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# EFFECT OF META-COGNITIVE STRATEGIES ON THE READING COMPREHENSION SKILLS OF HIGHER SECONDARY SCHOOL STUDENTS IN PAKISTAN

*[1]Memoona Batool, [2]Aishah Siddiquah

***ABSTRACT**--The present study aimed to investigate the effect of metacognitive strategies on the reading comprehension skills of HSSC ESL learners. The literature review revealed a significant relationship between the use of metacognitive strategies and a deeper understanding of reading content. The study reflects whether the use of metacognitive strategies can make learners strategic and critical readers. A pre-post-test experimental design was used. The study included about 70 experimental and 70 control group participants to identify the effect of metacognitive reading strategy training on reading achievement. Reading comprehension texts were used as pre-tests and post-tests. Students' assignments and answers were analyzed and marked, and a t-test was applied to check how far their reading comprehension skills had improved after using meta-cognitive strategies.*

***Key Words**--Meta-Cognitive Strategies, Reading Comprehension Skills, HSSC Students in Pakistan*

## I. INTRODUCTION

The importance of learning the English language cannot be overstated in an increasingly interconnected and globalized world. Being Lingua Franca, it has become a very essential and important language for communication all over the world. According to (Manivannan, 2006), the English language is one tool to establish our viewpoint. Educational institutions encourage their students to learn the English language at various levels, and it is taught as a major subject in all the schools in Pakistan also. High schools and colleges pay attention to English language education. It is, therefore, important to introduce innovative ways of teaching to improve the quality of teaching and foster more interest in the classrooms. Reading is among one of the basic skills of "the three Rs"-- Reading, writing, and 'Rithmetic—and is an important part of all the educational programs. English reading plays an irreplaceable role in English language education. (Ahmadi & Hairul, 2012) consider reading as an important factor in the learning process for EFL and ESL students and emphasize it at various levels of education. They believe that after completing elementary English courses, a major area of concern and top preference of ESL and EFL students in reading comprehension. Research by (Shafie & Nayan, 2011) mentions that most of the learners, even at the university level, face difficulties in understanding those texts properly, which are written in English. English

[1] *Research and Evaluation Department (RED), Institute of Education, Lahore College for Women University, Lahore, Pakistan, aishahsid@gmail.com

[2] Research and Evaluation Department (RED), Institute of Education, Lahore College for Women University, Lahore, Pakistan

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language reading involves students in recognizing and practicing comprehension. The close relationship between reading and thinking makes reading a valuable part of any language course (Kurland, 2000). Also, it is important for teachers to think beyond teacher-centered classrooms, relying on readily available lesson plans to teach English and too much individual work for students. For years, the teacher-directed classrooms are in practice and have been mostly ineffective in bringing a positive change. (Durkin, 1981) explains that most often, teachers use the question-answer sessions but scarcely provide the instructions to use different comprehension strategies during reading. Also, the research conducted by (McKeachie, 1988) shows that learning of strategies is hardly ever taught by the teachers in institutions. The need is to part with the usual practice and create an environment that promotes learner autonomy, positive interdependence, and meaningful use of language.

(J.M. O'Malley & Chamot, 1990) made a point that learners can only succeed in comprehending a text if they are aware of different learning techniques and strategies. (Anderson, 2002) believed that when learners are aware of their own thinking, they know about the possible solutions to their problems and difficulties. Therefore awareness about the metacognitive strategies helps the students to use suitable strategies to figure out their problems and find possible solutions to those problems. The use of new strategies to teach comprehension can bring more achievements, higher-level thinking, self-esteem, liking for the subject matter, and better inter-group relations. It includes situations in which high school students explore their thinking ability in a thinking environment. Students are required to read and attempt comprehension for the exam, and the English language teachers prepare them for this according to the prescribed curriculum. Therefore, it is important to teach the students different strategies at this level. Usually, traditional teaching methods are used in Pakistan. Teachers provide the students with reading material and ask them to read. They identify the students' mistakes and ask them for corrections and think that the reading skills may be improved in this way. Students also believe that correct pronunciation is the key skill in the reading. However, the correct pronunciation is not the true measure of reading comprehension(Naqbi, 2011).

