

The Role of Metacognitive Strategies in Second Language Writing

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Abstract - Metacognition is defined as one's own awareness of the thought process; specifically it concerns the ability to regulate the cognitive processes of the learners in their learning. In the context of writing, it refers to 'thinking about one's own writing' or 'awareness of one's own writing processes. This experimental study investigates the role of metacognitive strategies in promoting effective English writing. The data was 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.

Keywords: *Metacognitive strategies; Second language writing; Writing process*

I. INTRODUCTION

Writing comprehensively involves the simultaneous and sequential integration of attention, language mechanics, thinking, and metacognition. Writing is a recursive, strategic, and multidimensional process central to planning, preparing, drafting, revising and evaluating [1], [2] and [3]. While writing in second language, learners encounter problems with regard to the lack of knowledge in organizing ideas, selecting appropriate words or phrases, and presenting their thoughts in a focused way. The learners are able to overcome these constraints by employing appropriate metacognitive strategies.

Thus there is a need for understanding how students employ appropriate metacognitive strategies to complete the writing tasks. Several research studies have been conducted extensively on the role of metacognition in reading and listening performance of the learners [4], but corresponding research in writing skills is comparatively rare [5] and [6]. In this respect, the present study examines the role of metacognitive strategies in developing second language writing of post graduate students. In this study, as in [7], strategy instruction is placed under process approach.

II. METACOGNITION AND THE WRITING PROCESS

The theory of Metacognition has rooted in the theoretical foundation of Jean Piaget centers around cognition and matters of mind. Research on Metacognition has taken place with the seminal work of [8], conceptualizing metacognition as "thinking about thinking". He has defined Metacognition as one's own awareness of the thought process and the ability to control the cognitive processes. His proposal on metacognition comprises two factors: Knowledge (what individuals know about their own cognition and cognition in general) and monitoring/regulation (the set of activities that help students control their learning).

In the context of metacognition, [9] has defined writing as "the production of thought for oneself or others under the direction of one's goal directed metacognitive monitoring and

control and the translation of that thought into an external symbolic representation". As students develop and improve their metacognitive skills, their writing skill and proficiency also improve [10]. Such metacognitive skills involve knowing what, when and how to apply certain learning strategies; knowing how to orchestrate and regulate learning and how to apply literacy skills to other disciplines or contexts [6]. Similarly [11] has cited the "development of writing ability and metacognitive awareness" to be an indispensable objective of any English class (525); writing assists students in learning to control their thinking [12].

[13] have conducted a study to investigate the influence of metacognition on writing. The results of their study reveal that metacognition is a successful predictor of improvement in students' writing. The study of [14] indicates a close relationship between metacognitive knowledge and writing. Further, [15] examines the significant correlation between metacognitive growth and writing performance of the ESL learners. [16] has explored the relationship between metacognitive strategies and English writing. [9] have proposed that writing can be examined as applied metacognition:

Reading, re-reading and reviewing are monitoring strategies of our own thoughts. Editing, drafting, idea generation, word production, translation, diagnosing and revision are used as control strategies of our own thoughts. The monitoring and control our own thinking is metacognition. Writing is applied metacognition. (p. 161).

[17] observes the development of metacognition in writing as critically important to the learning of writing skills. He also states that "being aware of one's own thought in writing is a necessary precursor to being more fully in control of the writing process" (P.82).

Good writing requires self regulation of the writing process [18]. Good writers reflect more during the process of writing [19]. They plan and revise recursively [20], monitor their writing. [18] argues that to assist students become good writers' teachers must change their focus from evaluating and correcting finished papers to help students understand the composing process become more reflective writers.

In the Indian ESL context, studies related to metacognitive strategies and L2 writing process is scant. The research works pertaining to metacognition in Indian context are as follows: [21] have conducted a study on teacher education students' teaching competency in relation to metacognition. To make a mention of the recent studies, [22], [23], [24] and [25] studies deal with metacognition in Science classrooms, metacognitive strategy effect on reading, relationship between metacognition and gender, place of living, academic achievement and parents' education and metacognition in relation to learning environment respectively. To contribute to the existing literature, the present study comprehensively

discusses the role of metacognitive strategies in facilitating second language writing of 27 Indian ESL learners.

