

## Metacognitive Strategies in Academic Writing

Ramazan Goctu\*

### Abstract

Among all the learning strategies, metacognitive strategy is a higher-order executive skill which entails planning, monitoring and evaluating. 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 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 they are aware of them; also, to find out whether their lecturers provide the development of MLSs in the classroom. In a class there were 20 students, however, just 15 volunteered to respond the interview questions. The findings showed that less than half of the participants used and were aware of metacognitive learning strategies. Although teachers mentioned such strategies during the classes, less than half of the 15 respondents used them or were aware of them. This paper, therefore, intends to introduce metacognitive instruction in order to raise EFL writing instructors' awareness in teaching and in order to train students to become self-regulated learners.

**Keywords:** metacognitive strategies, academic writing, higher-order mental skills, planning writing, monitoring writing, evaluating writing

### Introduction

Wenden (1991) states that metacognitive strategies are mental operations or procedures that learners use to regulate their learning. They are directly responsible for the execution of a writing task and include three main kinds: planning, evaluating and monitoring. Cognitive strategies are mental operations or steps used by learners to gain new information and apply it to specific learning tasks. They are used to deal with the obstacles encountered along the way. They are auxiliary strategies that help in the implementation of the metacognitive strategies. In contrast to the metacognitive strategies, the function of cognitive strategies is narrower in scope. In short, cognitive strategies are strategies which are used to solve problems, whereas metacognitive strategies are employed in order to plan, monitor, evaluate, control and understand these strategies.

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\* Ph.D., International Black Sea University, Tbilisi, Georgia.  
E-mail: rgoctu@ibs.u.edu.ge

The study focused on the use and awareness of metacognitive learning strategies in relation to writing skills. Georgian students who learn English as a foreign language usually find it difficult to write in L2. Writing in L2 is related to both linguistic (vocabulary choice, grammar used to build clear sentences, spelling, using style adequate to the writing genre) and communicative (text structure, topic and sub-topics, main idea, argumentation). Confused by so many aspects, some students completely depend on the teacher on the planning stage and are unable to monitor the process of writing. This overdependence on the teacher prevents them from becoming autonomous writers. Autonomy is very important in learning a foreign language, especially for developing writing skills. The focus of this paper is on the use of metacognitive strategies during the writing activity.

### **Literature review**

Before stating the peculiarities and the functions of Metacognitive Strategies, the article will briefly refer to the Language Learning Strategies which is an umbrella term in this area.

### **Language Learning Strategies (LLS)**

According to Scarcella and Oxford (1992), learning strategies are defined as “specifications, behaviors, steps, or techniques, such as seeking out conversation partners, or giving oneself encouragement to tackle a difficult language task used by students to enhance their own learning” (p.2). When a student consciously picks up the strategies that are appropriate for his or her learning style and the L2 task at hand, these strategies become a useful toolkit for active, conscious, and purposeful self-regulation of learning. As Oxford (2003) stated in her book, learning strategies are divided into six groups: cognitive, metacognitive, memory-related, compensatory, affective, and social. After a concise explanation of each strategy the article will mainly focus on the Metacognitive Strategies, particularly in writing skills.

### **Cognitive strategies**

Cognitive strategies enable the learner to manipulate the language material in direct ways, e.g., through reasoning, analysis, note-taking, summarizing, synthesizing, outlining, reorganizing information to develop stronger schemas (knowledge structures), practicing in naturalistic settings, and practicing structures and sounds formally.

### **Metacognitive strategies**

Metacognitive Strategies are employed for managing the learning process overall (e.g., identifying one's own learning style preferences and needs, planning for an L2 task, gathering and organizing materials, arranging a study space and a schedule, monitoring mistakes, evaluating task success and the success of any type of learning strategy). Purpura (1999) states that among native English speakers learning foreign languages metacognitive strategies have "a significant, positive, direct effect on cognitive strategy use, providing clear evidence that metacognitive strategy use has an executive function over cognitive strategy use in task completion" (p.289). Studies of EFL learners in various countries revealed evidence that metacognitive strategies are often strong predictors of L2 proficiency (Dreyer & Oxford, 1996).

Metacognitive strategy is a term used in Information Processing Theory to indicate an "executive" function and it refers to the strategy that is used by learners as the means to manage, monitor and evaluate their learning activities. To put it simply, metacognitive strategies are skills, approaches, and thinking and actions that learners use to control their cognition and learning process.

The functions and the features of Metacognitive Strategies will be presented in the further section in more detail.

