METACOGNITIVE STRATEGIES IN WRITING

Dr. SOBHANA NANDYAL PANDURANGA

Department of English, Samtah University College, Jazan University, Jizan, KSA.

Dr. KIRAN KUMAR KALAPALA

English Language Institute, Jazan University, Jizan, KSA.

Abstract

Metacognition is, thinking about one's thinking. It refers to the processes used to plan, monitor, and assess one's understanding and performance. It includes a critical awareness of a) one's thinking and learning and b) oneself as a thinker and a learner. It also includes knowledge about when and how to use particular strategies for learning or problem-solving. The two components of metacognition are: (1) knowledge about cognition and (2) regulation of cognition. Metacognition encompasses the study of memory-monitoring and self-regulation, meta-reasoning, consciousness/awareness and auto noetic consciousness/self-awareness. The purpose of this research was to examine the metacognitive strategies used by EFL learners in writing process and also to identify their attitude towards metacognitive strategies in doing the task. The participants of the study constituted 33 undergraduate female students of English Department, Samtah University College, Jazan University. A metacognition inventory and an attitude scale were adapted to meet the requirements of the study. The study results helped the teachers to support, facilitate and train the students to become autonomous learners so that the students will be able to achieve academic/research writing skills based on critical thinking skills. Summing up this study, the researcher has observed that university students should enrich their metacognitive abilities. It also indicated that English teachers should take up the responsibility to train Saudi students in enhancing metacognitive abilities to prepare them for future to meet personal, professional, communicative, and global challenges.

Index Terms: Metacognitive Strategies, Attitude, Autonomy.

I. INTRODUCTION

Metcalfe, J., and Shimamura, A.P. (1994) asserted that metacognition includes knowledge about when and how to use particular strategies for learning or problem solving. Schraw, Gregory (1998) distinguished two components of metacognition: (1) knowledge about cognition and (2) regulation of cognition. Metacognition refers to a level of thinking that involves active control over the process of thinking that is used in learning situations. Planning the way to approach a learning task, monitoring comprehension, and evaluating the progress towards the completion of a task are metacognitive.

A. Metacognitive Awareness

Jacobs, J.E., Paris, S.G. (1987) categorized metacognition into three types of metacognitive awareness in terms of metacognitive knowledge.

1. Declarative knowledge: refers to knowledge about oneself as a learner and about what factors can influence one's performance. Schneider, W; Artelt, C. (2010) referred it to as "world knowledge".

2. Procedural knowledge: refers to knowledge about doing things. This type of knowledge is displayed as heuristics and strategies. A high degree of procedural knowledge can allow

individuals to perform tasks more automatically. Pressley, M, Borkowski, J.G. Schneider, W. (1987) attributed that it is achieved through a large variety of strategies that can be accessed more efficiently.

3. Conditional knowledge: Garner, R (1990) refers to knowing when and why to use declarative and procedural knowledge. Reynolds, R.E. (1992) stated that it allows students to allocate their resources when using strategies and in turn allows the strategies to become more effective.

A. Research Significance

Metacognition is an important concept in cognitive theory. Metacognitive activities occur before or after cognitive activity. Metacognitive strategies help students to think about thinking. Metacognitive strategies is to think about the way how students think about the learning strategies like planning, monitoring, and evaluating in the learning process. Therefore, metacognitive strategies on writing is thinking about the thinking processes or transferring knowledge processes and self-evaluating processes in writing essays.

B. Aim of the Study

The purpose of this research is to examine the metacognitive strategies used by EFL learners in writing process. The question items in the metacognitive strategies' inventory identified the metacognitive strategies used by the students in writing process. It is an ardent effort and clearly indicated that metacognitive strategies in writing process should be developed among Saudi students to support, facilitate, and train them to become autonomous learners so that they will be able to achieve academic/research writing skills based on critical thinking skills for future personal and professional challenges.

C. Research Questions

1. What metacognitive strategies do the EFL learners use in writing process to assess their learning?

2. What is the EFL learners' attitude towards the use of metacognitive writing strategies in writing process to assess their learning?

D. Limitations of the Study

The current study is limited to level 8, EFL female undergraduate students in the Department of English, Samtah University College, and Jazan University during the semester of the academic year 2021-2022.

II. LITERATURE REVIEW

Flavell (1979) classified metacognition into three components:

1. Metacognitive knowledge is what individuals know about themselves and others as cognitive processors. It is also called metacognitive awareness.

2. Metacognitive regulation is the regulation of cognition and learning experiences through a set of activities that help people control their learning.

3. Metacognitive experiences are those experiences that have something to do with the current, on-going cognitive endeavor.

John H. Flavell (1979) defined metacognition as knowledge about cognition and control of cognition. Metacognition also involves thinking about one's own thinking process such as study skills, memory capabilities, and the ability to monitor learning. This concept needs to be explicitly taught along with content instruction. Metacognitive knowledge is about one's own cognitive processes and the understanding of how to regulate those processes to maximize learning. Metacognition is a general term encompassing the study of memory-monitoring and self-regulation, meta-reasoning, consciousness/awareness and autonoetic consciousness/self-awareness. The capacities are used to regulate one's own cognition, to maximize one is potential to think, learn and to evaluate.

Metacognition is 'stable' in those learners' initial decisions derive from the pertinent facts about their cognition through years of learning experience. Simultaneously, it is also 'situated' in the sense that it depends on learners' familiarity with the task, motivation, emotion, and so forth. Individuals need to regulate their thoughts about the strategy they are using and adjust it based on the situation to which the strategy is being applied. At a professional level, this has led to emphasis on the development of reflective practice, particularly in the education profession.