III. STATEMENT OF THE PROBLEM

The major problem faced by the students in the higher education context is presenting their ideas and thoughts cohesively and meaningfully in English. The reason behind the problem is they are not aware of the strategies and the sub skills in writing. So it becomes mandatory on the part of teachers to teach the nuances of writing. In this respect, [26] also opined that writing instruction needs to facilitate strategy use by providing instruction in terms of planning, drafting, revising and editing. So there is a great need for a new paradigm in teaching writing in the Indian context and study the problems faced by the learners while composing and enable them use appropriate strategies to facilitate their writing process.

IV. RESEARCH QUESTIONS

This study has addressed the following questions:

1. What are the metacognitive strategies used by the Indian ESL learners?
2. What is the relationship between metacognitive strategy use and improvement in producing comprehensive content?

V. METHODOLOGY

A. Participants

The participants of this experimental study are 27 first year M.Sc OR and CA (Operational Research and Computer Applications) students of NIT (National Institute of Technology)-Trichy comprising 18 females and 9 males. As the post graduate students of NIT-Trichy are required to submit authentic and innovative project works in their final semester, these students are in need of the course to improve their written English to write meaningfully and connect logically the experimental results. In this respect, they have to think in different perspectives, focus on a specific theme and write meaningful content by logically connecting the experimental results pertaining to their research area. So, this course was offered in the second semester, prior to their project work.

B. Questionnaire

Questionnaire was used as a basic research instrument to assess the metacognitive strategies used by the learners in this study. This validates [27] statement that students' metacognitive knowledge can be assessed by means of questionnaire. In relation to that, [28] explains the procedure to construct metacognitive questionnaire. He suggests that as an initial step, the instructor should determine the specific skill on which the

items of the questionnaire can be focused (e.g. writing) and then using the subcategories of metacognition positive and negative statements can be written to describe students' thoughts, beliefs or awareness. In this regard, strategy questionnaire was administered at the end of the course to know the frequency of using metacognitive strategies to complete the task effectively. The strategies were classified under six categories such as thinking about the learning process, Planning and organizing, monitoring and identifying problems, editing, evaluating and revising and writing on their own.

C. Scoring Rubric

Students' written scripts were evaluated to know their knowledge of vocabulary, organization ability, how much they were able to focus on a single idea, ability to progress their idea in a logical way and the use of language. [29] scoring criteria was applied to evaluate the learners written scripts. It was tested on five aspects: content-30, organization-20, vocabulary-20, language use-25 and mechanics-5.

D. Writing Task

Writing tasks enable the learners to fine tune their writing and attain the required fluency. In this experimental study 20 tasks were assigned to the students to improve their fluency in writing. The tasks were given to the students in a graded structure considering the difficulty level of the students. The tasks are proceeded from general to specific and finally the cycle ends with the general topic. The tasks consisted of topics on their personal experience, description, single word tasks, using the given sentence as the concluding or initiating sentence, and writing a paragraph incorporating the given words or its derivatives.

VI. IMPLEMENTATION

In this experimental study, a schedule of 20 classes with 1½ hour duration spread over a period of two months was conducted to improve the writing skills of the learners. The students were required to attend the class regularly. A separate notebook was given to the students to write their everyday task, which helped them to monitor their own progress in writing. In each class, students were enabled to write on a given topic and were monitored. Written corrective feedback was provided on each task. In the first 20 minutes of the classes, students were motivated to think on the topic in a focused way and encouraged to write on their own. These metacognitive instructions (Planning strategy) facilitated them to plan the content and select the appropriate strategies to complete the task successfully. The next 45 minutes was allotted to compose a meaningful and cohesive paragraph. The remaining time was allocated to explain their own perspective of writing for the given topic. This strategy stimulated the learners to listen their peers'

content, which in turn instigated them to think in different dimensions and contexts and enabled them to write realistic and meaningful written discourse. The significant aspect of the study is the facilitator never hindered the learners' metacognition by forcing them to finish the task within a time frame. They were permitted to take enough time to reflect on their thinking. The role of the teacher in facilitating metacognition is considered important and students were allowed to write at their own pace as suggested in many studies [30] and [31]. In this respect, the students were given enough time to think and this perhaps motivated to write according to their own writing style. Strategy questionnaire was administered at the end of the course to examine the strategies used by learners and made them aware of their own strategic knowledge in writing. This also enabled the learners to self assess their own learning process.