### ***Memory-related strategies***

Memory-related strategies aid learners to link one L2 item or concept with another, but do not necessarily involve deep understanding. Various memory-related strategies enable learners to learn and retrieve information in an orderly string (e.g., acronyms), while other techniques create learning and retrieval via sounds (e.g., rhyming), images (e.g., a mental picture of the word itself or the meaning of the word), a combination of sounds and images (e.g., the keyword method), body movement (e.g., total physical response), mechanical means (e.g., flashcards), or location (e.g., on a page or blackboard). Memory-related strategies in connection with writing deal with recollection of vocabulary (probably in a brain-storming activity) and important sub-topics / facts / issues to be mentioned in the paper.

### ***Compensatory strategies***

Compensatory strategies help the learner make up for the missing knowledge (e.g., guessing from the context in listening and reading; using synonyms, gestures or pause words while speaking) and include avoidance strategies (using synonyms, definitions, descriptions, paraphrasing - "talking/writing around" the missing word to aid speaking and writing). Compensatory or avoidance strategies are essential in writing, in order not to get stuck in case of poor vocabulary, spelling or grammar skills.

### ***Affective strategies***

Affective strategies are such as identifying one's mood and anxiety level, talking about feelings, rewarding oneself for good performance, and using deep breathing or positive self-talk. They have been shown to be significantly related to L2 proficiency, however, for writing they are not so important, unless the writers are very limited in time.

### ***Social strategies***

Social strategies help the learner work with others and understand the target culture as well as the language (e.g., asking questions to get verification, asking for clarification of a confusing point, asking for help in doing a language task, talking with a native-speaking conversation partner, and exploring cultural and social norms). Social strategies may be applied in the process of planning and evaluation of writing within pair or group work. However, while writing individually in class, (unless it is summative assessment), students may be permitted to consult each other in case of vocabulary, spelling or grammar difficulties.

In particular, the article will focus on the metacognitive strategies and their importance and effect on the Academic Writing course.

## **Metacognitive Strategies in Academic Writing**

Flavell (1979) is considered to be one of the first scholars to introduce the term metacognition in the field of education. According to the researcher, metacognition consists of metacognitive knowledge and metacognitive experience.

Metacognitive strategies are mental executive skills that serve to "control cognitive activities and to ensure a cognitive goal is achieved" (Xing, Wang, & Spenser, 2008, p.46). Different classifications of metacognitive writing strategies have been created, however, in this research the model pursued involves the *Planning, Monitoring and Evaluating* taxonomies (Mu, 2005; Diaz, 2013). Metacognitive writing strategies, correspondingly, involve thinking about the writing process, its 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.

Concisely, metacognition can be understood as how learners think about thinking (King, 2004). When it comes to writing specifically, metacognition deals with how students understand their own writing processes, and how they adapt their processes to evolving demands. This paper also intends to promote the integration of metacognition into academic writing instruction to benefit writing instruction by laying emphasis on both

approaches to writing instruction (i.e., process and product approaches), and to train teachers as well as students to teach and learn with metacognition.

Research has been done on the impact of strategies on the writing skills. Historically, writing was viewed as a linear and a simplistic activity. However, contemporary models of writing explain it as a process rather than a product. The process of writing involves cognitive, linguistic, affective, behavioral and physical components. The application of MLSs in writing should be viewed as part of 'process writing' research (Manchon, De Larois, & Murphy, 2007) because MLSs are used in the process of writing and are only useful when used during the writing activity.

Thus, metacognitive writing strategies are as follows:

***Planning:***

Planning involves finding focus concerning purpose, audience, ideas, and strategies to be used, among others. It often takes places before writing, but some writers also plan their compositions even while writing their composition. Planning writing is more efficiently done via whole-class or small group brainstorming. If done in a group, each student is recommended to have his/her function: idea generator, writer, or criticizer. However, planning can be done individually, too. The draft plan is made up, later, in the process of writing, it may be reviewed and undergo changes concerning constituent parts (adding or omitting) and their order. Planning may also involve brainstorming some key words and choosing the basic tense for the writing piece.

***Monitoring:***

Monitoring involves controlling the writing process while writing the text. It refers to checking and verifying progress in terms of global features, such as content and organization, and also in terms of local aspects such as grammar and mechanics. It can be more effectively done by individual writers.