Recently, the notion has been applied to the study of second language learners in the field of TESOL and applied linguistics in general (Wenden, 1987; Zhang, 2001, 2010). This new development has been much related to Flavell (1979), where the notion of metacognition is elaborated within a tripartite theoretical framework. Learner metacognition is defined and investigated by examining their person knowledge, task knowledge and strategy knowledge. Wenden (1991) has proposed and used this framework and Zhang (2001) adopted this approach and investigated second language learners' metacognition or metacognitive knowledge. In addition to exploring the relationships between learner metacognition and performance, researchers are also interested in the effects of metacognitively-oriented strategic instruction on reading comprehension (e.g., Garner, 1990, in first language contexts, and Chamot, 2005; Zhang, 2010). The efforts are aimed at developing learner autonomy, interdependence and self-regulation.

Metacognition helps people to perform many cognitive tasks more effectively. The strategies for promoting metacognition include self-questioning (e.g., "What do I already know about this topic? How have I solved problems like this before?"), thinking aloud while performing a task, and making graphic representations (e.g., concept maps, flow charts, semantic webs) of one's thoughts and knowledge. Carr, 2002, argued that the physical act of writing plays a large part in the development of metacognitive skills. Gammil, D. (2006) suggested word analysis skills, active reading strategies, listening skills, organizational skills and creating mnemonic devices as strategies that can be taught to students.

Anne Beaufort (2007) defined metacognition as "thinking about thinking". But the Framework for Success in post-secondary writing (The Council of Writing Program Administrators et al., 2011, p. 5 https://files.eric.ed.gov/fulltext/ED516360.pdf) furthers this definition by referring to metacognition as "the ability to reflect on one's own thinking as well as on the individual and cultural processes used to structure knowledge". Howard Tinberg (2015, p.75) innovatively and accurately indicates that "metacognition is not cognition" explaining that "performance, however thoughtful, is not the same as awareness of how that performance came to be". Metacognition, as Tinberg, H (2015) describes it, has an important connection to writing, specifically to students' ability to reflect on their processes and their knowledge. Metacognitive writing strategies involve thinking about the writing process - planning, monitoring, and self-evaluating of what has been written. More explicitly, via the skills of planning, monitoring, and evaluating the writer manages, directs, regulates, and guides his/her writing production.

Cohen, Marisa (2012) claimed that metacognitive-like processes are especially ubiquitous when it comes to the discussion of self-regulated learning. Self-regulation requires metacognition by looking at one's awareness of their learning and planning further learning methodology. Miller, Tyler M.; Geraci, Lisa (2011) declared that attentive metacognition is a salient feature of good self-regulated learners but does not guarantee automatic application. Reinforcing collective discussion of metacognition is a salient feature of self-critical and self-regulating social groups. The activities of strategy selection and application include those concerned with an ongoing attempt to plan, check, monitor, select, revise, evaluate, etc.

A. Importance of use of Metacognition in classrooms

The use of metacognitive thinking and strategies enables students to become flexible, creative, and self-directed learners. Metacognition particularly assists students with additional educational needs in understanding learning tasks, in self-organising and in regulating their own learning. (The Metacognitive Teacher and Learner: Teaching to Think, Learning to Learn) https://www.sess.ie/metacognitive-teacher-and-learner-teaching-think-learning-learn-2

Metacognition helps students improve their thought process and reflective thinking. The psychologists William James, Jean Piaget, and Lev Vygotsky theorized the role of metacognition for modern education (Fox and Risconscente, 2008). Their views on metacognition differed: James focused on "Self" and inward looking, Piaget elaborated on theories of metacognitive reasoning, and Vygotsky tied metacognition to consciousness. All three underscored the value of metacognition for intellectual growth. In higher education, metacognition is valued for the ways it charges and motivates students with self-regulation of their learning and enables transference of skills and content through reflection and abstract comprehension. College instructors can support student metacognition through various active learning techniques, learning frameworks, and opening / closing class exercises that encourage them to reflect upon and monitor their learning. (Encouraging Metacognition in the Classroom) https://poorvucenter.yale.edu/MetacognitioninClassrooms

Self-reflection and metacognition play a vital role in growth and development of learning among the students. Self-awareness plays a critical role in improved learning because it helps students become more efficient at focusing on what they still need to learn. Improving metacognitive strategies related to students' schoolwork also provides young people with tools to reflect and grow in their emotional and social lives.

B. Reflection on Metacognition

Metacognition is essentially reflection on the micro level, an awareness of one's own thought processes as one completes them. Metacognitive reflection, however, takes thinking processes to the next level because it is not concerned with assessment, but with self-improvement (Watanabe-Crockett 2018). Perhaps most crucially, by shifting reflection from content to thought, students have a chance to put themselves back at the centre of the learning process. (Self-Reflection for Metacognition) (https://www.virtuallibrary.info/self-reflection-for-metacognition.html)

Lovett (2008) stated that reflection is an act of looking back in order to process experiences. Metacognition, a type of reflection, is a way of thinking about one's thinking in order to grow. Research shows metacognition increases student motivation because students feel more in control of their own learning. Students who learn metacognitive strategies are more aware of their own thinking, and more likely to be active learners who learn more deeply.

Marsha Lovett, (2008) identified few advantages of metacognition:

- Changes the fixed versus growth mindset about students' ability to learn.
- Increased student ownership of learning and students taking control over their own learning.
- More positive attitudes in relation to school and learning.
- Improved performance not only academic but also in relation to behavioural performance.