VII. REINFORCING METACOGNITION

As a way of making the learners to be aware of their own knowledge in English writing on the first day, the learners were asked to write a film review of their favourite movie in their mother tongue (L1). The learners were questioned on their awareness regarding the first language and second language learning before assigning the initial task in their mother tongue. Of the 27 learners, 17 learners replied that writing in English is an easy task compared to first language and they said it was difficult to get the right word in their first language. The remaining 10 learners told that writing in first language was easier for them and they could convey their thoughts easily and they felt that they could not construct similar sentences in English. Then, the learners were assigned to write a task in English on the topic 'Unforgettable Experience-School/College' in about 250 words. After attempting these two tasks, the facilitator asked the learners on their comfortability in using both the languages (first and second language). Most of them reported that writing in English was also difficult for them, as they found it difficult to organize their ideas. It was observed from their responses that they were not aware of their own comfort zone in the writing process. These tasks helped them to be aware of their knowledge and difficulties in both languages.

The learners were asked to write on the topic 'Bus Journey' in the subsequent class. Before attempting to write, they were instructed to have focus and write on a single aspect of the idea for the given topic. In this task all the learners except one, started writing on a single incident that has happened while they were travelling by bus. It was noted that Participant 6 did not write anything in her notebook for ten minutes. The facilitator enquired why she was not able to start the given task. She replied that nothing had occurred to her mind related to bus journey. Then, the facilitator helped her to think on the topic by interacting with her. After discussing with the facilitator, she

started to explain the incidents that she had noticed and experienced in the bus. She told that she had travelled by bus from her childhood, but she was not able to relate and retrieve the ideas related to the topic. Further, she admitted that this was the first time she was made to think and tried to construct sentences on her own relating to her own experiences. In this manner, the facilitator stimulated the learners thinking ability and helped them to be aware of their own cognitive domain.

In the subsequent classes, students were trained to think in a focused way and metacognitive strategies were reinforced to facilitate the students write fluently. In this respect, students were asked to think in English at any particular time of the day for five minutes continuously, outside their class hours every day. This was done to enhance the thought process of the learners. In the feedback session, the instructor asked the students to explain their experience in thinking in English. They shared that while thinking in English, they often translated from their mother tongue and they started to note down the Tamil words, for which they could not find the English equivalents. Sometimes they were able to guess the exact English equivalents. Moreover, Participant 9 told that when he started to think in English, he automatically adapted to think-aloud strategy and became conscious of his own gestures. This strategy was introduced, because raising metacognitive awareness can even be in the form of asking students to talk about the process that occurred in their mind while accomplishing a task [32].

VIII. STATISTICAL ANALYSIS

A. Grading Criteria of Metacognitive Strategy Level

In this study, the post study questionnaire elicited details regarding the strategies used by the learners. As all the metacognitive variables in post study questionnaire are on a 4 point scale, with options ranging from “always” to “never,” the options were given values from 4 to 1 accordingly. The criteria for evaluating the use of metacognitive strategy level are shown in the following table:

TABLE I. GRADING CRITERIA OF METACOGNITIVE STRATEGY LEVEL

Metacognitive Strategy Level	Mean	Options
Very good	3.5 – 4.00	Always
Good	3.4 – 2.5	Sometimes
Poor	2.4-1.5	Rarely
Very Poor	< 1.4	Never

B. Descriptive Analysis

Descriptive analysis was carried out to find out the average score (Mean) and the standard deviation of each aspect concerning metacognitive strategy.