***Evaluating:***

Evaluating takes place after writing, and consists of reconsidering the written text in terms of both global and local writing features, and also concerning the strategies used to complete the writing tasks. Evaluating is more effectively done in pairs (peer assessment): two writers exchange their papers and, having viewed them, discuss the improvements to be made. However, students need to be taught to do self-editing and correction, too. They need to develop a strategy for it (what to check first: contents, structure of language, as it is confusing, especially for less experienced writers to do all three simultaneously).

## Research on the application of metacognitive strategies for teaching writing

Generally, few research is held 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. Surat et al. (2014) 18 secondary school students in Malaysia were asked to do metacognitive reflection on the essay they wrote. It revealed that students practically had no idea how the writing process should be organized. On the other hand, Raoofi et al. (2014) found that 21 undergraduate interviewed Malaysian students possessed well-developed writing strategies. The results seem contradictory, but the little number of the respondents make the study results non-generalizable in both cases. Stewart, Seifert, & Rolheiser (2015) held a research with 795 Canadian undergraduate students, which showed that the application of metacognitive strategies for the development of writing skills yielded a self-confidence increase and a decrease in anxiety. Lv and Chen (2010) carried out a research with 86 vocational college students in China, which showed that teaching the experimental group writing strategies has a positive impact on their writing skills. Although not numerous, the analyzed research shows that many students (and probably teachers) are not aware of the advantages of writing strategies, however, when these strategies are applied, they have a positive impact on the development of writing skills.

## Methodology

Based on the literature review, the following research questions were asked:

- How does metacognitive-strategies-based writing enhance students' academic writing skills?
- What are the benefits and drawbacks of the application of metacognitive strategies?

## 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.

## Participants

Freshmen students at the Faculty of Computer Technologies and Engineering in International Black Sea University (IBSU) in Tbilisi, Georgia were suggested being interviewed concerning metacognitive learning strategies (MLS) in their course of Academic Writing. In the class there were 20 students, however, just 15 students volunteered to respond the interview questions. Students were from different regions of Georgia, both urban (including, but not

limited to the capital) and rural, which makes the sample representative. The students' English Language level was upper-intermediate.

### **Procedure**

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: 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 metacognitive writing strategies. 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 analyzed using content analysis procedure.

### **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 metacognitive writing strategies was beneficial for them. The interview questions involved the process of writing as well as students' views on the metacognitive writing strategies before, during and after the implementation.

#### **Q1. Did you apply MWSs before this course?**

'I didn't know about learning strategies until recently. I've discovered that I've been applying metacognitive strategies to computer programming, without knowing the term. MLSs have helped me to improve my writing skills as I was preparing for TOEFL exams. Now, after applying MLSs in writing, I started learning other subjects, using MLSs as well.' (respondent 9)

'Even though I didn't know it was called MWSs, it appears that I have been implementing some of them for a long time. Now I know more. It makes writing essays easier and more enjoyable.' (respondent 2)

#### **Q2. Do you now apply the planning stage before the writing task?**

'Yes, I do apply planning stage. The planning stage involves thinking about the studying process.' (respondent 1)

'Planning is important for organization of the text and to see the whole picture of the work beforehand'.  
(respondent 10)

'I try to apply planning, but while writing the task I sometimes do not stick to the plan. I add some extra things.'  
(respondent 3)

**Q3. Do you now apply the monitoring stage while the writing task?**

'To a certain degree. I stop and assess what I have done and what is still to be done. It makes my writing less chaotic. I do not repeat same things several times any more.' (respondent 5).

'Yes, after finishing each paragraph. I look at the plan and decide what I will write now.' (respondent 7)

'Yes, I'm checking that I haven't omitted something important or haven't said the same thing twice.' (respondent 12)

**Q4. Do you now apply the assessment stage after the writing task?**

'Yes, I have become more self-critical.' (respondent 6)

'Yes, and I do it step by step: contents first, language then, and structure in the end.' (respondent 2)

'Yes. Now I know how to do it efficiently. And I learn through correcting my and my friends' errors.' (respondent 13)

**Q5. Did metacognitive strategies help you to write essays?**

'Yes, it expanded my thinking horizon while writing an essay, because I started to think how my readers would think about it'. (respondent 4)

'After explaining how I was thinking about the writing process, planning for writing, monitoring the learning task, and evaluating how I have learned, I didn't need to rewrite the essay several times'. (respondent 7)

'After teacher's and my friends' help, I can write independently. It's great. I'm proud of myself. Earlier I just wanted to pass the course. Now I realize it was useful for my education in general.'

