba (2014) also asserted that the teachers in Saudi Arabia also motivates the students to conduct group writing tasks as it supports the students to learn language writing from each other through practical experience. It also improves the relationship amid the students, as those facing issues in writing can even take help from the others. Saba (2014) further stated that the teachers also attempt to build a good relationship with the students so that the latter can freely seek help in writing. In this context, Ashraf (2018) mentioned that specifically to improve the English writing skills of EFL students in Saudi Arabia, the teachers ask them to write reflections on varied contents. The teachers also attempt to understand the specific needs and interests of the students along with their strengths and weaknesses in English writing. Ashraf (2018) further mentioned that the teachers need to encourage the students for English writing.

The contribution of the present study lies in its attempt to improve the academic writing of the Saudi EFL students; as it creates the opportunity of getting them aware of the metacognitive strategies and monitor their writing process. It is believed that such a process might benefit the students in expressing their ideas and thoughts appropriately and effectively in their academic achievement.

3. Methodology

3.1 Participants

The conducted study involved the participation of 50 Saudi girl students of 7th level, who are studying English at Al-Baha University. All these students are found to be within the age group of 20 to 24 years. The participants were divided into two equal groups, i.e. 25 each.

3.2 Procedure

The study adopted a quasi-experimental research design, which involves two groups of 25 students, i.e. experimental and control group. Correspondingly, the academic writing level of the students from both groups was determined through a pre and post-tests evaluation. The students were provided with three topics, out of which they were asked to write on a particular topic of their choice in a descriptive manner. In the first semester of the academic year 2018-2019, the study was implemented on the group involving twelve week-classes for both groups. Throughout the twelve week-classes, the control group followed the traditional approach of learning English writing (product approach of writing), while the experimental group followed the meta-cognitive strategies instruction. In the experimental study, the classification of meta-cognitive composing strategies of Sasaki (2000) has been followed; it is presented in the table below:

Table 1: Classification of meta-cognitive composing strategies

Strategies	Definition
Planning 1. Global planning 2. Thematic planning 3. Local planning 4. Organization 5. Conclusion planning	 Detailed planning of overall organization Less detailed planning of overall organization Planning what to write nest Organizing the generated ideas Planning of the conclusion
Retrieving 1. Plan retrieving 2. Information retrieving	 Retrieving the already constructed plan Retrieving appropriate information from long-term memory
Generating idea 1. Naturally generated 2. Description generated	 Generating an idea without any stimulus Generating an idea related to the previous description
Verbalizing 1. Verbalizing a proposition 2. Rhetorical refining 3. Mechanical refining 4. Sense of readers	 Verbalizing the content the write intends to write Refining the rhetorical aspect (s) of an expression Refining the mechanical or (L1/L2) grammatical aspect (s) of an expression Adjusting expression (s) to the readers
Translating	Translating the general idea into L2
Rereading	Rereading the already produced sentence
Evaluating 1. L2 proficiency evaluation 2. Local text evaluation 3. General text evaluation	 Evaluating one's own L2 proficiency Evaluating part of the generated text Evaluating the generated text in general
Others 1. Resting 2. Questioning 3. Impossible to categorize	 Resting Asking the researcher a question Impossible to categorize

Adopted from Sasaki, 2000

3.3 Instrument

In this study, two instruments were used, namely the pre and post test for the analysis of the participants' performance along with the prepared questionnaire to identify their attitudes towards meta-cognitive

treatment. The questionnaire was prepared to specifically identify the students' attitudes towards the meta-cognitive treatment being provided to them. It specifically enquired whether the meta-cognitive intervention improved their English writing skill along with the development of related interest, confidence, and convenience. The questionnaire was validated by experts in the field of applied linguistics so as to ensure its clearance and relevance. The pre-test was conducted to find the initial level of writing skills and knowledge of both the groups of participants prior to conducting the experimental study. The post-test was also conducted for both the groups of participants to find out the efficacy of meta-cognitive treatment that the experimental group obtained as compared to the control group attaining the traditional approach of treatment for the same duration of twelve weeks. The writing performance of the participants was assessed by two teachers following the ESL Composition Rubric Profile of Jacob (1981) presented below:

Table 2: ESL composition profile

Students		Date	Topic
Score Level Criteria			Comments
CONTENT	30-27	EXCELLENT TO VERY GOOD	knowledgeable • substantive • thorough development of thesis • relevant to assigned topic
CONTENT	26-22	GOOD TO AVERAGE	some knowledge of subject • adequate rage • limited development of thesis • mostly relevant to topic, but lacks detail
CONTENT	21-17	FAIR TO POOR	limited knowledge of subject • little substance • inadequate development of topic
CONTENT	16-13	VERY POOR	does not show knowledge of subject • non-substantive • not pertinent • OR not enough to evaluate
ORGANIZATION	20-18	EXCELLENT TO VERY GOOD	fluent expression • ideas clearly stated/supported • succinct • well-organized • logical sequencing • cohesive
ORGANIZATION	17-14	GOOD TO AVERAGE	somewhat choppy • loosely organized but main ideas stand out • limited support• logical but incomplete sequencing
ORGANIZATION	13-10	FAIR TO POOR	non-fluent • ideas confused or disconnected• lacks logical sequencing and development
ORGANIZATION	9-7	VERY POOR	does not communicate • no organization • OR not enough to evaluate
VOCABULARY	20-18	EXCELLENT TO VERY GOOD	sophisticated range • effective word/idiom choice and usage •word form mastery • appropriate register
VOCABULARY	17-14	GOOD TO AVERAGE	adequate range • occasional errors of word/idiom form, choice, usage but meaning not obscured
VOCABULARY	13-10	FAIR TO POOR	limited range • frequent errors of word/idiom form, choice, usage • meaning confused or obscured

Students		Date		Topic	
Score Level Criteria				Comments	
	9-7	VERY POOR		essentially translation • little knowledge or English vocabulary, idioms, word form OR not enough to evaluate	
LANGUAGE USE	25-22	EXCELLENT TO VERY GOOD		effective complex constructions • few errors of arrangement, tense, number, word order/function, articles, pronouns, prepositions	
	21-18	GOOD TO AVERAGE		effective but simple constructions • minor problems in complex constructions • several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions but meaning seldom obscured	
	17-11	FAIR TO POOR		major problems in simple/complex constructions • frequent errors of negation, agreement, tense, number, word order/function, articles, pronouns, prepositions and/or fragments, run-ons, deletions • meaning confused or obscured	
	10-5	VERY POOR		virtually no mastery of sentence construction rules • dominated by errors • does not communicate • OR not enough to evaluate	
MECHANICS	5	EXCELLENT TO VERY GOOD		demonstrates mastery of conventions • few errors of spelling, punctuation, capitalization, paragraphing	
	4	GOOD TO AVERAGE		occasional errors of spelling, punctuation, capitalization, paragraphing but meaning not obscured	
	3	FAIR TO POOR		frequent errors of spelling, punctuation, capitalization, paragraphing • poor handwriting • meaning confused or obscured	
	2	VERY POOR		no mastery of conventions • dominated by errors of spelling, punctuation, capitalization, paragraphing • handwriting illegible • OR not enough to evaluate	
TOTAL SCORE			READER	COMMENTS	

Adopted from (Jacob, 1981)

