

Exploring the effect of metacognitive strategies on writing performance

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Abstract

Among all the learning strategies, metacognitive strategy is a higher-order executive skill. Once learners have a good command of a metacognitive strategy, they will become more independent and autonomous and will be more capable of planning, monitoring and evaluating their learning process and thus become efficient learners. This research aims to investigate whether secondary students at the Almazar Schools use metacognitive learning strategies (MLS) in their writing performance and they are aware of them; also, to find out whether their teachers provide the development of MLSs in the classroom. In a class of 22 students, just 10 volunteered to respond the interview questions. The findings showed that only less than half of the participants used were aware of MLS. This paper, therefore, intends to introduce metacognitive instruction in order to raise English as a Foreign language writing instructors' awareness in teaching and in order to train students to become self-regulated learners.

Keywords: Metacognitive strategies, writing performance, planning writing, monitoring writing, evaluating writing.

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1. Introduction

Writing is a difficult and important skill among English language skills to be mastered in learning English as a foreign language (EFL). Rinnert and Kobayashi (2009) posit writing in a second language is a complex, challenging and difficult for students to acquire. It will be considered as difficult and complex when writing includes the discovering of proposition or an idea. With the idea, the writing will develop support for it and later organising and revising. Finally, writing will go through the process of editing to ensure its effectiveness and error-free piece of writing. Looking into educational perspective, literature has supported the notion that writing has a significant impact on students' academic performance (Al-Mekhlafi, 2011). Even where the role of writing is accepted as important, yet teachers often neglected the domain, particularly in secondary schools in Jordan (Rababah & Melhem, 2015).

Having understood the importance of writing, what is missing among the Arab students, especially the Jordanians, is the adaption of relevant strategies to enhance better writing skills of English language. This informs the necessity and application of strategies that can enhance writing skills. According to Moore (2014), by learning strategies, students can be groomed to understand the importance of writing skills and thus continue to employ the strategies appropriately in order to accomplish their writing tasks. Various findings have shown that learning strategies lead to increase EFL learning motivation (Rababah & Melhem, 2015) and it can enable students to become more autonomous, lifelong learner.

Substantiating this, studies from Okasha and Hamdi (2014) and Surat, Rahman, Mahamod and Kummin (2014) affirm that the missing of good strategies and techniques in teaching and learning among the EFL students has been the cause of poor performance in writing skills. Nevertheless, there are several strategies that have been propounded for effective learning and writing skills which include collaborative, cognitive, affective and social strategies (Al-Besher, 2012; Alharthi, 2012; Conley, 2014). The metacognitive strategy is a higher-order executive skill. The strategy includes planning, monitoring and evaluating. This can be seen when once learners have a good command of metacognitive strategy, they will be more independent and autonomous. The learners will be more capable of making plans, monitor and evaluate their learning process and thus at the end of the day will become efficient learners.

Although there are many elements towards learning strategies, the thrust of this study is built on meta-cognitive. As a matter of fact, meta-cognitive process is not peculiar in Arab countries and this study believes that bringing such strategies in learning method can enhance good writing and communication skills among Arabian countries with particular reference to Jordan (Ayele, 2014; Surat et al., 2014). The metacognitive strategies could be said to be the significant and more viable tool of improving students learning skills (Bavand Savadkouhi & Zekavati, 2014; Panahandeh & Asl, 2014). According to Hargrove and Nietfeld (2015), learners can be better in terms of proper planning, monitoring, and evaluation and practical of learning skills with the application of metacognitive strategies which makes students become better learners. In a nutshell, this study looks towards enhancing writing skill using meta-cognitive strategy among Arab students and Jordanian secondary school students in particular.

Teaching metacognitive strategies to students is one of the contributing methods employed to help students to overcome writing problem. Panahandeh and Asl (2014) proclaim that for the development of cognitive psychology, metacognition has attracted researchers' attention and therefore provides new perception in EFL writing. It is expected that the proposed integrated cognitive learning module of writing performance will encourage students to be aware of their own cognitive processes and motivate them both intrinsically and extrinsically and help students to develop the ability to monitor and to regulate their strategic approaches to learning. It is also expected that the implementation of the writing module will help students to overcome or reduce the foreign language (FL) anxiety. Moreover, the proposed intervention writing guide module will provide a guideline to Jordanian

teachers for effective teaching and learning and by the way the Jordanian students are also expected to benefit from it to be a self-reflective and to be aware of the processes of writing which, in turn, encourage students to be creative, a good problem solver and will be able to create diverse ways in organising the task systematically.

2. Literature review

2.1. Writing skill

Writing is a complex cognitive activity that involves synchronic attention at multiple levels: thematic, paragraph, sentence, grammatical and lexical writing and it has been internationally recognised as a sign of competency (Buyukyavuz & Cakir, 2014). It is a skill acquired beyond the production of graphic symbols as a speech is more than the production of sounds. According to Dockrell, Connelly, Walter and Critten (2015), writing is a process as well as product, requiring creativity, concentration and determination. It is regarded as one of the productive language skills, requiring learners to produce the language they have learned.