**Q6. What are your perceptions of the impact of the metacognitive strategies on your writing performance?**

'I believe that metacognitive strategies are the basis for not only writing, but also self-study in general, as they've helped me in every aspect of education.' (respondent 15)



'I think that metacognitive strategies are very important and essays, in which metacognition is implemented, are more interesting to read. They are deeper, more logical, more thought-of, language is richer and more accurate.' (respondent 6)

'I believe that metacognitive strategies are fairly useful and implementing them in my writing course will certainly improve my performance.' (respondent 10)

'I had not known about metacognitive writing strategies before the lecturer's presentation and my own search. However, now I know that metacognitive writing strategies involve planning, monitoring and evaluating your writing in order to improve.' (respondent 12)

'I feel I'm a cleverer learner now, not only a better writer.' (respondent 11)

'Applying MWSs is somehow time-consuming and a bit stressful, but eventually it is worth it. I spend more time planning and self-editing, but I don't rewrite my essay many times.' (respondent 5)

'After I finish the process, I am self-confident, I am sure I will get a good grade.' (respondent 14)

#### **Q7. How did you benefit from pair and group work in the process of writing?**

'One thing is teacher's explanation how to plan, monitor and evaluate and another thing – to do it alone. You are at a loss. But by working together we helped each other develop MWSs. We also shared the language and professional knowledge and skills. Now I feel an experienced writer.' (respondent 1).

'I don't think I would be able to go through it alone. Friends' support matters so much.' (respondent 4)

'It increased my self-confidence. In the beginning, I was just following my more successful group-mates' recommendations, finally I offered them things they liked as well.' (respondent 7).

#### **Q8. Are organization, planning and the use of linkers important during the writing process for you?**

'Generally, I never write blueprints. I always have a basic skeleton of an essay in my mind and the things I want to write about. Then I just start writing and go with the flow. (respondent 1)

'No, I think the contents is the main thing, the organization does not matter so much. Academic writing makes too much fuss about it.' (respondent 11)

'In any academic paper, organizing and planning are key factors and I certainly consider them to be very important. If you are doing an academic study, you need to think logically, to be able to persuade your reader' (respondent 1)

**Q9. Name three things that you gained due to MWSs.**

'I think metacognitive strategies are useful for writing accurately, for example, providing with accurate facts is important. Metacognitive strategies do enhance my writing accuracy. I can more easily plan now, not only for writing. I want my writing to reach my reader, so I try to write clearly.' (respondent 7)

'By implementing metacognitive strategies my writing became more to the point. I really follow the task. I can better express myself both in written and orally. I've gained team working skills: now I listen to my friends and try to take their viewpoint into consideration.' (respondent 12)

'It broadens thinking horizons of the essay. You can really write a smart essay. Now I understand why the teacher sometimes gave me zero points for a long essay. Writing has to be persuasive, logical, and interesting. Having good ideas is not enough. The ability to share them in written is important.' (respondent 5)

'MWS support organizing your thoughts in advance which in turn makes the outcome more accurate. And it's a meaningful, enjoyable activity.' (respondent 6)

**Q10. Did you have any problems while learning to use MLSs and applying them?**

'In the beginning it seemed rather difficult, sometimes undoable and formalistic; then I got used to it, even enjoyed it.' (respondent 4)

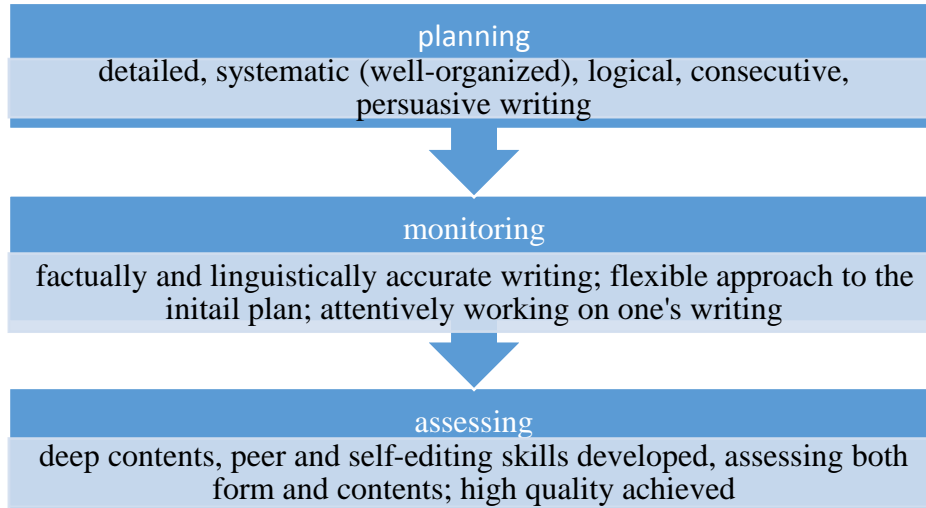
'Unless it was done in pairs and small groups, it would have been unsurmountable and boring, but finally it was fun, like playing detectives.'