TABLE II. MEAN AND STANDARD DEVIATION OF METACOGNITIVE STRATEGY USE

S. No	Name of the Metacognitive Variable	N	Total Mean	SD
Thinking about the learning process				
1	Think about the English class outside the classroom	27	3.0000	.78446
2	Conscious of the thought process	27	3.2963	.77533
Planning and organizing				
3	Think more detailed about the topic of writing	27	3.3333	.96077
4	Improving the organization of the content	27	3.4444	.69798
Monitoring and identifying problems				
5	Read the feedback of the previous writing and used it in the next writing	27	3.5556	.93370
6	Concentrated and focused the thoughts while writing	27	3.6667	.67937
7	Note down the type of errors	27	3.1481	.76980
Editing				
8	Editing the content while writing	27	3.4074	.69389
9	Go back to the writing to edit grammar, vocabulary, spelling and punctuation	27	3.1481	.90739
Evaluating and revising				
10	Evaluating the peers notebook	27	2.9259	.99715
11	Revising the content to make the ideas clear	27	3.5556	.80064
Writing on their own				
12	Writing on their own	27	3.7407	.65590

1) Thinking about the Learning Process

Thinking about the learning process is an effective metacognitive strategy that helps the learners to be more conscious of the thought process and makes them write comprehensively at any situation. Thinking about the English class outside the classroom had enabled them to use the language in real life situations. The mean value of variable 1 (3.0000) and variable 2 (3.2963) show that thinking about the learning process is in a ‘good’ rating

scale (> 3) and indicates that the learners are aware of their learning process that creates a positive attitude towards the learning. The strategy ‘conscious of their thought process while attempting the task’ is referred as person knowledge by [33]. Consciousness towards the thought process controls the cognitive activity of the learner which is considered as one of the metacognitive processes.

2) *Planning and Organising*

Planning and organizing are important metacognitive skills that provide a detailed idea about the topic of writing. Planning generally refers to the process that “involves retrieval and organization of information” [34]. By engaging in planning and organizing in relation to the writing goal, learners are thinking about what they need to accomplish and how they intend to go about achieving it. In this study, the learners have thought in detail about the topic assigned to them and ‘sometimes’ employed this planning strategy. The mean values of variable 3 (Mean=3.3333) and 4 (Mean=3.4444) denote that before attempting the writing task, learners have attempted to think comprehensively about the topic and have planned how to organize the content meaningfully. The use of metacognitive skills such as planning and organizing is in the good level, in the range of 3 - 3.4 accordingly. Regarding planning and organizing, one’s procedural knowledge “has been shown to influence his or her choice of learning objectives and the criteria used for evaluating learning outcomes” [35]. In the stage of planning and organizing, the learners associate their background knowledge and draft in a coherent way to complete the task successfully.

3) *Monitoring and Identifying Problems*

Monitoring is “the regulatory skill that oversees the learning process that follows the initial planning” [35]. If the learner is able to monitor his/her performance then it is a move towards independent learning, which enables them to find their own errors and rectify them at any situation. In this study, written corrective feedback is used as a pedagogic tool to monitor the learners’ writing. Written corrective feedback enhanced the monitoring skill of the learners. Learners consciously read the feedback and applied it in their consecutive writing tasks. The responses of the learners reveal that the learners have ‘always’ read the feedback provided by the facilitator and also have employed the correction in their next attempt. Further, in the subsequent classes learners started to note down the type of errors they had committed in their tasks. It enabled them not to commit the same type of errors in their consecutive writing tasks. It was also observed that monitoring level of the learners was in a ‘good’ rating scale. The mean values of identifying errors and monitoring skill (Mean=3.5556; 3.6667; 3.1481) indicate that they were ‘always’ able to monitor

their performance and stay more focused while writing to produce cohesive content.

4) *Editing*

Editing is one of the sub skills of metacognitive strategy which motivates self learning. In this study, the learners started to edit their content from the 7th class onwards which in turn induced them to evaluate their own writing. In addition, the editing level of the learners is reasonably ‘good’ and they were enabled to edit the errors related to grammar, spelling, vocabulary and punctuation. The mean value (>3) of this skill indicates that the learners of this study are aware of the editing skill that paves the way to evaluate and revise their content.