Moreover, writing is considered as a primary language skill among the four main skills of the language that comprises writing, reading, speaking and listening (Ahmed & Rajab, 2015; Richards & Rodgers, 2014). Yuan-bing (2011) claims that the most difficult output ability for an EFL learner to master is writing competence. It is the ultimate method through which the performances of students are assessed. The students' poor writing skills have been identified among the major factors causing students' failures in English language examinations, especially in the contexts where English is learned as English as Second Language (ESL) or EFL. It is one of the most problematic areas in language learning (Panahandeh & Asl, 2014). As an applied phenomenon, poor writing skills affect the performance of students not only in English but also in almost all the subjects (Grabe & Kaplan, 2014).

Furthermore, writing is one of the four skills of English language which must be taken into consideration and must not be neglected (Al-Khasawneh & Huwari, 2013; McCarthy & Carter, 2014). Most importantly, writing is considered as a working tool for language, creativity development and extension for learning in all disciplines (Abdul Rahman, 2013). Hyland (2015) postulates that writing is a process where writers explore their thoughts and ideas and making them visible to read. Good writing should include issues, for instance, spelling, punctuation, mechanics, vocabulary, content, organisation, purpose and most importantly, the audience. The difficulty in writing good English among the non-native students can be attributed to lack of mastery of language (Jahin & Idrees, 2012).

In addition, writing is a complex process that allows learners to explore thoughts and make them visible and concrete. It encourages thinking and learning because it motivates communication and makes ideas available for reflection (Mohamed & Zouaoui, 2014). Students often regard writing as a challenging communicative act, which not only requires their cognitive and metacognitive engagement but also demands their motivational control to sustain their effort in learning to write (Teng & Zhang, 2016). In line with the evolution of research in the area of metacognition in education, there is a growing need for the better understanding the nature of the construct in FL teaching, especially writing skill (Maftoon, Birjandi & Farahian, 2014).

Thus, developing writing skills, for many FL learners and teachers, is not an easy task nor can it be adequately accomplished in a short period of time. Writing is considered as a fundamental skill in education which consists of benefits towards learners. Written texts are of critical importance in shaping academic careers in English language speaking countries (Buyukyavuz & Cakir, 2014). It lays our ideas for examination, analysis and thoughtful reaction. Therefore, it needs to be written effectively 'using correct form' to communicate with others (Grabe & Kaplan, 2014). Most studies in SL/FL contexts regard writing as the most difficult of all of the four skills of language to acquire and a

complex task to perform. The difficulty in writing lays not only in generating and organising ideas but also the process of transferring these ideas into a readable and understandable text.

2.2. Metacognitive

Metacognition is thinking about thinking. It is an increasingly useful mechanism to enhance student learning, both for immediate outcomes and for helping students to understand their own learning processes. So, metacognition is a broad concept that refers to the knowledge and thought processes regarding one's own learning. Importantly, there is research evidence (Ahmed & Rajab, 2015) that metacognition is a teachable skill that is central to other skills sets, such as problem-solving, decision-making and critical thinking. Reflective thinking, as a component of metacognition, is the ability to reflect critically on learning experiences and processes in order to inform future progress.

In addition, metacognition refers to higher order thinking, which involves active control over the cognitive processes engaged in learning. It encompasses activities such as planning how to approach a given learning task, monitoring our comprehension of the task and evaluating progress towards the completion of a task. In other words, metacognition refers to the process of considering and regulating one's own learning. In writing, this means the writer can think critically about his own understanding as he goes. The writer is aware of her own cognitive experience. Metacognitive learning strategies (MLS) encourage students to become more conscious of their thinking and mental processing to go from memorising material to more deeply understanding what they are learning (Morari, 2017; Teng & Zhang, 2016).

Furthermore, metacognitive strategies have been recognised as a feature of expert response to problem-solving in general, as well as of expert writing (Harris, Santangelo & Graham, 2010). Proficient writers are more consciously aware of what they write, they make more decisions about planning and regulating as they write and they are more likely to self-evaluate their writing as they write than inefficient writers. To clarify the role of metacognitive strategies in writing, it is important to consider the relationship between cognitive and metacognitive strategies which a strategic writer employs. Hence, an efficient writer uses a wide range of cognitive strategies for completing the writing tasks. Cognitive strategies have been designed to help learners achieve their cognitive goal (Olson & Land, 2007). Examples of cognitive strategies for writing might include brainstorming ideas, formulating an outline, doing the prewriting, writing the first draft, writing effective sentences or editing for grammatical errors. In contrast to cognitive strategies, metacognitive strategies have been designed to monitor cognitive progress. Student writers employ metacognitive processes or strategies to orchestrate their engagement in the writing process (Morari, 2017).

Moreover, metacognitive strategies for writing might include analysing the writing task to determine what is required, making plans in accordance with writing strategies to use in a given writing task (e.g., determining whether brainstorming is necessary), monitoring the success (e.g., judging whether sufficient ideas were generated during brainstorming) and selecting remedial strategies (e.g., deciding that more research is needed to gather ideas). In a brief, strategic writers (and learners) use cognitive strategies to achieve a particular writing goal and metacognitive strategies to ensure that the cognitive writing goal has been met (Hacker, Keener & Kircher, 2009). In this context, efficient writers may shift between cognitive and metacognitive activities while performing the writing tasks. Therefore, teachers should help students develop metacognitive strategies to become efficient writers.