C. Review of Related Studies

Shedding light on the contribution of some previous research is fundamental since it will help to suggest and propose solutions concerning the research problem. There are many studies on metacognitive strategies because they help to improve the teaching and learning process. If learners' errors and the causes of those errors are identified, errors can be corrected, though not all. Moreover, metacognitive strategies direct the focus of the teaching and learning process.

Farahian, M. (2015) conducted research on assessing metacognitive strategies in English as a foreign language (EFL). Writing is dependent on a valid measure to assess metacognitive ability. The researcher's assumption regarding the two general scales of Meta Awareness Writing Questionnaire was supported indicating that knowledge and regulation of cognition are two main components. Azizi, M., Nemati and Estahbanati, N (2017) believed that by improving students' meta-cognitive awareness of elements of language, learning can be enhanced. The results showed that the ongoing problems students have in their meta-cognitive

awareness of writing strategy use which can contribute to raising proficiency levels in shorter time frames. Zehua Wang and Feifei Han (2017) investigated metacognitive knowledge and control of writing strategy in English among 65 Chinese EFL learners in two argumentative writing tasks. It was found that while there were no differences on any type of the writing strategies for metacognitive knowledge, the two groups differed in the actual writing strategy use on each occasion. For the more familiar and easier writing topic, high- and low-performing students differed only in cognitive writing strategies. For the less familiar and more challenging writing task, high-achievers adopted significantly more planning, cognitive, and evaluating strategies than low-achievers. This research supported for distinction between metacognitive knowledge and control in EFL writing. Ramazan Goctu (2017) aimed to investigate whether freshmen students at the Faculty of Computer Technologies and Engineering at International Black Sea University (Tbilisi, Georgia) use metacognitive learning strategies (MLS) in their academic writing and aware of them or not. The findings showed that less than half of the participants used and were aware of metacognitive learning strategies although teachers mentioned that such strategies were used during the classes. This study suggested to raise EFL writing instructors' awareness in teaching to train students to become self-regulated learners. Hanieh Garmabi and Gholamreza Zareian (2016) examined the teachers' attitude towards the effectiveness of metacognitive strategies used by high school students. The results of statistical analysis indicated that while male and female teachers have the same attitude about reading and post-reading metacognitive strategies, they have significantly different attitudes about pre-reading metacognitive strategies. Khikmah, Nina Amelia Nurul (2018) used the qualitative method to present the findings about the most commonly used metacognitive strategies and attitudes toward the use of metacognitive strategies along with the discussion of the most commonly used metacognitive strategies and attitudes. Planning, monitoring, evaluating and attitudes toward the use of strategies were examined in this study. The finding of this research revealed that the most commonly used of metacognitive strategies were evaluating in the proposal writing process. Then, the students' attitudes towards the use of metacognitive strategies indicated that evaluation is the important feature in the metacognitive strategies.

D. Literature Gap

The literature review indicated that a plethora of studies have been undertaken to address the impact of metacognitive awareness in English language writing and their inter-relationship since it plays a key role on EFL learners' performance. The findings of the research studies in this area have shown that metacognition is an important aspect of learning strategies. Some research studies also show that the frequency of positive or negative attitude to use metacognitive strategies in writing is the biggest factor in attitude change. All in all, the Saudi Arabian and international studies have shed light on the ways how metacognitive awareness influences the performance of the EFL learners. Therefore, the present study was an ardent effort to fill the gap of literature by concentrating on the feasible impact of metacognitive awareness on EFL learners' performance.

III. METHODOLOGY

Quantitative research method was used to examine the level of metacognitive strategies in writing process among Saudi EFL students, as described in Table 1 and in the paragraphs to follow. It assessed the kinds of metacognitive strategies that the EFL learners use in writing to plan, monitor and assess their learning. It also identified the EFL learners' attitude towards the use of metacognitive strategies in writing process.

Table 1: Research Design

Phase	Sample, Sampling, Sample size and Instrument	Data Analysis
Online Survey	**Sample:** Dept. of English students, Samtah University College, Jazan University.	Percentages were calculated.
	Sampling: Quota sampling	
	Sample size: 33 students.	
	Instrument: Inventory – Metacognitive Strategies in Writing	

i) Sample of the Study

The sample constituted 33 female undergraduate students of the Department of English, Samtah University College, Jazan University. The researcher made use of quota sampling which required the representative individuals who were between the ages of 25-30. Davis (2005) quotes that quota sampling is a non-random sampling technique in which participants are chosen on the basis of predetermined characteristics so that the total sample will have the same distribution of characteristics as the wider population.

ii) Data gathering Instrument

An inventory which was adapted from one of the previous studies done by Schraw, G. & Dennison, R.S. (1994) in a way to meet the requirements of the research study was used as a data gathering instrument. An online survey inventory was administered which constituted question items related to metacognitive strategies in writing process. It was on a 2-point rating scale with true and/or false options as shown in the Results section. The participants were asked to respond in situational settings and personal settings. The inventory consisted of question items related to Declarative knowledge, Procedural knowledge, Conditional knowledge, Planning score, Information management strategies, Comprehension monitoring, Debugging strategies and Evaluation of metacognitive strategies which the EFL learners use in writing process.

a) Attitude towards Metacognitive Strategies

Attitude is a point of view or feeling among the students on the different ways of using metacognitive strategies during the writing process. The inventory also consisted of questions related to attitude towards the metacognitive strategies in writing process which were adapted from Rhema A., & Miliszewska I. (2014) to convene with the requirements of the study. The

students were also asked to express their attitude towards the Metacognitive strategies in writing process.

iii) Data Collection

An online survey inventory has been administered to collect the data from 33 female undergraduate students of the Department of English, Samtah University College, Jazan University. The participants have been informed about the significance of the study. The data collected with the help of online survey inventory was analyzed as shown in the Results section.