4. Results & Discussion

4.1 Results

In the study, the participants were asked to write on a particular issue in a descriptive manner. This helped in identifying the writing skill level of the students both before and after the treatment of the

meta-cognitive strategies. The writing skills of the students were evaluated based on the content, organization, vocabulary, language use, and mechanics of the text, which possesses the weightage of 30, 20, 20, 25, and 5 respectively. The mean value of all the students involved in each of the groups was determined. It was found that the mean values of the pre-test scores of the experimental group and the control group were 64.16 and 65.72 respectively (refer table 3). The relatively close values of the two groups imply that they have a similar level of proficiency in English writing. This also supported in the better understanding and evaluation if the meta-cognitive treatment has led to an increase in scores. Correspondingly, the average values of the post-test scores of the experimental group and the control group were found to be 79.2 and 67.56 respectively (refer table 3). Thus, this shows that the mean value of the post-test score of the experimental group is higher by 11.64 with that of the control group. It also indicates that in the experimental group, the increase in mean value from the pre-test score to post-test score is 15.04, while that of the control group is 1.84. Thus, it can also be calculated that the increase in the mean score of the experimental group is greater by 13.2 with that of the rise in the average value of the control group. Therefore, it justifies that meta-cognitive treatment leads to the improved English writing skills of the students.

T-test was conducted between pre-test scores and post-test scores of the experimental group with respect to each of the variables, i.e. content, organization, vocabulary, language use, and mechanics along with the overall mean value (table 3 to 6). The t critical one-tail value and the t critical two-tail values are 1.71 and 2.06 respectively. Moreover, both the $P(T<=t)$ one-tail and the $P(T<=t)$ two-tail value is 0. Thus, it is apparent that there are major differences at 0.05 levels between the pre-and-post-test mean scores of the experimental group in the writing test, which favours the post test. Therefore, it leads to the acceptance of the first hypothesis.

In addition, t-test was conducted between post-test scores of the experimental group and the control group with respect to each of the variables and the overall mean value (figure 3 to 6). It was thus found that the t critical one-tail value is 1.71 and the t critical two-tail value is 2.06. The value for both $P(T<=t)$ one-tail and the $P(T<=t)$ two-tail is 0. Thus, it is notable that there are considerable differences at 0.05 levels between the post-test mean scores of the experimental group and the control group in writing test, which further favours the experimental group and thereby implies the acceptance of the second hypothesis.

Table 3: The overall mean score and standard deviation of pre and post –tests of the experimental group and control group

Statistical Item	Experimental Group		Control Group	
	Pre-test	Post-test	Pre-test	Post-test
Mean	64.16	79.2	65.72	67.56
St. D	13.33	9.51	13.60	9.97

Table 4: T-test of pre-test scores and post-test scores of the experimental group

Writing Criteria	Content		Organization		Vocabulary		Language Use		Mechanics	
Statistical Item	Pre	post	Pre	post	Pre	post	Pre	post	Pre	post
Mean	17.2	22.72	13.88	16.88	13.96	16.32	16.44	19.92	2.68	3.36
St. D	4.12	3.25	3.37	1.92	2.62	1.79	3.70	2.66	0.55	0.75
Variances	17.00	10.63	11.36	3.69	6.87	3.23	13.76	7.08	0.31	0.57
Observations	25	25	25	25	25	25	25	25	25	25
Pearson Correlation	0.88	-	0.92	-	0.90	-	0.94	-	0.58	-
Hypothesized Mean diff.	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
df	24.00	-	24.00	-	24.00	-	24.00	-	24.00	-
T stat	-14.08	-	-8.43	-	-9.17	-	-11.37	-	-5.42	-
P(T<=t) one tail	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
T Critical one tail	1.71	-	1.71	-	1.71	-	1.71	-	1.71	-
P(T<=t) two tail	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
T Critical two tail	2.06	-	2.06	-	2.06	-	2.06	-	2.06	-

Table 5: T-test of post-test scores of the experimental group and the control group