Henceforth, in the present study, instead of proposing a list of teaching strategies and activities, the researcher would like to suggest metacognitive writing module guidelines for EFL writing instructors who plan to teach metacognition in their writing classrooms. In addition, the present study will include CALLA instruction to organise the lesson plan implementation. For instance, when practicing writing module instruction in the classroom, EFL writing teachers can adopt teacher modelling, thinking-aloud, self-questioning and cooperative learning at the same time. Second, a creative teacher can

design and develop more and new activities by following the guideline without being restricted by a limited set of activities.

2.3. Metacognitive strategies

Literature has identified three core procedures of metacognitive, namely planning, monitoring and evaluating. Sub-sections below elaborate on these three.

2.4. Planning

Planning is one of the unique strategies in metacognitive towards improving learning. The adoption of planning as a strategy enhances students' goals and how the goals can be effectively accomplished (Danielson, 2011). Given this, proper learning with sensible use of resources that can have an effect on performance can be obtained. In essence, planning includes setting of goals, reading of relevant materials, questioning and task analysis. So, students plan their learning in order to have a perfect learning environment. This way, they are able to focus on learning and develop strategies that are appropriate and suitable for them (Suskie, 2018). In other words, planning entails adoption of strategic methods in the allocation of resources towards influencing performance and selecting strategies appropriately and allocating resources correctly in order to impact task performance in a positive way. As rightly observed by Steiner (2010), before any task can be effectively accomplished, predictions can be made before writing, strategy sequencing and allocating time. Kellogg (2008) study focuses on in-depth analysis of the distinction between quality and poor writing. From the findings, more experienced writers are better in planning effectively regardless of text 'content,' whereas poor writers are unable to do so. These findings are significant to the developmental sequence obtainable in regulatory metacognition (Stronge, 2018; Magnifico, 2010).

Furthermore, at the planning stage, students think ahead to upcoming assignments and identify what tools, skills, knowledge and resources that already have and what they will still need to acquire in order to get the work done. They also set goals for the tasks and develop strategies for achieving those goals such as determine the target and determine the nature of the problem, choose the implementation strategy, arrange and sequence operations and steps, identify potential obstacles and errors, identify methods of coping with difficulties and errors and predicting desired or expected outcomes. Moreover, planning is important, as well for students to build self-confidence and effort through planning technique in order to be more responsible towards learning. Teachers can teach and guide students to set up their goals and make a proper plan. With this, students can think about what they need and how it can be achieved. However, explicit of the goals should be the target of the teachers in order for the students not to be misguided. The clearer the goal is, the higher the possibility of students' accomplishment. For instance, students in an EFL writing class might make plans such as organising ideas, preparing an outline and deciding on the techniques in order to produce a quality writing (Panahandeh & Asl, 2014).

In line with contending issues about the planning strategies, the present study will employ brainstorming techniques. Brainstorming is a useful technique that helps learners to know whether they have few ideas or too many. It can help them to know how to organise their thought before they put a pen on a paper. It refers to quickly writing down or taking inventory of learner thoughts as fast as they come to him. Brainstorming is aimed at enumerating ones thought and is not aimed at evaluating that (Fawzi & Hussein 2013).

In addition to the above, Fawzi and Hussein (2013) list five ways involved during brainstorming: cubing, freewriting, listing, mapping and researching. Cubing is a critical-thinking exercise to help students express their thoughts in opinion essays. A similar technique is to explore three perspectives. First, to describe the topic, features, constituent parts and challenges, and also to compare and contrast it with other topics those are similar. Second is to trace the history and influences and evolution. Third is to map the topic to similar topics. According to this, learners will try writing freely.

This way, learners will express more ideas while writing. New ideas will pop up and learners will add to the original writing. By jotting all the extra ideas in another piece of paper will help learners in adding it later on. In addition, the learners' writing will be full of new ideas and learners will be happy and content with the outcome. Graphics, colour-coded circles or underlines and sourcing of references will be added in such a way so that the writing will be more readable.

In this stage, the researcher will help the students before starting writing task to use a planning strategy to make them understand how to plan their writing performance. In addition to that, the researcher will guide students to apply planning strategies by using the writing module that designed by the researcher to improve the writing performance among EFL learner in Jordanian secondary school. In addition, the researcher will use CALLA model to organise the lesson plan for the time period of implementation of writing guide module in classroom.

2.5. Monitoring

Monitoring connotes a process of comprehensive awareness and a follow-up towards delivering a task. In research, monitoring goes with the ability to develop the students in a gradual process (Kazemi, Franke & Lampert, 2009). However, several contemporary studies have found a strong connection between metacognitive knowledge and monitoring accuracy. In the work of Pearson (2014), the ability of adults to estimate how efficient they would understand a passage prior to reading was related to monitoring accuracy subjected to a post-reading comprehension test. Similarly, studies by Hoffman and Spatariu (2008) examined fifth and sixth-grader's ability to solve computer problems. Three groups involved in this study and the results showed that the monitored problem-solving group solved more difficult and complex problems faster than the other remaining groups. According to Andrade and Cizek (2010), monitoring involves supervision of progress being made in the process of achieving a goal and performance. It is also needed to keep track learning process. With the aid of monitoring, understanding students' challenges in comprehension can be ascertained and how they can be tackled effectively (Sun, 2013).