Reading comprehension is a vital factor in English language learning. It is a complex process, and students have to put effort into comprehending the reading material(Grabe & Stoller, 2002). Researchers focused their attention on difficulties in comprehension and found that one of the ways to improve reading comprehension is to use meta-cognitive reading strategies(Salataki & Akyel, 2002). These strategies involve the mental process and behaviors for putting effort into constructing the meaning and understanding the material (Afflerbach, Pearson, & Paris, 2008). These strategies are effective in the process of comprehension and show the readers' way of interaction with the text. According to (Mokhtari & Reichard, 2002), knowing metacognitive reading strategies help in the comprehension of the text.

### *Metacognition*

(J. H. Flavell, 1976) was the first person to use the term "metacognition". According to him, metacognition is the knowledge of a person regarding his own cognitive processes and outcomes or things related to them. It is the dynamic monitoring and resulting regulation and orchestration of the processes regarding cognitive objects or data for the attainment of some concrete goal or objective. (J.H. Flavell, 1977) asserts that metacognitive skills pave the way for the successful attainment of the formal operational stage of the Cognitive Development, and this

metacognition becomes a basis in different fields, such as verbal skills, skills of reading and writing, language acquirement, concentration, recollection, and societal connections.

***Meta-Cognitive Strategies***

Mental processes that involve thinking about and checking the progress while completing a task are known as Meta-cognitive strategies. Meta-cognition is particularly relevant to comprehension. A person can assess and monitor his or her ongoing reading performance by using metacognitive strategies. While reading the text, if a part is not understood, the reader may re-read it. Hence, these strategies are helpful for comprehension. The good readers are aware of these strategies. Though, some of the strategies which can be effectively taught by the instructors and learned by the students include:

Making connections**:** It involves making connections from the text with another text, with something occurring in the world, or in their own life.

Predicting**:** This includes comprehension through anticipating what will be heard, viewed, or read next using the information from experiences, graphics, and text.

Questioning**:** It involves posing and asking of questions by the learners, a peer, or a teacher to clarify the meaning and promote better comprehension of the material.

Monitoring**:** It involves stopping when text is not comprehended and thinking and knowing what to do. (Ramesh, 2009) revealed that one of the most important strategies which teachers and instructors can help EFL and ESL students learn is recognizing and monitoring. It is an invaluable tool for the learners to know whatever resources they have are sufficient or not and whether they have suitable abilities and if they are on the right track while reading a text or not (Slife & C.A., 1992).

Visualizing**:** Learners create a cerebral picture while reading, viewing, or hearing some material. Visualizing makes reading material, lively; it involves fantasy and use of all other senses.

Summarizing**:** It involves identifying and accumulating the key ideas and describing them in their own words.

## II. COGNITIVE MONITORING MODEL BY FLAVELL

Meta Cognition Model by (J. H. Flavell, 1979) became the basis for study in this particular field of metacognition. Flavell divided metacognition into four subgroups: (1) metacognitive information (2) metacognitive experience (3) targets/aims (4) activities/techniques. According to Flavell, mental development is examined through the mechanisms specified in Flavell's groupings. Metacognitive information is the first group, and it includes an individual's acquaintance or approach regarding the aspects that crash cognitive initiative. Getting information about one's mental development and cognitive goals, tasks, experiences, and actions, comprises three factors: individual, job, and techniques. The individual factor is an individual's consciousness about his skills and the ability to assess strong and weak aspects of reading skills. It is related to the information or understanding of the way a person acquires and proceeds with his or her cognitive behaviour. As an instance, adult students become familiar with the retention ability and restrictions more quickly than the young ones (Flavell., Friedrich, & Hoyt., 1970). The job or responsibility factor is the information on the natural history of the job and the hassles of the job. A person is aware of the height of the complexity of the job and knows to achieve

the targets in a productive manner. It can be a student's knowledge about the time he takes in accepting an explanatory manuscript. The technique, the next factor, includes techniques required for attaining the aims. The student is aware that making notes is a useful plan in order to make précis for any text. All three factors are mutually dependent when students are busy with metacognitive activities.

Another class of metacognition, the metacognitive experiences, include conscious sentimental or cognitive experiences that guide or are relevant to any academic venture (J. H. Flavell, 1979). As an instance, if an individual is conversing with the other person, that person might abruptly sense uncertainty concerning whatever the second individual exclaimed to him. A person's attentiveness to breakdown, achievement, doubt, or approval of stuff has to be done in this class.