Writing Criteria	Content		Organization		Vocabulary		Language Use		Mechanics	
Statistical Item	Exp.	Con.	Exp.	Con.	Exp.	Con.	Exp.	Con.	Exp.	Con.
Mean	22.72	18.56	16.88	14.52	16.32	14.44	19.92	17.48	3.36	3.04
St. D	3.25	2.53	1.92	2.12	1.79	2.70	2.66	2.70	0.75	0.35
Variances	10.63	6.42	3.69	4.51	3.23	7.34	7.08	17.34	0.57	0.12
Observations	25	25	25	25	25	25	25	25	25	25
Pearson Correlation	0.72	-	0.75	-	0.84	-	0.66	-	-0.06	-
Hypothesized Mean diff.	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
df	24.00	-	24.00	-	24.00	-	24.00	-	24.00	-
T stat	9.10	-	8.19	-	6.12	-	5.55	-	1.88	-
P(T<=t) one tail	0.00	-	0.00	-	0.00	-	0.00	-	0.04	-
T Critical one tail	1.71	-	1.71	-	1.71	-	1.71	-	1.07	-
P(T<=t) two tail	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
T Critical two tail	2.06	-	2.06	-	2.06	-	2.06	-	2.06	-

Table 6: T-test of post-test scores of the experimental group and the control group

(Overall Mean)

Writing Criteria Statistical Item	Experimental Group	Control Group
Mean	79.20	67.56
St. D	9.51	9.7
Variances	90.58	99.42
Observations	25.00	25.00
Pearson Correlation	0.79	-
Hypothesized Mean diff.	0.00	-
df	24.00	-
T stat	9.23	-
P(T<=t) one tail	0.00	-
T Critical one tail	1.71	-
P(T<=t) two tail	0.00	-
T Critical two tail	2.06	-

The conducted study included a questionnaire survey indicating the attitude of the participants towards the experimental intervention of meta-cognition. The majority of the participants agreed that meta-cognitive intervention for twelve weeks has led to the improvement in the English writing skills of the Saudi EFL students, which have better been illustrated in the table below. This is apparent from the overall mean value of 4.13. In addition, it is notable that metacognitive strategies motivate students to improve their knowledge of academic writing, do more exercises, and write appropriately.

Table 7: The results of the questionnaire about the attitude of the participants

towards the experimental intervention

Statement	1	2	3	4	5	Mean	St. D
1- Knowledge of metacognitive strategies motivated me to improve my academic writing.	0	1	2	7	15	4.44	1.24
2- Using metacognitive strategies aroused my interest in writing.	0	2	3	8	12	4.2	0.97
3- Using metacognitive strategies motivated me to do more exercises and drills in academic writing.	0	1	4	6	14	4.32	1.11
4- I felt comfortable in writing classes	1	1	3	8	12	4.16	0.96

Statement	1	2	3	4	5	Mean	St. D
using metacognitive strategies.							
5- Metacognitive strategies made me enjoy learning writing skills.	0	1	4	8	12	4.24	1
6- Using metacognitive strategies during classes enabled me to write effectively.	0	1	6	7	11	4.12	0.90
7- I benefited from my interaction with peers using metacognitive strategies in learning academic writing.	1	2	4	10	8	3.88	0.77
8- Using metacognitive strategies gave me control over my academic writing skills.	0	2	5	9	9	4	0.81
9- Using metacognitive strategies helped me write independently.	0	1	4	9	11	4.2	0.96
10- My teacher helped me learn how to write appropriately using metacognitive strategies.	0	1	3	7	14	4.36	1.14
11- I felt more confident about my writing than I was before being trained on using metacognitive strategies.	1	1	5	8	10	4	0.81
12- I became rather familiar with the academic writing strategies.	1	1	4	10	9	4	0.86
13- I became aware of how to plan writing an academic essay.	1	1	5	9	9	3.96	0.80
14- I became aware of how to monitor and organize the generated ideas in an academic writing.	0	1	4	9	11	4.2	0.96
15- I became aware of how to evaluate my academic writing performance and pair ones.	0	2	6	10	7	3.88	0.80
Mean	0.33	1.27	4.13	8.33	10.93	4.44	0.90