Moreover, at the monitoring stage, students check in with teacher (and/or themselves) during the course of their work and report how things are going and where they might need to adjust or adopt new strategies. (This kind of reflection during a task is often referred to as 'reflection-in-action'.) Students have indicated that these kinds of exercises often lead to the most productive reflection and learning opportunities such as keeping the target in focus, maintain sequence of processes and steps, know when each sub-goal is achieved, being aware of one's comprehension and task performance, select when to move to the next step, discover difficulties and mistakes and learn how to overcome difficulties and mistakes.

Moreover, at the monitoring stage, students tend to refer to the teacher for confirmation. They will report or ask questions pertaining to their writing. They are unsure of their writing and they will develop learning strategies in order to have a perfect writing. On the other hand, they might also adjust to new strategies for this reflection exercise will create learning opportunities (McMullen, 2009; Isaacson & Fujita, 2006). Besides, the application of the above strategy by students needs to be verified through proper understanding of its usefulness in achieving the targeted purpose. Jahin and Idrees (2012) claimed that background information is important for a person to write good quality writing. Students will be recapped with strategies while writing and they will create new strategies while writing. This way, students will learn at their own paces and they will find the purpose of writing themselves.

Consequently, at this stage, the researcher will help the students during starting writing task to use a monitoring strategy to make them understand how to monitor and control their writing performance. Also, the researcher will guide students to apply monitoring strategies by using the writing module that is designed by the researcher to improve the writing performance among EFL

learner in Jordanian secondary school. In addition, the researcher will use a CALLA model to organise the lesson plan for the time period of implementation of writing guide module in the classroom.

2.6. Evaluating

Evaluation refers to the process of determining the effectiveness of a given strategy in achieving the organisational objectives and taking corrective action wherever required. Evaluation is the final step of strategy management process of the task. The key evaluation activities are examining the underlying bases of a task strategy, comparing actual results with expected results and taking corrective actions. Evaluation makes sure that the organisational strategy, as well as its implementation meets the organisational objectives. Strategy evaluation is as significant as strategy formulation because it throws light on the efficiency and effectiveness of the comprehensive plans in achieving the desired results. In the evaluating stage, students look back on the work they have done and reflect on the strategies, tools, resources and/or processes that they have gone through. Schmitz, Kawahara-Baccus and Johnson (2004) stated that reflection is transfer when it is being carried out or in other words 'reflection-on-action'.

Furthermore, evaluation simply connotes appraisal of a policy implementation. With evaluation, a policy or strategy adopted towards achieving a purpose can be examined and appraised whether it meets up with the peoples' expectation. In learning, evaluation serves as a form of regulation which assists in re-evaluating a person's goals and conclusions. Numerous numbers of studies focused on metacognitive knowledge and regulatory skills. McNamara, Crossley and McCarthy (2010) claimed that in text revision found that poor writers were not able to adopt as compared to good writers. Good writers used the 'knowledge transforming' model, while poor writers used a 'knowledge-telling' model (Bereiter & Scardamalia, 2013).

Moreover, evaluating refers to the last process of examining and grading the outcome of a task and the strategies used during the learning process (Sun, 2013). Evaluating is related to monitoring where teachers will play an important role. For instance, when the learner does not understand the task, he would rewrite that paragraph. When the learner is confused, he would skip the question and find the easier ones (Tsai, 2009). Not only that, evaluation is intended to showcase how efficient a task is and what is the level of accomplishment such task has achieved. Evaluation is connected with monitoring and the latter usually influences the former. To evaluate the outcome of students' learning, El-Koumy (2016) suggested that teachers have the students who can respond thoughtfully to the following questions: (1) what am I trying to accomplish?; (2) What strategies am I using?; (3) How well am I using them?; (4) What is the outcome? and (5) What else could I do?. When the students answer these questions, they will be able to reflect their process of learning. They will be able to identify the success of writing and strategies that they have used during the writing process. On the other hand, the monitoring strategies will correspond to the evaluation.

Henceforth, at the evaluating stage, students look back on the work they've done and reflected on the strategies, tools, resources and/or processes that served them well. They should also think about what didn't work as effectively, what they learned in the process, what they achieved and how they might translate or 'transfer' the experiences, skills and knowledge gained to another context. This kind of reflection is often referred to as 'reflection-on-action (Burhan-Horasanli & Ortactepe, 2016). There are some important steps students need to follow in this stage: evaluate the extent to which the goal is achieved; to judge the accuracy and efficiency of the results, evaluate the appropriateness of the methods used, assessing the product of a task, as well as the efficiency at which the task was performed; this may include a re-evaluation of the strategies used. Assess how to address obstacles and errors, evaluate the effectiveness and implementation of the plan.

Moreover, at this stage, the researcher will help the students after they completed writing task to use an evaluation strategy to make them understand how to assess their writing performance. Also, the researcher will guide students to apply evaluation strategies by using the writing module that

designed by the researcher to improve the writing performance among EFL learners in Jordanian secondary school. In addition, the researcher will use a CALLA model to organise the lesson plan for the time period of implementation of writing guide module in classroom.

