

## EMPLOYING COGNITIVE STRATEGIES TO DEVELOP THE WRITING SKILLS OF TECHNICAL STUDENTS

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### ***Abstract***

Writing skill is one of the productive skills among the four Language skills (Listening, Speaking, Reading and Writing) and it encompasses a range of copious processes. The world has become text oriented and so writing skill has become the prominent skill that has to be attained by every professional. The universal goal of all language learners is to reach the highest proficiency level of literacy. This is obviously challenging for everyone who learns English as a second language, especially in the province of writing. In the present scenario of this globalized world, all the technical students have to achieve this goal in order to be competitive in their profession. The students who are on the path of their technical education, lack the basic language skills especially the writing skills which is indispensable for their employment. They have to work in a circumstance where they have to draft emails, reports and other technical documents according to their job requirements. Many researchers have analyzed the reasons for the lacking of writing skills among the technical students and the possibilities of enhancing this skill have been explored. Hence this study investigates the possibilities to enhance the writing skills of technical students through the cognitive strategies. This research paper is designed to investigate the efficacy of the cognitive strategy directives in the development of writing skills. It is found that among all other learning strategies, the cognitive strategy is the higher-order supervisory skills which necessitate preparation, observation and evaluation. The study examines the effectiveness of cognitive strategy on the process of teaching and learning writing skills. The paper describes the experimental study of employing cognitive strategy to endorse the writing ability of the students. The study has reached its goal of finding the need of integrating cognitive strategy in promoting the writing skills of technical students in accordance with their employability requirements.

*Keywords: Language skills, Writing skills, cognitive strategy, employability skills, technical students, language learners*

## INTRODUCTION

Wenden (1991) states that cognitive strategies are mental functions or steps used by learners to learn new information and apply it to a precise learning tasks. These tasks are procedures that used to standardize the learning of the learners. The obstacles along the path of learning can be dealt with the cognitive strategies. The implementation of the cognitive strategies that functions in a contracted scope is done by these auxiliary approaches. The cognitive strategies are used to solve problems during the course of language learning and the metacognitive strategies are employed in order to plan and understand these cognitive strategies.

The paper is focused on the use of cognitive strategy for learning in relation to the writing skills of technical students. The strategy is mainly focused on the students who learn English as a foreign language because these students usually find intricacy in writing. Writing in a foreign language is related to both linguistic and communicative. Linguistic is the area in which vocabulary choice, grammar, spelling and the style of language adequate to the writing genre whereas communicative part is the area where the text structure, topic, main idea and argumentation are dealt with. Some students are confused in the structure and style of writing the language and they depend only on their teachers to perform the task. This overdependence on the teacher prevents them from becoming independent writers. While developing the writing skills in a foreign language, one of the vital parts of learning is to attain self-sufficiency. The writing process is divided into three stages- Prewriting, Writing and Rewriting. These subdivisions include the activities such as planning, goal-setting, generating, organizing, reviewing and editing. Most of the researchers highlight the fact that “attention to the process is potentially very important for the teaching of writing skills” (Hayes & Flower, 1980). This process of writing in a second language includes retrieval of relevant subject from the memory; transform the knowledge gathered into text, creating new ideas, grouping of ideas in a coherent method and formulation of goals for a successful task completion. The learning strategies can be classified into various components such as hypothesis formation, cognition, metacognition and social factors. Cognitive learning strategies have been proposed by O’Malley et al., Oxford and Wenden. The cognitive strategies in the view of O’Malley et al. have the components such as rehearsal, organization, summarizing, reduction, imagery, transfer and elaboration. In the view of Oxford it has the components such as reasoning, practicing, receiving and sending messages, analyzing and summarizing. In Wenden’s view, the cognitive strategy can be categorized into selection of information, comprehension, storing and retrieving information. (as cited in Shi, 2017). The

main focal point of this paper is imparting cognitive strategy in acquiring effective writing skills. This study of cognitive strategy employed in the development of language skills is to promote the critical thinking in technical students and endow them in achieving sequence and uniqueness in their writing.