IV. RESULTS

The responses of the students in the inventory have been reported in Tables 2 & 3.

A. EFL learners' responses in the Inventory - Metacognitive Strategies in Writing

Table 2: Efl Learners' Responses in the Inventory – Metacognitive Strategies in Writing

	Metacognitive Strategies in Writing
#	Statements
	Section One: Declarative Knowledge
1	I understand my intellectual strengths and weaknesses.
	29 students (who represent 88% of the sample, the majority) responded by choosing 'true'. Only 4 students (who represent 12% of the sample) responded by choosing 'false'. This means that the majority of the students are able understand the factual knowledge which they need before being able to process or use critical thinking related to the topic which they study.
2	I know what kind of information is most important to learn.
	22 students (who represent 67% of the sample, two-thirds of them) responded by choosing 'true'. 11 students (who represent 33% of the sample) responded by choosing 'false'. This means that most of the students have the knowledge about their skills, intellectual resources, and abilities.
3	I learn more when I'm interested in the topic.
	31 students (who represent 94% of the sample, the majority) responded by choosing 'true'. 2 students (who represent 6% of the sample) responded by choosing 'false'. This means that almost all the students obtain more knowledge when they are interested in the topic.
	Section Two: Procedural Knowledge
4	I try to use strategies that have worked in the past.
	21 students (who represent 64% of the sample) responded by choosing 'true'. 12 students (who represent 36 of the sample) responded by choosing 'false'. This means that the learners try to use the applications of knowledge for the purpose of completing a procedure or process.
5	I am aware of what strategies I use when I study.
	28 students (who represent 85%, the majority of the sample) responded by choosing 'true'. 5 students (who represent 15% of the sample) responded by choosing 'false'. This means that the majority of them know the process as well as when to apply process in various situations.
	Section Three: Conditional Knowledge
6	I learn best when I know something about the topic.
	28 students (who represents 85%, the majority of the sample) responded by choosing 'true'. 5 students (who represent 15% of the sample) responded by choosing 'false'. This means that most of the students can obtain knowledge through simulating their previous information with the new one.
7	I can motivate myself to learn when I need to.

	27 students (who represent 82%, the majority of the sample) responded by choosing 'true'. 6 students (who represent 18% of the sample) responded by choosing 'false'. This means that motivation is established among the students.
	Section Four: Planning Score
8	I pace myself while learning in order to have enough time.
	23 students (who represents 70% of the sample) responded by choosing 'true'. 10 students (who represent 30% of the sample) responded by choosing 'false'. This means that most of them are able to measure their cognitive abilities in studying the language.
9	I think about what I really need to learn before I begin a task.
	25 students (who represent 76% of the sample) responded by choosing 'true'. 8 students (who represent 24% of the sample) responded by choosing 'false'. This means that learners have the ability to evaluate their prior knowledge.
10	I ask myself questions about the material before I begin.
	21 students (who represent 64% of the sample) responded by choosing 'true'. 12 students (who represent 36% of the sample) responded by choosing 'false'. This means that meta-cognitive strategies are being used before studying a language related material.
11	I think of several ways to solve a problem and choose the best one.
	30 students (who represent 91% of the sample' the majority) responded by choosing 'true'. 3 students (who represent 9% of the sample) responded by choosing 'false'. This clarifies that the students can obtain the knowledge through discovery and problem solving.
	Section Five: Information Management Strategies
12	I slow down when I encounter important information.
	21 students (who represent 64% of the sample) responded by choosing 'true'. 12 students (who represent 36% of the sample) responded by choosing 'false'. This means that most of the students are able to classify the important information and take their time in studying.
13	I consciously focus my attention on important information.
	28 students (who represent 85% of the sample, the majority) responded by choosing 'true'. 5 students (who represent 15% of the sample) responded by choosing 'false'. This means that most of the learners have the capability to focus on the significant information.
14	I focus on the meaning and significance of new information.
	27 students (who represent 82% of the sample, the majority) responded by choosing the answer 'true'. 6 students (who represent 18% of the sample) responded by choosing 'false'. This illustrates that most of the students focus on the significance of the new information.
15	I create my own examples to make information more meaningful.
	29 of the students (who represent 88% of the sample, the majority) responded by choosing 'true'. While 4 students (who represent 12% of the sample) responded by choosing 'false'. This shows the majority's ability to simulate the information by creating examples for better understanding.
16	I draw pictures or diagrams to help me understand while learning.
	23 students (who represent 70% of the sample) responded by choosing 'true'. 10 students (who represent 30% of the sample) responded by choosing 'false'. This displays that most of the students use diagrams and pictures to facilitate the understanding.
17	I try to translate new information into my own words.
	29 students (who represent 88% of the sample) responded by choosing 'true'. 4 students (who represent 12% of the sample) responded by choosing 'false'. This means that most of the student are able to understand the new information by simplifying it into their own words.
18	I focus on over all meaning rather than specifics.
	22 students (who represent 67% of the sample) responded by choosing 'true'. 11 students (who represent 33% of the sample) responded by choosing 'false'. This shows that most of the students can understand the overall idea of any topic they're studying.
	Section Six: Comprehension Monitoring