1= Strongly disagree; 2= Disagree; 3= Neutral; 4=Agree; 5= Strongly agree

4.2 Discussion

Based on the results of the study, the intervention of meta-cognitive strategies offered to the EFL Saudi students led to the improvement in their English academic writing. In this regard, from the perspective of the researcher, it can be evaluated that the intervention of meta-cognitive strategies has influenced the EFL Saudi students to learn the English language and to improve their skill of academic writing. The motivation among them has risen due to the fact that the students have been able to develop an interest in learning the language. The students through this intervention can generate and ask questions on why they should learn English academic writing (Lv & Chen, 2010). The researcher views that the importance of the intervention can be realised in the fact that it would further allow the students to gain good scores in their academic achievement besides the attainment of professional success. Du-Toit and Kotze (2009) believes that such level of augmented motivation and interest among the students primarily influences them to conduct more and more tasks as well as assignments in English academic writing, which in turn improves their proficiency to a large extent. The meta-cognitive intervention also influences the students to construct proper planning along with setting as well as pursuing goals relating to the specific tasks and assignments that must be completed to enhance English writing proficiency. Moreover, proper planning and goal setting assist the EFL students to control their academic writing skills as well (Du-Toit&Kotze, 2009).

In addition, the intervention of meta-cognitive strategies among the EFL students helped them to write independently. In this regard, the researcher maintains that such a treatment encourages the students to reflect their own ideas and thoughts on varied disciplines in English. Moreover, it assists them to monitor and organize the generated ideas in an academic writing process. This is because the intervention improves the capability of the students to identify varied issues and correspondingly work towards its resolution. The students are also able to evaluate their own English academic writing performance and are even able to analyze their own way of thinking as well as acting in academic activities. From the viewpoint of Dülger (2011), it can be evaluated that meta-cognitive strategies allow the students to identify the issue in writing and correspondingly work for its improvement over time. The intervention of meta-cognitive strategies has allowed the teachers to help the students in writing appropriately and in learning from their peers through interaction. From the researcher's viewpoint, it can be assessed that one of the crucial aspects of the intervention is to cooperatively learn from others. The students, when expressing their thinking and ideas, are able to obtain feedback from the teachers and peers, which in turn create a further scope of improvement. Additionally, this intervention supports the EFL students to be familiar with the academic writing strategies, enhance confidence, enjoy and be comfortable in learning the skills of writing along with overcoming all the related problems (Dülger, 2011). These have eventually helped the students in writing English texts effectively and with higher quality. In this regard, it can further be evaluated that such improvement is possible because the students are good at consciously selecting the specific tasks that would improve their English writing skills at least to some extent. The students through this intervention are also able to keep a record of their performance, which helps them to clearly identify the improvements being witnessed.

5. Conclusion

Based on the overall discussion, it is apparent that the meta-cognitive intervention provided to the targeted participants (Saudi EFL girl students) has improved their academic writing efficacy as

compared to the students who were not given such treatment. This could be ascribed to the enhanced motivation that encourages individual students to get engaged in self-learning for the improvement of English writing skills. This intervention involves the expression of ideas and thoughts, which, in turn, help the students obtain useful feedback from the teachers and peers. The students are also able to set appropriate goals or targets for attaining the desired outcome in relation to the improvement of English writing. It also supports them in reflecting their own ideas and in evaluating their own way of thinking. They are also able to monitor and track their performances in the long run, thereby gaining confidence and maintaining the level of comfort during the progression of academic writing. Thus, meta-cognitive intervention significantly improves the English academic writing skills of Saudi EFL students.

In light of the outcome obtained from the study it can be recommended that the meta-cognitive intervention be implemented in teaching writing skills for better learning performance of the students. It can also be recommended to the future researchers that while they conduct further studies on the similar issue of concern, they can consider this study as a complementary source of information. This study is also suggested to be of significance as it gives insights into understanding how meta-cognitive intervention can improve other language skills, i.e., listening, speaking and reading.

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