## LITERATURE REVIEW

Learning strategies are defined by Chaudron (2009) as the cognitive operations that are applied by the learners in the classroom and in a certain learning situation (P.109) and it is defined by Oxford(1989) as the conscious steps of behaviours used by the language learners to enhance the language acquisition, storage, retention, recall and reuse of new information”(as cited in Shi,2017).

*Table I : Studies of Learner Strategies (Chaudron, 2009)*

<i>Study</i>	<i>Level of Students</i>	<i>Mode of Study</i>
Chesterfield (1985)	Preschool & Grade I	Classroom Observation
Naiman et at. (1978)	Grades 8,10,12	Classroom Observation, Interviews
Bialystok &Frohlich (1978)	High School	Questionnaire
Politzer & McGroarty (1985)	University Graduates	Questionnaire
Willing (1985)	Adult Immigrants	Questionnaire
O' Malley et at. (1985)	High School	Interviews and Classroom Observation

Table I shows the precursory studies that have been done by various researchers for evaluating the learning strategies in the classroom of different levels. After analyzing all the strategies for language learning the views were highlighted by Griffiths,

“Language Learning strategy theory eclectically combines all the theoretical traditions, viewing learners as cognitively active individuals, operating within a social environment according to their own individual human characteristics”  
(Griffiths,2019).

It was in the late 1950s, a transformation from the composition studies to second language learning has been recognized and TESOL(Teaching English to Speakers of Other Languages) and TEFL(Teaching English as a Foreign Language) have been introduced. The

writing composition in L1 and L2 was differentiated and the limitation led to the development of guided composition. While the writing composition in English as a second language has been recognized as a legitimate field of learning, the number of researches on this topic has been increased. Prefatory researches were done on the writing process by several researchers (Bosher,1998; Zamel,1983; Pennington,1993; Whalen&Menard,1995) focusing on both general writing process and revision writing process. Besides these general studies, many studies have been done in second language writing skills focusing on the attention of teachers, writers, reviewers and students. Both students and teacher have been treated as the pivots in most of the researches. (Mcgroarty & Zhu, 1997; Liebman,1992; Kubota,1997; Spack, 1997; Leki & Carson, 1997; Deckert, 1993; Harklau,1999).

According to Van Dijk and Kintsch, the cognitive strategies are,

“Thinking and problem solving are well-known examples: We have an explicit goal to be reached, the solution of a problem, and there may be specific operations, mental steps to be performed to reach that goal, These steps are under our conscious control and we may be at least able to verbalize them so that we can analyze the strategies followed in solving the problem.”( Van Dijk and Kintsch, 1983).

Cognitive strategies have been investigated by many researchers (Graham & Harris, 1994; Scardamalia & Bereiter, 1986) (as cited as Shabitha,2014) on basis of writing skills and have given the strong opinions that,

“A complete processing model of cognitive strategy would have dealt with all the three aspects – with the cognitive moves that make up writing and their organizations; with levels of processing, from the highly conscious and intentional to the unconscious and automatic; and with how processing capacity is deployed to these various functions in such a way as to enable writing to go on”(Bereiter,1980).

Apart from this, they have given a justified explanation that the cognitive strategies as the way include the cognitive behaviours such as planning, rethinking and reproducing which help to organize the writing task. Garcia and Fidalgo express the prevalence of cognitive strategy in the writing process as,

“The demanding nature of writing requires student engagement to develop both writing competence and skills, writing demands a level of behavioral engagement which incites students to exert more effort and persist longer at tasks and seek instrumental help if necessary.”( Garcia & Fidalgo, 2008).

These revelations of great researchers prove that cognitive strategies have a great eminent influence in the process of writing in English. While these studies have paid

attention to the definition and importance of the process of cognition in writing, the present study focuses on exploring the effectiveness of cognitive strategies in achieving writing skills by the technical students.