19	I find myself pausing regularly to check my comprehension.
	26 students (who represent 79% of the sample) responded by choosing 'true'. 7 students (who represent 21% of the sample) responded by choosing 'false'. This illustrates that most of the students are able to understand their cognition.
20	I ask myself questions about how well I am doing while learning something new.
	23 students (who represent 70% of the sample) responded by choosing 'true'. 10 students (who represent 30% of the sample) responded by choosing 'false'. This illustrates that the majority of the students are able to measure their progress by asking themselves while learning something new.
	Section Seven: Debugging Strategies
21	I ask others for help when I don't understand something.
	27 students (who represent 82% of the sample, the majority) responded by choosing 'yes'. 6 students (who represent 18% of the sample) responded by choosing 'false'. This demonstrates that almost all the students apply the cooperative learning when facing any sort of difficulty.
22	I stop and reread when I get confused.
	27 students (who represent 82% of the sample) responded by choosing 'true'. 6 students (who represent 18% of the students) responded by choosing 'false'. This means that most of the students are aware of what they know and don't while learning.
	Section Eight: Evaluation
23	I know how well I did once I finish a test.
	31 of the students (who represent 94% of the sample, the majority) responded by choosing 'true'. 2 students (who represent 6% of the sample) responded by choosing 'false'. This confirms that the students are aware about their progress in learning.
24	I ask myself if there was an easier way to do things after I finish a task.
	25 students (who represent 76% of the sample) responded by choosing 'true'. 8 students (who represent 24% of the sample) responded by choosing 'false'. This shows that most students have a critical thinking in learning.
25	I summarize what I've learned after I finish.
	26 students (who represent 79% of the sample) responded by choosing 'true'. 7 students (who represent 21% of the sample) responded by choosing 'false'. This illustrates the students' analysis of performance and strategy effectiveness after a learning episode.

Table 3: Attitude – Metacognitive Strategies

Attitude towards Metacognitive Strategies								
Statements	Str. Disagree	Disagree		Neutral		Agree	Str. Agree	
	(-) ve attitude		%	Neu.att.	%	(+) ve attitude		%
1. I feel confident in using metacognitive strategies	10	2	36.4%	11	33.3%	7	3	30.3%
2. I believe that metacognitive strategies give me opportunity to acquire new knowledge	2	7	27.3%	10	30.3%	8	6	42.4%
3. I believe that metacognitive strategies enhance my learning experience	2	4	18.2%	11	33.3%	12	4	48.5%
4. I believe that evaluation is important feature of metacognitive strategies	2	3	15.2%	11	33.3%	9	8	51.5%
5. I believe that metacognitive strategies increase the quality of writing because it integrates all aspects of the writing process	3	1	12.1%	10	30.3%	15	4	57.6%
6. I believe that using metacognitive strategies allows to increase learners' skill in writing	1	1	6.1%	10	30.3%	18	3	63.6%
7. I would be interested in studying lectures that use metacognitive strategies	2	3	15.2%	7	21.2%	18	3	63.6%

1) I feel confident in using metacognitive strategies. 3 students strongly agreed, and 7 students agreed that they feel confident in using metacognitive strategies during the writing process. 11 student's responded neutral, 2 students disagreed, and 10 students strongly disagreed with the statement. It is crucial for the university students to improve their level of confidence if they have any plans to improve their performance and pursue higher studies.

2) I believe that metacognitive strategies give me opportunity to acquire new knowledge. 6 students strongly agreed, and 8 students agreed that metacognitive strategies give them an opportunity to acquire new knowledge during the writing process. 10 student's responded neutral, 7 students disagreed, and 2 students strongly disagreed with the statement. It is important for the students to be aware of and develop metacognitive strategies in learning process.

3) I believe that metacognitive strategies enhances my learning experience. 4 students strongly agreed, and 12 students agreed that metacognitive strategies enhance their learning experience in the process of writing. 11 students' responded neutral, 4 students disagreed, and 2 students strongly disagreed with the statement. It is quite obvious that the knowledge of metacognitive strategies will help the students to plan, monitor and evaluate themselves in their learning experience.

4) I believe that evaluation is an important feature of metacognitive strategies. 8 students strongly agreed, and 9 students agreed that evaluation is an important feature of metacognitive strategies in the process of writing. 11 student's responded neutral, 3 students disagreed, and 2 students strongly disagreed with the statement. Evaluation is an important feature of metacognitive strategies that is used while finishing a task/writing process and helps one to self-evaluate.

5) I believe that metacognitive strategies increase the quality of writing because it integrates all aspects of writing process. 4 students strongly agreed, and 15 students agreed that metacognitive strategies increase the quality of writing because it integrates writing process. 10 student's responded neutral, 1 student disagreed, and 3 students strongly disagreed with the statement. Metacognitive strategies increase the quality of writing because it integrates all aspects of writing which means that planning, monitoring, and evaluating are involved in the process. Planning is the process of selecting a particular metacognitive strategy before doing a task/writing process. Monitoring refers to one's awareness of comprehension and task performance. It is the process of metacognitive strategies that is used during any task/writing process. Evaluation process is to highlight strengths, correct performance weaknesses, and develop unused skills and abilities. In order to do this, one must be willing to recognize areas that need improvement or development.