2.7. Research on the application of metacognitive strategies for teaching writing

Only few studies are done nowadays dealing with the application of metacognitive strategies for the development of writing skills (research dealing with reading and listening skills prevails). Recently, some research has been held concerning the application of metacognitive strategies for teaching writing.

According to Sahli and Abderrahim (2018) who conducted a study to investigate the efficiency of implementing metacognitive strategies via the use of the Process Approach in EFL writing classes to develop the students' written production, two main tools are used which are the teachers and the students questionnaires, and a quasi-experimental research (pretest and posttest). During the experimental study, the researcher used metacognitive strategies and taught the participants in the experimental group how to use them in their writing skill. Through this study, the researcher has attempted to create a motivating environment and aid the learners to write essays following the different recursive stages of the Process Approach as a metacognitive strategy. However, the participants in the control group did not receive any treatment during their writing practice. The results show that the written compositions of the experimental group are highly improved compared to the control group.

A research conducted by Mekala, Shabitha and Ponmani (2018) investigated the role of metacognitive strategies in promoting effective English writing. The data were collected from 27 Indian ESL learners using strategy questionnaire, writing tasks and classroom observation. It is found that successful employment of metacognitive strategies facilitates to meet the challenges in writing in producing comprehensive content. The results of the differential and correlation analysis reveal that the employment of effective metacognitive strategies has significantly correlated with the development of writing skills. Suitable activities should be planned by teachers or educators in order to raise the interests of the students to learn and they tend to focus on the lessons. Farahian and Avarzamani (2018) sought the differences between more and less proficient EFL writers regarding their metacognitive awareness of writing (MAW). Also, it examined the relationship between MAW and EFL writing success. The researcher used a validated MAW questionnaire for a comprehensive evaluation of the writers' metacognitive awareness. The results demonstrated that skillful EFL writers benefit from higher metacognitive awareness. Furthermore, we found that metacognitive awareness (and its sub-categories) is positively correlated with writing proficiency, except for avoidance strategy which showed a negative correlation. The mixed design of this study, which is a part of a larger project, would help researchers to gain new insights into the role of metacognitive awareness in EFL writing success.

A study was done by Shalini Radha (2018) aimed to provide an insight into the link between metacognitive strategies employed by Malaysian students in learning ESL for writing and the argumentative features found in students' argumentative essays. In addition, the study also aimed to explore the various types of metacognitive strategies that are utilised by two different groups of students, namely, the students who attained high score and the students who attained low scores in their argumentative essay writing and to explore the argumentative features found in the argumentative essays of both groups of students. The findings revealed metacognitive strategies enable students to plan, monitor and evaluate their writing.

On the other hand, Orozco Vaca (2018) investigated the effect of teaching intervention that explored the use of writing as a metacognitive tool in high school geometry problem-solving. Specifically, this qualitative research study investigated how explicit writing directives can help students understand, organise and monitor the steps involved in the different phases of activities for

geometry problem-solving in the third year of secondary school. Possible gains of the intervention are assessed by comparing the performance of students who participated of the intervention with that of students who did not. Also, Tyfekci and Dujaka (2018) investigated the effectiveness of metacognitive learning strategy in writing enhancement of English language and literature students in Kosovo. The research examined students' metacognitive knowledge and regulation about their priorities regarding drafting, planning, organising, summarising, composing, reviewing and later on evaluation. Divided into two phases to first measure their awareness towards metacognition and then to evaluate their capability in composition through learning strategies, the results of the research showed that, contrary to the traditional view, in Kosovo, that places its importance on the teacher and not the student, the experimental participants proved that utilisation of metacognitive learning strategy enhances their writing efficiency and effectiveness. Findings also suggest that students' attitude towards new and modern learning strategies is potently positive and welcoming.

Consequently, Khikmah (2018) study contributed to the research on learning strategy process and educational psychology, especially in the proposal writing process and the attitude towards the use during proposal writing process. The research took place in the English Education Department at Sunan Ampel State Islamic University of Surabaya whose subjects are the batch 2013 students who had passed the thesis proposal examination. The research examined 22 students in academic year 2016/2017. This research used the qualitative method to present the findings about the most commonly used metacognitive strategies and attitudes towards 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 it were examined in this study. The finding of this research reveals that the most commonly used metacognitive strategies are evaluating the proposal writing process. Then, the students' attitudes towards the use of metacognitive strategies indicate that evaluation is the important feature in the metacognitive strategies.

Moreover, Zhang and Qin (2018) surveyed a Validating a Questionnaire on EFL Writers' MAW Strategies in Multimedia Environments through the development of a new survey instrument, the Language Learners' Metacognitive Writing Strategies in Multimedia Environments (LLMWSIME). In line with the theoretical understanding of L2 writing processes, the data collected through the LLMWSIME resulted in a three-factor metacognitive structure, which included advanced planning before writing, elaborate monitoring during writing and prompt evaluating after writing. The LLMWSIME developed based on this three-factor model was also proven to be robust, with good construct validity and reliability. A total of 400 year-two Chinese EFL students from an Eastern Chinese university were invited to respond to the Questionnaire on LLMWSIME, the data cleaning resulted in 378 valid questionnaires for statistical analysis. Altogether, there were 156 male and 222 female participants. The results indicated a single common factor, metacognitive strategies, as a higher order, which was able to account for the three subcategories. As revealed in the results, students' metacognitive awareness was orchestrated through a repertoire of general and specific writing strategies that they knew for tackling EFL writing tasks with the assistance of multimedia tools.