'I used to write an essay without such scrupulous work before, and even got good grades, so in the beginning it was to some degree irritating. But now I understand that my essays now are much better.' (respondent 10)

'Not really. I've realized there is much similarity in how one is learning or doing any job. If it's organized, monitored and assessed, especially in teams, quality is guaranteed.'

**Findings of the interview**

The study found that most of the students were using certain metacognitive writing strategies, but their strategies were largely intuitive and incomplete / one-sided. Their awareness of strategies has grown during the study, which made them more applicable and efficient. The benefits in writing gained by the students are presented in figure 1.

**Figure 1. How do MWSs improve writing?**

The writing and transferable skills and values that the students gained through metacognitive-strategies-based writing are:

- ✓ thoughtful learning / writing; ability to develop a plan and follow it flexibly (according to the needs / situation)
- ✓ avoiding repetitions;
- ✓ becoming more analytical and self-critical;
- ✓ looking at one's writing from another person's (critic, reader / addressee) viewpoint;
- ✓ gaining self-confidence,
- ✓ learning through dealing with errors thoughtfully
- ✓ team work, sharing knowledge, skills and experience
- ✓ increased successful writing experience
- ✓ experiencing teacher's and peers' support

The few drawbacks that the respondents mentioned are:

- ✓ initially time-consuming (eventually, gaining the time and the quality of writing), stressful (intellectually demanding), even irritating.
- ✓ formalistic to some degree
- ✓ the results are not obtained quickly

However, all respondents mentioned that with time the drawbacks turn into advantages. They emphasized the need to develop the strategies while working in groups. Although developing metacognitive learning strategies is a time-consuming process requiring insistence and hard intellectual work, it is realistic and efficient in the long run. All students involved in the research mastered them to a higher or lesser degree.

## Observations

The researcher / teacher carefully observed students during Academic Writing classes, he also attended a couple of classes in other courses to see whether the students' claims dealing with transferable skills were true.

Table 1 involves the measurable observation parameters in the beginning, middle and end of the research.

**Table 1. Observation results**

Observed parameters / lesson	Lesson 1	Lesson 7	Lesson 15
1. students involved in planning	4	8	14
2. students actively involved in strategy discussions	7	11	14
3. students sharing their strategies	2	5	8
4. students involved in assessing	3	7	12

It is possible to see that initially few, usually more successful in writing, students were involved in the planning process, eventually 14 out of 20 students were actively involved in it. Initially about one third of a group discussed the strategies used, while finally their number doubled. This means that more students understood about strategies and could make a conscious choice. Initially, only two students had strategies to share with their peers, while by the end their number grew to 8. While very few students felt competent enough to assess their friends' writings, by the end of the research more than half of the students were actively involved in the process.

He has observed that during the implementation of metacognitive writing strategies, students showed a significant improvement in their writing skills. They were interested in teacher's presentation and their own search results, but many of them initially were quite reluctant to apply the strategies and were rather passive in the group, letting the more enthusiastic students do their job. With time, seeing their peers' enthusiasm, enjoyment and involvement, they followed their example and joined in the activities.

Based on the teacher's observations, by working in different pairs and groups, students constantly improved various aspects of their writing skills because particularly planning, monitoring and evaluating stages of metacognitive writing strategies helped them to make every piece of their writing a better one every next time. Each next essay was better planned than the previous one. As the researcher observed, the instruction of metacognitive learning strategies affected positively the intermediate level language learners' academic writing skills.

The findings of the research have revealed that metacognitive strategies have a positive cognitive, social and emotional impact on academic writing and learning in general. The researcher saw the development of general learning skills in students; the other course teachers whose classes he attended confirmed his observations.

### **Discussion**

The findings in this study are in agreement with the research results analyzed. 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 foreign language learning. Lastly, 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.

### **Conclusion**

Metacognitive writing strategies 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 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 in transferable skills, which makes the metacognitive-strategies based teaching of academic writing especially valuable.

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