6) I believe that using metacognitive strategies allows to increase learners' skill in writing. 3 students strongly agreed, and 18 students agreed that using metacognitive strategies allow for increased learners skill in writing. 10 student's responded neutral, 1 student disagreed, and 1 student strongly disagreed with the statement. It is indisputable that using metacognitive strategies allows to increase learners' skill in writing. Planning refers to the appropriate

selection of strategies and the correct allocation of resources that affect task performance. Monitoring increases students' awareness of their own behaviour. Self-monitoring produces positive results. Evaluating helps the students to identify their performance weaknesses and improve them.

7) I would be interested in studying lectures that use metacognitive strategies. 3 students strongly agreed, and 18 students agreed that they would be interested in studying lectures that use metacognitive strategies. 7 student's responded neutral, 3 students disagreed, and 2 students strongly disagreed with the statement. It is observed that university students should enrich their metacognitive abilities and the EFL writing instructors should be aware of metacognitive instruction to train the students to become self-regulated learners.

V. DISCUSSION

It is evident from the Table 2: Metacognitive strategies in writing inventory indicated a majority of the EFL learners do use metacognitive strategies in writing process. However, the level of using planning metacognitive strategies was not satisfactory among the university students. The students should focus to improve their planning metacognitive strategy before doing a task/writing process which refers to the appropriate selection of strategies and the correct allocation of resources that affect their task performance. The students should improve their self-monitoring skills which incorporate academic and social skills. This strategy in turn increases students' awareness of their own behaviour and produces positive results. However, the level of using evaluating metacognitive strategies was not satisfactory among the university students. The students should learn self-evaluating skills to know their strengths and areas (weaknesses) that need development.

The findings based on the EFL learners' responses in the Metacognitive strategies' inventory indicated that the level of using metacognitive strategies in writing process should be developed among the university students. The teachers should take necessary measures to improve the planning, monitoring, and evaluating metacognitive skills among the university students. They should train the students to develop the metacognitive skills based on their requirements. Hence, the teacher should plan for an intervention program like modeling metacognitive strategies in writing process.

It is visible from the Table 3: Attitude towards Metacognitive strategies that the EFL learners' responses in the Metacognitive strategies' inventory indicated a majority of the students do have positive attitude to use metacognitive strategies in writing process. However, only 30.3% of the sample expressed that they feel confident in using metacognitive strategies. It has been found that it is imperative for the university students to develop their level of confidence in using metacognitive strategies. 42.4% of the sample expressed that they believed that metacognitive strategies give them an opportunity to acquire new knowledge. 48.5% of the sample expressed that they believed that metacognitive strategies enhance their learning experience. 51.5% of the sample expressed that they believed that evaluation is important feature of metacognitive strategies. 57.6% of the sample expressed that they believed that metacognitive strategies increase the quality of writing because it integrates all aspects of the

writing process. 63.6% of the sample expressed that they believed that using metacognitive strategies allows to increase learners' skill in writing and 63.6% of the sample expressed that they would be interested in studying lectures that use metacognitive strategies.

As stated earlier, the first research question was to categorise what metacognitive writing strategies the EFL learners use in writing to plan, monitor and assess their learning. It is apparent from all the Tables 2 & 3 that the learners' responses in the Metacognitive strategies inventory indicated a majority of the students do use metacognitive strategies in writing process.

The second research question was to identify the EFL learners' attitude towards the use of metacognitive writing regulation strategies in writing process. It is clear from the Table 3: Attitude towards Metacognitive strategies that the students' responses in the Metacognitive Strategies inventory indicated that a majority of the students do have positive attitude to use metacognitive strategies in writing process.

It is noteworthy to mention that the findings of the present study overlap with what have been examined by earlier researchers. There is an impact of metacognitive strategies on EFL learners use in writing process and they have used planning, monitoring, and evaluating metacognitive strategies to a certain extent in their tasks. This finding has been in line with the research studies of Farahian, M. (2015), Azizi, M., Nemati and Estahbanati, N (2017), Zehua Wang and Feifei Han (2017) and Ramazan Goctu (2017). It is significant to state that the finding, the sample expressed positive attitude towards the use of metacognitive writing regulation strategies in writing which has been supported by Hanieh Garmabi and Gholamreza Zareian (2016) and Khikmah, Nina Amelia Nurul (2018). The findings, educational implications of the study and suggestions to EFL teachers have been presented and certain aspects for further exploration have also been suggested.

A. Findings of the Study

The significant findings from the Tables 2 & 3 which emerged in the course of investigation are as follows:

1. A majority of the students do use metacognitive strategies such as planning, monitoring, and evaluating in writing process.

2. A preponderant number of the students do have positive attitude to use metacognitive strategies in writing process.

B. Educational Implications

The present project is a significant attempt in the direction of assessing metacognitive strategies in writing process. The results and findings would be quite useful for EFL teachers. Some of the educational implications derived from the findings of the study:

1. The study has revealed the fact that assessing metacognitive strategies of EFL learners' and then, providing instructions can help the students maintain and increase their interest in writing process.

2. The study makes crystal clear that the metacognitive strategies are more effective to improve the writing process among the students.

3. To develop self-instructional material for the students.

4. The EFL teachers are suggested to take steps to diagnose the different kinds of problems faced by the students and make use of the metacognitive teaching strategies so as to improve their English writing.

5. Training programs should be organized to improve the standards of teaching English based on metacognitive strategies among the existing EFL teachers.