2.8. Methodology

Based on the literature review, the following research question was asked:

What is the EFL students' writing performance based on intervention writing guide module of metacognitive strategies?

2.9. Research design

The qualitative data were collected via interviews which were transcribed and then interpreted through a thematic analysis approach. Also, the researcher observed the process of teaching writing, providing some quantitative data as well. The research design involved developing an interview based on literature analysis. The questions used targeted at going into detail in the research questions.

2.10. Procedures

The research was an action and reflective one. It lasted during the autumn semester of the academic year 2016/2017. The permission was obtained from the School of languages at IBSU. Before the implementation of metacognitive strategies on academic writing, initially, the teacher/researcher asked the students whether they know anything about the aforementioned strategies. Some of them had limited knowledge about the strategies; however, very few were aware of writing metacognitive strategies. Then, the students were assigned to make a search of information on the topic, to provide some background knowledge for teacher's presentation. The teacher dedicated a special class to dealing with metacognitive writing strategies (MWS): presenting theoretical explanations with practical examples, then involved students in discussion. Then, students began writing various types of essays (descriptive, narrative, comparative, dealing with cause and effect), implementing the MWS. During the process of writing, initially, teacher managed, directed, regulated and guided their writing production, later students did it independently. The students discussed the strategies used. The researcher observed the process of discussion and writing. The data were analysed using content analysis procedure.

2.11. Interview questions and students' responses

A set of interview questions was prepared in order to find out students' opinions and to inquire whether the implementation of MWS was beneficial for them. The interview questions involved the process of writing, as well as students' views on the MWS before, during and after the implementation.

Q1. What kind of activities did you do before you started writing your composition? Could you explain how you managed them?

'So, I put the main points in my mind that must be addressed and help me to reach the goal that I want...'. (participant 1).

'Then, setting my main points to plan besides the writing paper what need to write to reach my target of writing performance'. (participant 3).

'Yes, I write the main points in small line besides the writing to know the way that must follow during the writing, which helps to organise the task and do not out the required text'. (participant 3).

'Yes, I set my personal goal based on the teacher's comments...I tried to reach the goal the problem points indicated by the teacher...'. (participant 7).

Q2. How could these activities help you in writing your composition?

Some quotations based on the activities help students in writing composition are reported to support this as presented below:

'Yes, I set my own criteria such as related and connected the paragraphs with each other to cover the topic...'. (participant 3).

'Putting underlines under the main words of the topic increase me think more about the main points of the question' (participant 4).

'In addition, metacognitive strategy helps me to link the paragraphs and sentences to each other. On the contrary, before practiced this strategy I can't arrange my ideas and arrange them...'
(participant 7).

'...I underline under the main words to build up the suitable ideas. After this, construct the main ideas that are related to the topic to avoid far from the topic...' (participant 8).

Q3. Did you plan your composition before you started writing? How? What was your planning goal? How can you compare your plan before and after the programme?

‘This step helps me to know what should I write on the task to avoid the obstacles and loss of the time.’

Quotation [14:5] participant 2

As he further enumerated some of these techniques as he said:

‘I ask myself, Am I writing the introduction sentences has a relationship to the introduction?’

Quotation [14:8] participant 2

Another participant added that following metacognitive strategies helped him to have self-control and manage his writing:

‘In addition, metacognitive strategy helps me to link the paragraphs and sentences to each other. On the contrary, before practiced this strategy I can’t arrange my ideas and arrange them.’

Quotation [16:22] participant 4

Then, as participant 7 claimed that he used self-questioning:

‘And I put the main points that will reach the end of writing task such as sequencing of the paragraphs. Then, asking myself are these ideas related to the topic?’

Quotation [19:2] participant 7

Q4. What activities did you employ to help you write successfully during a writing task? Why did they help? How? Please explain.

‘I try to find out the strong points to strengthen them in the next times of the writing and I also find out weaknesses points to develop them to become strength points.’

Quotation [12:17] participant 1

In addition, participant 2 claimed that he used self-questioning and focusing on the outcome of his writing based on the audience he is addressing as quoted:

‘...Is the title covered in the form required, and ask myself whether the reader will find the meaning of the task or there are some points that will distract the mind of the reader and make him not enjoying the topic’

Quotation [14:17] participant 2

‘Yes, I evaluate myself by reading each sentence and check how the sentence has written with grammatical and spelling mistakes...’

Quotation [16:20] participant 4

Q5. What difficulties did you face during your writing in any revision task? What methods or strategies did you use to overcome such difficulties?

‘When I finish reviewing the task, I seek to find the relevance of ideas and the validity of task in the final form of the topic.’

Quotation [14:18] participant 2

Moreover, participant 3 postulated that following metacognitive strategies allowed him to develop monitoring production techniques, as he said:

‘The metacognitive strategy allows me ordered during writing the task. on the contrary, before I practiced this strategy, my writing was random and without arranging the sentences.’