5) *Evaluating and Revising*

Revision is one of the cognitively demanding tasks for L2 learners that involve task definition, evaluation, strategy selection and modification of text in the writing plan [36]. The mean value (3.5556) of the variable 11 (revising the content to make the ideas clear) is in a ‘very good’ rating scale, which shows that the learners are able to revise their draft effectively. On the other hand, the mean value (2.9259) of variable 10 exhibits that the learners’ skill of evaluating the peers draft is in the poor level.

6) *Writing on their Own*

Learners have been enabled to use appropriate strategies to complete the task effectively, representing the acquisition of conditional knowledge. The results of the descriptive analyses of variable 12 indicate that the learners of the present study are autonomous and they are able to write on their own. In this study, the learners have always written on their own. The mean value (3.7407) of variable 12 denotes that the learners’ level of writing on their own is very good (> 3.5). It is also inferred that the learners are able to write comprehensively by associating their stored knowledge with real life experiences.

C. *Correlation Analysis of Metacognitive Strategy and Writing skills*

In order to know the influence of metacognition in writing effective composition, the learners’ use of metacognitive strategy was correlated with their writing score. The p values in the correlation table are lower than the significant level 0.01. The correlation analysis reveals that the learners’ employment of metacognitive strategies are highly correlated with all aspects of writing (content – $r = .545$, $p < 0.01$; organization – $r = .518$, $p < 0.01$ vocabulary – $r = .527$, $p < 0.01$, language use – $r = .491$, $p < 0.01$ and mechanics – $r = .520$, $p < 0.01$) at the significant level 0.01.

TABLE III CORRELATION ANALYSES OF WRITING AND METACOGNITIVE STRATEGY USE

	Metacognitive	Content	Organisation	Vocabulary	Language use	Mechanics
Metacognitive						
Content	.545**					
	.003					
Organisation	.518**	.984**				
	.006	.000				
Vocabulary	.527**	.971**	.991**			
	.005	.000	.000			
Language use	.491**	.930**	.958**	.974*		
	.009	.000	.000	.000		
Mechanics	.520**	.893**	.919**	.929*	.961**	
	.005	.000	.000	.000	.000	

** Correlation is significant at the 0.01 level (2-tailed).

IX. RESULTS AND DISCUSSION

The results of the study exhibit that this writing course was successful, as it helped to bring about positive changes in the learners' attitude towards writing. This course assisted the learners to improve their writing skill and learn to apply appropriate strategies at each stage of the writing process. It was apparent that enhancing the thought process of the learners had a tremendous effect in regulating their thinking and writing skills. It was evident that most of the learners had understood and practiced the stages of writing process and had learnt to utilize them to enhance their writing ability. In relation to that, [37] also claims that the strategies the learners select to use reflect their general stage of L2 development. If the learners are instructed and motivated to use the strategies, it is applied more or less at the same level by the learners from different educational background.

The results of the descriptive analysis accords with [38] assertion that an important aim of language learning in any system is making learners familiar with strategies, that they can apply to the learning of any skill. The results of the correlation analyses reveal that metacognitive knowledge of these participants is good and there is a positive and significant correlation between metacognitive strategy and the development in their writing. Even though the learners were not able to construct meaningful sentences in the initial classes and also not

aware of logical sequencing, they were able to generate more sentences on their own in the subsequent classes. From the seventh class onwards they started to revise their content. In the following classes they started to correct the errors in their writing. Some of them edited the content of others and provided the correct forms.