C. Recommendations to EFL Teachers

Chris Drew (2019) opined that the metacognitive strategies involve reflection on and regulation of how one thinks. One can control not only thoughts but also one's actions in an effective way. When learners "think about their thinking" they are more capable of self-improvement. When students apply metacognitive strategies, they become better learners. Metacognitive strategies can be learned, practiced, and made into habits in order to improve learning, studying, and thinking skills into the future. He suggested a list of metacognitive strategies as teaching strategies to help students learn better. They are:

1. Self-questioning

2. Meditation

3. Reflection

4. Awareness of strengths and weaknesses

5. Awareness of learning styles

6. Mnemonic devices

7. Writing the way, one works

8. Thinking aloud

9. Graphic organizers

10. Regulation checklists

11. Active reading strategies

12. Active listening strategies

13. Action plan

Metacognition is an important concept in cognitive theory. Metacognitive activities occur before or after cognitive activity. Metacognitive strategies help students to think about thinking. The findings of the research studies in this area have shown that metacognition is an important aspect of learning strategies. The results of this study will help the teachers to

support, facilitate and train the students to become autonomous learners so that the students will be able to achieve academic/research writing skills based on critical thinking skills.

D. Suggestions for further research

1. To equip the students with a more efficient approach to writing, a writing lab should be established and efficiently utilized to facilitate and supplement the writing process and assessment. The findings will be useful for providing materials in the writing lab where the prospective students can equip themselves with higher language proficiency.

2. In a broader context, the research findings suggest that if students practice frequently, they will eventually be able to write well in English. If these findings can be generalized, it will greatly benefit the English language teaching and learning process in the near future.

3. Replication of the study may be done with different samples in other professional courses.

VI. CONCLUSION

Summing up this study, the researcher has observed that university students should enrich their metacognitive abilities and the EFL writing instructors should be aware of metacognitive instruction to train the students to become self-regulated learners. The present study is an ardent effort and clearly indicated that English teachers should take up the responsibility to train Saudi students in enhancing metacognitive abilities in English to prepare them for future to meet personal, professional, communicative, and global challenges.

References

1. Anne Beaufort (2007) College Writing and Beyond: A New Framework for University Writing Instruction. https://www.jstor.org/stable/j.ctt4cgnk0

2. Azizi, M., Nemati, A. & Estahbanati, N. (2017). Meta-Cognitive Awareness of Writing Strategy Use among Iranian EFL Learners and Its Impact on Their Writing Performance. International Journal of English Language & Translation Studies. 5(1), 42-51.

3. Brinol, Pablo (2012), Social Metacognition, Psychology Press, pp 21-42, 42-62.

4. Brown, A. (1987). Metacognition, executive control, self-control, and other mysterious mechanisms. In F. Weinert and R. Kluwe (Eds.), Metacognition, Motivation, and Understanding (pp. 65–116). Hillsdale, NJ: Erlbaum.

5. Carr, S.C. (2002). "Assessing learning processes: Useful information for teachers and students". Intervention in School and Clinic. **37** (3): 156–162, doi:10.1177/105345120203700304.

6. Chamot, A. (2005). The Cognitive Academic Language Learning Approach (CALLA): An update. In P. Richard-Amato and M. Snow (eds), Academic Success for English Language Learners (pp. 87–101). White Plains, NY: Longman

7. Chris Drew (2019). 13 Examples of Metacognitive Strategies https://helpfulprofessor.com/metacognitive-strategies/

8. Cindy Perras (2014). Metacognitive Strategies or "Thinking about my Thinking" https://www.ldatschool.ca/metacognitive-strategies-or-thinking-about-my-thinking/

9. Cohen, Marisa (1 December 2012). "The Importance of Self-Regulation for College Student Learning". ingentaconnect.com. Retrieved 31 January2020.

10. Davis, D. 2005. Business Research for Decision Making, Australia, Thomson South-Western. https://hal.archives-ouvertes.fr/hal-02546796/document

11. Farahian, M. (2015). Assessing EFL learners' writing metacognitive awareness. Journal of Language and Linguistic Studies, 11(2), 39-51.

12. Flavell, J.H. (1979). "Metacognition and cognitive monitoring. A new area of cognitive-development inquiry". American Psychologist. **34** (10):906–911. https://www.researchgate.net/publication/325541946

13. Fox E and Riconscente M. (2008). Metacognition and Self-Regulation in James, Piaget and Vygotsky. Education Psychology Review 20:373-389. https://poorvucenter.yale.edu/MetacognitioninClassrooms

14. Gammil,   D.   (2006).   "Learning   the   Write   Way". The   Reading   Teacher. **59**(8):   754–762. doi:10.1598/RT.59.8.3.

15. Garner, R (1990). "When children and adults do not use learning strategies: Toward a theory of settings". Review of Educational Research. 60 (4): 517–529. doi:10.3102/00346543060004517.

16. Gourgey, A.F. (1998). "Metacognition in basic skills instruction". Instructional Science. 26: 81–96. doi:10.1023/A:1003092414893.

17. Hanieh Garmabi and Gholamreza Zareian (2016), EFL Teachers' Attitudes towards the Effectiveness of Metacognitive Strategies Used by High School Students, International Journal of Learning & Development ISSN 2164-4063 2016, Vol. 6, No. 1, Doi:10.5296/ ijld.v6i1.9124 URL: http://dx.doi.org/10.5296/ ijld.v6i1.9124

18. Hartman, 2001. In H. J. Hartman (Ed.) 2001 Metacognition in Learning and Instruction: Theory, Research, and   Practice.   Dordrecht,   The   Netherlands: Kluwer   Academic   Publishers.pp.33-68 https://www.researchgate.net/publication/274710464_Developing_Students'_Metacognitive_Knowledge_a nd_Skills

19. Jacobs, J.E.; Paris, S.G. (1987). "Children's metacognition about reading: Issues in definition, measurement, and instruction". Educational Psychologist. **22** (3–4): 225–278. doi:10.1080/00461520.1987.9653052.