Quotation [15:5] participant 3

Meanwhile, participant 4 perceived that developing ability helped him to arrange his composition by observing how the main ideas are outlined and presented in the composition:

‘I arrange the sentences by putting the main sentence before the supporting sentences.’

Quotation [16:13] participant 4

He further added that he used to revised his work immediately after finishing the writing in order to locate the area of weaknesses and strengths

‘Yes, after finishing the writing task, revise and evaluate my writing to know what needs to increase and avoid next time of writing’

Quotation [16:14] participant 4

‘During the writing task, I read the paragraphs, sentences and see if the sentences are related to the paragraphs’

Quotation [18:2] participant 6

‘During writing, I monitor my performance and sentences that be related to introduction, body, and conclusion to which allow the reader to enjoy.’

Q6. How did you decide when you needed to make changes during your writing?

‘During the writing task and follow up the ideas, I have to read the sentences so perhaps some sentences are not clear or not complete.’

Quotation [12:13] participant 1

Another participant in the same vein construed that he monitor himself before moving to the next stage of his writing:

‘I am following the sequence of sentences during writing task, asking myself am I written sentences related to my topic? is the reader will be satisfied ? will I get the good marks at the end of this task? And I monitor myself to know can I move to next step? is the previous paragraph has related to next paragraph?’

Quotation [15:61] participant 3

Meanwhile, participant 4 reported that he revised his write up by arranging the paragraphs:

‘..monitoring the whole paragraph by arranging the sentences if there is any sentence or idea not clear I should re-write or arrange it again to get a nice meaning.’

Quotation [16:12] participant 4

In addition, as participant 5 indicated that through revision he will be able to find the missing words or other words required to complete the meaning or to communicate the ideas:

‘During the writing performance, I monitor the sentence if there is any missing word I must add so if there is any adding extra words...’

Quotation [17:6] participant 5

Q7. Did you revise the whole draft? What did you look for during revision?

‘Yes, I evaluate myself after finish writing task by checking every sentence if was written well or not...’

Quotation [12:18] participant 1

‘Yes, I evaluate myself after finishing writing task by revising all writing task to note the sequencing and arranging of the sentences in the paragraphs to avoid any mistakes in another time of writing’

Quotation [13:3] participant 10

Moreover, participants 2 and 5 claimed the same thing but I can argue that their actions are more of monitoring strategy as he said:

‘I evaluate the writing task and when will have to move to the next paragraph.’

Quotation [14:11] participant 2

‘I ask myself are these sentences related and supported this paragraph? if there is any sentence not related to the paragraph must delete it or rewrite it.’

Quotation [17:8] participant 5

Q8. Did you create your own criteria to judge the quality of your paper? If so, what were your criteria?

‘Yes, I evaluate myself after finishing writing task by revising all writing task to note the sequencing and arranging of the sentences in the paragraphs...’

Quotation [13:5] participant 10

Participant 1 added that he evaluate his writing production observing his writing in relating to topic sentence and other internal and external factors, as said:

‘Also, I evaluate if the sentences are related to the topic and what are the benefits of these sentences to this topic. In addition, I concern with the final view from inside and outside of writing task.’

Quotation [12:19] participant 1

When asked to elaborate on other factors he added:

‘I mean inside the writing task how the sentences are related to each other and covered the topic and, also outside the writing task is there any paragraph spacing and it seems neat and without deletion words that make the task ambiguous.’

Quotation [12:20] participant 1

On the other side, participant 2 reported to have a set of criteria to evaluate his writing composition:

‘Yes, I would prefer to set some important criteria for the writing task such as the sentences are written in the appropriate form without grammatical errors.’

Quotation [14:19] participant 2

Q9. Did you self-evaluate how well you wrote your composition? If so, describe the process you used for self-evaluation.

‘In my opinion, give my writing task to my teacher to evaluate it and follow the teacher’ instructions in my writing...’

Quotation [15:13] participant 3

Other participants reported that they are not satisfied with self-evaluating as they always reconsidered peer review to check the strength and weakness of his writing:

‘Yes, I evaluate myself then ask my friend to evaluate my writing performance to discuss about the weak and strong point to know how to improve my writing.’

Quotation [17:7] participant 5

On the other side participant 5

‘I prefer my friend to read every paragraph like introduction, body and conclusion and see if every sentence related to the suitable part or not...’

Quotation [17:9] participant 5

Q10. What is your overall view concerning the lessons you learned during this programme?

‘This programme encouraged me for writing well by self-evaluation during writing task. So, some of the shapes like smile face and angry face encourage taking care during writing, also the sandwich diagram support me to fill up the paragraphs to reach my target.’

Quotation [14:23] participant 2

As he further claimed that:

‘In writing, some of the difficulties I encountered were the spelling mistakes that caused me to think how to write some sentences.’

Quotation [14:12] participant 2

‘...in addition, this programme has many benefits to improve writing performance and build up the paragraphs and increased awareness in writing.’

Quotation [14:22] participant 2

Moreover, participants 4 made a comparison between his knowledge before the training programme and after training programme as he said:

‘There are big differences before and after starting this programme. So, before I started this programme I have not the ability to arrange or sequence and ideas but after practicing this programme, I can arrange my sentences related to the topic of writing and I have an ability to write a more in future to improve writing performance’.