The results of this experimental study reveal that the learners have comprehended the recursive nature of writing and they were empowered to think in English by raising their metacognitive awareness. [39] have claimed on the recursive nature of writing "the sub-processes revising and evaluating along with generating, share the special distinction of being able to interrupt any other process and occur at anytime in the act of writing". All the students were enabled to compose organized content and they were familiarized on the processes involved in writing. Moreover they were elevated to manage their own writing by practising them to regulate their own thought process. Apart from that, they effectively applied the written corrective feedback and revised their draft. In this manner, the metacognitive skills of editing, revising, and monitoring were improved in the course of two months. The learners were empowered to write on their own in all contexts. It is evident from the descriptive analysis, variable 12 (writing on their own) is the maximum employed strategy while attempting the writing task. If the learners are instructed in this manner, they will start to self regulate their writing processes. As [40] explain:

Most students recognize that in order to become a proficient writer they must acquire knowledge of vocabulary and grammar; however, they are far less aware of their need for high levels of self-regulation. This need stems from the fact that writing activities are usually self-planned, self-initiated, and self-sustained. Writers typically perform alone, over long periods with frequent stretches of meagre results, and repeatedly revise output to fulfill personal standards of quality. These demanding personal requirements have led writers throughout history to develop varied techniques of "self-discipline" to enhance their effectiveness.

It is inferred from this study, the progress in writing had taken place in a sequential manner. In the initial stage, they committed errors without awareness. After receiving feedback and continuous monitoring from the teacher, the learners started to avoid the errors in their writing. This systematic monitoring enabled the learners to be aware of their errors and instigated them to write a meaningful discourse. Finally the learners could draft their ideas fluently.

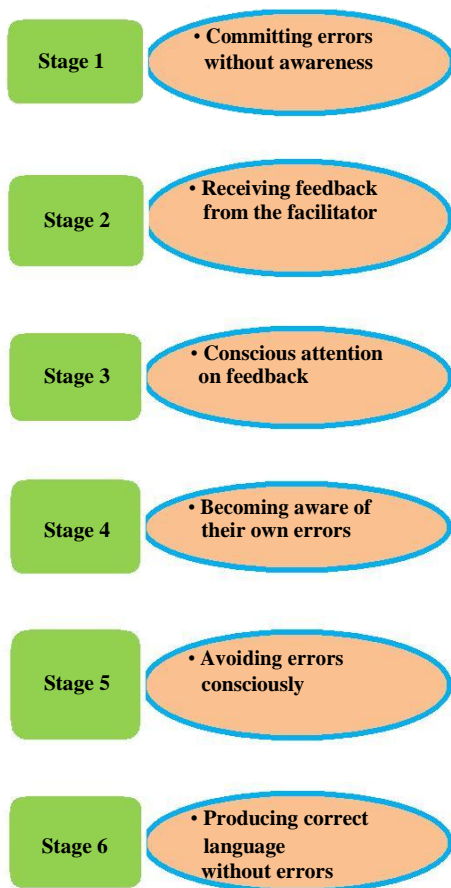


Fig. 1. Sequential progress in learning writing

The results of the present study also contribute to the existing literature and revealed states "... strategies can be learned and developed by individuals when attempting the task" [41]. Similarly [42] construes that writing process as strategies that writers employ for particular purposes. For difficult tasks, writers will use different strategies and for same tasks these strategies may involve no more than the routine production of a first and final draft.

XI. CONCLUSION

The metacognitive instruction promotes the learners' ability to select appropriate strategies for a particular task. The use of metacognitive strategy increases the learners' awareness of knowing how, when and where to apply strategies to attain the writing goals. The results indicate that the learners were made to focus their thoughts in an organized way and involved in the process such as planning, organizing, drafting, revising, editing and evaluating. The planning stage is the first and most important stage in writing. It is also referred as 'getting ready'

stage. In this stage, learners are stimulated to think about how to draft a meaningful composition. In the drafting stage, they would concentrate on explaining and supporting their ideas. When they completed their first draft, they started to revise their content. This revising strategy motivated them to edit their content. While editing, students spent more time to compose well-written drafts. This strategy enabled them to correct the erroneous structures in their draft in order to enhance the readability of the content. In the light of the above discussion, this attempt is a move towards self regulated and autonomous learning, which ensures whether a cognitive goal has been reached/achieved. This study enhanced the thought process of the learners and made them use appropriate strategies that have enabled them to write comprehensively. In a nutshell, this study has made an effort to enable the learners become 'independent' in their working knowledge of English.

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