### **COGNITIVE STRATEGIES**

The methodology of manipulating the language materials in direct ways is the basic rule of cognitive strategy. The method can be operated through the techniques such as reasoning, analysis, note-taking, summarizing, outlining and reorganizing information to develop a sturdy schema and practicing the structure of language. Memory related cognitive strategies help language learners to interconnect the target language with L1 but do not involved in deep understanding. The memory related strategies are used to learn information and retrieve that information from the conscious memory in a coherent string. For instance, acronyms and abbreviations can be learned using such kind of cognitive strategies. Other techniques in cognitive strategy can be used to learn and retrieve sounds, images and combination of sound and image. The sounds are practiced using rhymes and physical response and body movement are practiced using images. Brainstorming activities are memory related cognitive strategies which are helpful for recalling vocabulary power.

Another type of cognitive strategies is compensatory strategies which help the language learners to guess the information by listening and reading the context. Avoidance strategies are the method of using synonyms, definitions and descriptions for paraphrasing or guessing the missing words that applied to the writing skill. These two skills are very essential in achieving the writing skill in order to improve the vocabulary power, spelling skills and grammar skills. Understanding one's anxiety level is quite interesting while learning the language. Talking about feelings and sensations will increase positive attitude and satisfying oneself for good performance will increase the confidence. The strategies used for attaining this confidence significantly related to L2 proficiency especially the writing skills and it is known as affective cognitive strategies.

The most effective strategies are social strategies which help the language learners interact with peer learners and understand their culture and language. Various types of language tasks can be performed like asking questions to get clarification of confusing information, questions for verifications, role play with target language speakers and discovering social and cultural norms. Social strategies might be effective in the process of planning and evaluation of writing within a peer group. The learners are encouraged to consult each other in case of vocabulary, spelling or grammar complexity.

## COMPONENTS OF COGNITIVE STRATEGIES

Cognitive strategies involve various kinds of activities such as thinking about the content that has to be written, planning of the process, monitoring and finally self-evaluation. The skills of planning, monitoring and evaluation direct the writing of the learner. It also manages, regulates and guides the learners' writing ability. Cognitive strategies used for writing deal with how the learners understand their own writing process and how they acclimatize their writing to cope with its need. Historically, writing was considered to be the most unsophisticated and linear activity. However the process of writing involves a range of strategies such as cognitive, linguistic, affective, behavioral and physical. The application of cognitive strategy in writing has been viewed as a part of writing by many researchers. It was said,

“The application of Metacognitive Learning Strategies in writing should be viewed as a part of ‘process writing’ research.”(Manchon, De Larois & Murphy,2007).

### ***Planning:***

Planning should be done during prewriting process which involves finding the purpose of writing and the ideas to be used in the process. Planning can be done by the individual learner or by the peer group. If it is done in a group, each student is recommended to have his/her ideas about the topics to be written. Everyone can be a criticizer to others. The draft plan is generated and it is reviewed and can undergo changes concerning ingredient parts.

### ***Monitoring:***

Monitoring refers inspecting and verifying the process during the writing. It is done in terms of features such as content and sequence and also in terms of aspects such as grammar and spelling. Monitoring can be done by individual learners.

### ***Evaluating:***

Evaluating is the part of cognitive strategies that is done at the stage of rewriting. This can be done more effectively in pairs by exchanging their products of writing. They can go through the writings of others and discuss for improvement. However, they should evaluate themselves for self-editing. Students can plan their own strategies to evaluate the writing.

## NEED OF STUDY

According to Manousou,

“Writing is an enterprise in and of itself and it is not used to strengthen grammar and vocabulary in the second language classrooms” (Manousou,2015).