20. Khikmah, Nina Amelia Nurul. (2018). Metacognitive Strategies Awareness among EFL Learners in Proposal Writing. http://digilib.uinsby.ac.id/22761/2/Nina%20Amelia%20Nurul%20Khikmah_D05213022.pdf

21. Marsha   Lovett,   (2008).   Metacognition   Importance   and   Overview,   https://www.moedu-sail.org/lessons/metacognition-importance-overview/

22. Lovett, 2008. Teaching Metacognition: Presentation to the Educause Learning Initiative Annual Meeting, 29 January 2008. https://serc.carleton.edu/NAGTWorkshops/metacognition/teaching_metacognition.html

23. Lovett,   2008.   Cultivating   Reflection   and   Metacognition. https://lsa.umich.edu/sweetland/instructors/teaching-resources/cultivating-reflection-and-metacognition.html

24. Metcalfe, J., & Shimamura, A. P. (1994). Metacognition: knowing about knowing. Cambridge, MA: MIT Press.

25. Miller, Tyler M.; Geraci, Lisa (1 December 2011). "Training metacognition in the classroom: the influence of   incentives   and   feedback   on   exam   predictions". Metacognition   and   Learning. **6** (3):   303–314. doi:10.1007/s11409-011-9083-7. ISSN 1556-1631.

26. Pressley, M; Borkowski, J.G.; Schneider, W. (1987). "Cognitive strategies: Good strategy users coordinate metacognition and knowledge". Annals of Child Development. **5**.

27. Reynolds, R.E. (1992). "Selective attention and prose learning: Theoretical and empirical research". Educational Psychology Review. **4** (4): 345–391. doi:10.1007/BF01332144.

28. Ramazan Goctu (2017), Metacognitive Strategies in Academic Writing, Journal of Education in Black Sea Region Vol. 2, Issue 2, 2017 Ph.D., International Black Sea University, Tbilisi, Georgia. E-mail: rgoctu@ibsu.edu.ge

29. Rhema, Amal and Iwona Miliszewska, (2014) "Analysis of Student Attitudes towards E -Learning: The Case of Engineering Students Libya," Issues in Informing Science and Information Technology, 11, 188. https://www.informingscience.org/Publications/1987?Source=%2FJournals%2FIISIT%2FArticles%3FVolume%3D0-0

30. Schneider, W; Artelt, C. (2010). "Metacognition and mathematics education". ZDM Mathematics Education. **42** (2): 149–161. doi:10.1007/s11858-010-0240-2.

31. Schraw, Gregory (1998). "Promoting general metacognitive awareness". Instructional Science. 26: 113–125. doi:10.1023/A:1003044231033.

32. Schraw, G., & Dennison, R. S. (1994). "Assessing metacognitive awareness". Contemporary Educational Psychology, 19(4), 460–475. https://doi.org/10.1006/ceps.1994.1033

33. Tinberg, Howard (2015), "Reconsidering Transfer knowledge at the Community College: Challenges and Opportunities". Teaching English in the Two-Year College 43.1: 7-31. https://collegecompositionweekly.com/2015/11/16/tinberg-howard-transfer-at-community-colleges-tetyc-sept-2015-posted-11162015/

34. Watanabe-Crockett, L. (2018). The Best Self-Assessment Questions for Encouraging a Growth Mindset. [online] Global Digital Citizen Foundation. Available at: https://globaldigitalcitizen.org/self-assessment-questions-growth-mindset.

35. Watanabe-Crockett, L. (2017). 5 Ways to Encourage Best Self-Assessment Practices Among Learners. [online] Global Digital Citizen Foundation. Available at: https://globaldigitalcitizen.org/5-best-self-assessment-practices.

36. Watanabe-Crockett, L. (2017). 25 Self-Reflection Questions to Get Students Thinking About Their Learning. [online] Global Digital Citizen Foundation. Available at: https://globaldigitalcitizen.org/25-self-reflection-questions.

37. Watanabe-Crockett, L. (2018). 10 Top Self-Evaluation Tips for Every Learner's Success. [online] Global Digital Citizen Foundation. Available at: https://globaldigitalcitizen.org/10-self-evaluation-tips.

38. Wenden, A. (1991). Learner Strategies for Learner Autonomy. London: Prentice Hall.

39. Wenden, A. L. (1987). "Metacognition: An expanded view on the cognitive abilities of L2 learners". Language Learning. **37** (4): 573–594. doi:10.1111/j.1467-1770.1987.tb00585.x.

40. Zehua Wang and Feifei Han (2017), Metacognitive Knowledge and Metacognitive Control of Writing Strategy between High- and Low-performing Chinese EFL Writers, Theory and Practice in Language Studies, Vol. 7, No. 7, pp. 523-532, ISSN 1799-2591, DOI: http://dx.doi.org/10.17507/tpls.0707.04

41. Zhang, L. J. (2001). Awareness in reading: EFL students' metacognitive knowledge of reading strategies in an input-poor environment. Language Awareness, WWW, 11 (4), 268–288.

42. Zhang, L. J. (2010). A dynamic metacognitive systems account of Chinese university students' knowledge about EFL reading. TESOL Quarterly, WWW, 44 (2), 320–353.