Quotation [16:21] participant 4

Q11. How would you compare your writing ability before and after using this module?

‘But I learned from this programme how to overcome by writing simple sentence and clearly word.’

Quotation [17:5] participant 5

‘In my opinion, this programme was motivating and helpful to write a task without anxiety and worried.’

Quotation [12:21] participant 1

While participant 10 perceived that during the training he benefitted from using symbols as he said:

‘Using symbols has given me the motivation to write well such as stars to give the opportunities of word more than other word based on the number of stars around the words’

Quotation [13:4] participant 10

Meanwhile, participants 2, 3 and 8 showed their satisfaction with training and how they have benefited and have been intrinsically motivated from the training:

‘After practicing this programme by using metacognitive strategy, I able to arrange ideas, organise writing and ability to evaluate the performance of writing task’

Quotation [14:25] participant 2

So I feel confident with practicing writing task in any time’

Quotation [15:21] participant 3

‘. Metacognitive strategy motivates me to write well and arranges the sentences to get a high mark...’

Quotation [20:1] participant 8

‘This programme motivates and enhances my writing performance, but there are many things need to be developed in writing performance.’

Quotation [20:3] participant 8

‘This programme has improved the writing performance but can’t deny the anxiety of writing still existing but I have the ability to arrange the paragraphs and overcome anxiety by practicing this programme.’

Quotation [21:3] participant 9

‘Also, I need more time to practice this programme to memorise more information about writing task to avoid using Arabic language translation to English language.’

Quotation [12:23] participant 1

However, participant 3 perceived that metacognitive training helped him to pay more attention to English:

‘...it helps me to focus more in using direct English language without referring to use Arabic translation to English.’

Quotation [15:19] participant 3

‘Yes, this programme was useful but it needs more time to practice and it needs to be learned deeply each step and it helped me to understand how to use English language without transferring from Arabic to English.’

Quotation [14:22] participant 8

3. Results and discussion

The findings in this study are in agreement with the research results analysed. They suggest a number of implications for classroom practice. First, students should be aware of the importance of MLSs. Second, they should also be made aware of the range of MLS options available to them. Third, MLS training should be given to learners to improve their strategy repertory since it is an important part of FL learning. Last, comparison of the teacher’s/researcher’s observations and students’ grades suggest an important methodological implication: successful learners used more MLS; however, to say that for sure a larger scale quantitative research has to be carried out.

Furthermore, the findings found that the significant effect obtained in this study was explained and supported with previous studies (Al-Besher, 2012; Al-Hady, 2010; Hussein, 2015; Narang & Saini, 2013; Nguyen & Gu 2013). However, the results were contrasted with other studies with insignificant effects (Azizi, Nemati & Estahbanati, 2017; Teng & Zhang, 2016). Furthermore, the findings of research question 4 tell more on research question 2 where it was found that the students’ perceptions about metacognitive strategies are consequently more apparent in the planning strategies with mean of the first administered, followed by the monitoring strategies, whereas the least strategies are evaluating strategies. Consequently, these results may have posed a mixed reaction as some the studies suggested that planning strategies are least effected by the learners; others supported the finding of the present study (Panahandeh & Asl, 2014; Ruan, 2013; Sun, 2013; Walaiporn, 2005).

The uses of metacognitive strategies as postulated in various studies could be a significant and more viable tool of improving students learning skills (Bavand Savadkouhi & Zekavati, 2014; Panahandeh & Asl, 2014). Moreover, results indicated that despite the training, students still need to be more trained on how to use brainstorming techniques because the information they provided revealed that they poorly utilised brainstorming. Still on planning students, consider strategies such as underline the main idea as helpful in organising the text. They also believed that metacognitive help them to be more organised in planning their writing compositions and claimed in another instance

that before this training they don't know how to arrange their composition in English. Some of the techniques they are reported being using include using marks, symbols and keywords, as well as focusing on the main points on how they link together to develop paragraphs. On monitoring, students showed that they learned to be more self-reliant after this programme, as it increases their ability to monitor their writing processes and progress. Moreover, this ability is reflected on how they can monitor their production and comprehension processes in their writing through self-questioning and revision technique. The results can be supported by as Sun (2013) who asserts that monitoring can help learners understand their challenges and how they can tackle them effectively. Meanwhile, on the evaluating techniques, more information is elicited from the participants on three main strategies self-assessment, self-evaluation and self-reflection.

4. Conclusion

MWS can improve the writing performance and increase their satisfaction. Among all the learning strategies, metacognitive strategy is a higher-order executive skill which contains planning, monitoring and evaluating. The research held succeeded in introducing metacognitive instruction in order to enhance students' academic writing performance skills and their self-awareness in learning and to train students to become self-regulated learners. This study investigated students' awareness on MWSs use, the relationship between achievement and MLS use and awareness, and students' views on how much they did in relation to academic writing. The findings showed that the students named many advantages and few disadvantages that can be overcome over time. The students gained advantages not only in writing but also in transferable skills, which makes the metacognitive strategies based teaching of academic writing especially valuable.

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