Researchers have found out that writing skills are the ability to gather and conveying ideas in a elegant and comprehensive manner to the readers. The concept of writing is the toughest skills among the four language skills (Listening, Speaking, Reading and Writing). The reports of the research studies reveal the importance of the need of attaining writing skills by the technical students. All these four skills of English language are included in the curriculum of the technical students in order to improve their communication skills. Though these skills are included in their academic syllabus, the students are found weak in performing in the technical writing. It is highly essential to achieve this skill for the technical students in order to make them industrial ready. The deficiency of technical students is in the lack in comprehending technical documents, appropriate use of grammar, vocabulary and sentence structure and also in preparing various types of reports. At this scenario, it is necessary to seek a suitable strategy to develop the thinking ability in the students and hence to increase the level of writing skills. In concord with this, a study with the technical students has been engrossed to find out the importance of employing cognitive strategies.

### **RESEARCH METHODOLOGY**

Since most of the students pursuing technical education are from the rural background, they had their basic education in vernacular medium of instruction and not aware of the cognitive strategies. A pre-test was conducted among those students to test their proficiency level and the test showed that most of the students have a very low level writing skills. The pre-test questionnaire was administered in the beginning of the study in order to analyze the social background of the students. It also helped to analyze the consciousness of the learners about the cognitive strategies pertaining to the writing skills attainment. After the pre-test, the same experimental group of learners has undergone training in which the cognitive strategies were employed. Different types of writing tasks were administered to technical learners applying a graded system for evaluation. At the end of the training, post study questionnaire was given to analyze the level of learners' writing skills after employing the cognitive strategies. These tests proved the effectiveness of employing cognitive strategies in developing writing skills.

### **FINDINGS**

The major categories applied to the students as the part of cognitive strategies are remembering, connecting and generating. Flower and Hayes have classified the writing stages as,

“Pre-writing is the stage before the words emerge on the paper, Writing is the stage in which the product is being produced, and re-writing is the process of final reworking on the completed product.”(Flower & Hayes, 1981).

The strategies like remembering, generating and connecting had been used in these three stages of writing. Remembering strategy had been used in the pre-writing stage, generating strategy had been used in all the three stages whereas connecting strategy had been used in both writing and rewriting stages.

*Table 2: Descriptive Statistics of the Cognitive Strategies*

<i>S.No.</i>	<i>Cognitive Strategies</i>	<i>Number of students In a class</i>	<i>Always (%)</i>	<i>Sometimes (%)</i>	<i>Rarely (%)</i>	<i>Never (%)</i>
1.	Recollection of topics (Remembering)	60	35	48	7	10
2.	Relating thoughts and ideas (Connecting)	60	42	35	13	10
3.	Careful follow up of instructions (Connecting)	60	49	33	10	8
4.	Ability to think and generate ideas (Generating)	60	37	47	8	8
5.	Ability to think in English (generating)	60	30	51	12	7
6.	Ability to express thoughts clearly (generating)	60	52	37	3	7

The frequency percentage in the above table shows that the students from the experimental group sometimes recollect ideas about the topic, always relate the ideas to the context, always follow the instructions, sometimes have the ability to generate ideas, sometimes have the ability to think in English and always are able to be lucid in expressing the own thoughts and to implement those thoughts in their writing.

## **CONCLUSION**

The results of the study advocate that the cognitive strategies have a great impact on the learners' writing skills. The employment of cognitive strategies helps the students to achieve consistency in their writing. The students who were trained with the practice of imparting cognitive strategies in their learning have started using these strategies in their writing. The three stages of cognitive strategies like remembering, connecting and generating have equipped them with the ability of gathering data from the memory and generate new

ideas from that. When they use these ideas in their writing, the product gives the highest perfection.

To sum up, the technical students in the study showed a drastic improvement in their writing ability, particularly in the structuring of ideas. Improvements were evident in clarification of ideas for the majority of students but appeared to be a mysterious ideal for the students. The students in the experimental group who were trained with cognitive strategies demonstrated the improvement even after months and they showed trends in developing self-efficacy in their writing.

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