Targets are the aims of a cognitive enterprise. As an instance, during reading and assessment, amid amphibians and reptiles from a text can symbolize an objective. Final grouping, proceedings (or techniques) are used b the students for attaining their mental and metacognitive aims. These techniques are used to manage thought behavior, and for making a decision if the mental objectives are fulfilled or not. Each of the four classes of metacognition, cognitive information, metacognitive experience, targets or aims, and activities/techniques of the model of mental observation by Flavell can be incorporated in the procedure of observation or adapting.

## III. OBJECTIVES OF THE STUDY

The purpose of this research study was to identify the effect of meta-cognitive techniques on the English reading comprehension skills of HSSC learners of Lahore city.

## IV. METHODOLOGY

The goal of this experimental study was to examine the effect of meta-cognitive strategies in developing the reading comprehension skills of HSSC students. A module was developed for giving treatment to the experimental group. The control and treatment groups were given a "pretest" to assess the prior knowledge and reading comprehension skills of the students before the treatment. The experimental group was given the treatment of reading comprehension for one whole session with one class per week in which the students were trained to use meta-cognitive strategies. Treatment includes the application of metacognitive strategies through textbooks and worksheets. The control group was taught through the lecture method and model reading. A"post-test" was given to both groups to see how they use of meta-cognitive strategies had affected the reading comprehension skills of the students.

### *Participants*

For the purpose of the experiment, a total of 140 students were selected from two private colleges. The participants were randomly distributed in two equal groups, with 70 participants in experimental and 70 in the control group.

### *Instrumentation*

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Pretest and posttest were developed by the researcher, each containing 10 short questions to assess students' reading comprehension skills. The pretests and posttests were validated by the experts and pilot tested. The language ambiguities were removed in the light of feedback and reflections.

***Instructional procedure***

All 140 participants of both the control and experimental group were pretested individually to examine the level of their reading comprehension skills. Experimental group comprised two classes of HSSC students consisting of 70 students that were given the treatment of using metacognitive strategies for a whole session, whereas the other two sections of HSSC were taught to work traditionally for the same time period. After six months, a post-test was taken to examine the reading comprehension skills of both groups.

The participants of the experimental group were introduced with the meta-cognitive strategies and also why, when, and how to use those, like how to put together an answer or make a practical objective or aim in their reading. The learners were guided about recollecting and relating their previous knowledge to the new reading text when they previewed the lesson. They were also guided to develop habits of monitoring and keep checking their text with an effort to decide if they had understood. In the beginning, the students were taught these strategies by giving a straight explanation. Later, when they became able to summarize and analyze, they were guided to apply their new knowledge.

While instructing the students, the teacher gave a demonstration of using the metacognitive strategies in connection with the reading text in order to guide the learners about making use of these strategies. Learners were also given the opportunity to model the metacognitive strategies like previewing, questioning, monitoring, and summarizing as both the entire class and little groups using articles or textbook selections. As an instance, in little groups of three or four, students were supposed to take turns modeling loudly the strategies they were using to understand the given reading texts. As one learner gave a demonstration, the others were supposed to provide feedback in suitable breaks. Making use of headings, subheadings, italics, and images, they of setting goals and skill of monitoring one's reading were seen while the students were previewing and self-questioning continuously. Also, monitoring was shown through the summaries of the reading texts written by the learners and also through the preview questions and other questions that appeared from time to time. Close thinking was shown through the writings about the author's objective, the worth of the text, and if it was relevant to other material read by the learners. It showed awareness of the association and the main topics that were important in that reading text. Capability


**Figure 1:** Treatment to the experimental group

There were a total of 20 teaching sessions for the experimental group in addition to the two sessions for pre and posttests. All the sessions were of about 60 minutes. The first session was used to explain the meta-cognitive strategies (what are meta-cognitive strategies? why, when, and how to use those?). The next six sessions were used to introduce the six metacognitive strategies: Predicting, Making Connections, Monitoring, Questioning, Summarizing, and Visualizing. The rest of the 13 sessions were devoted to practicing these metacognitive strategies.

Learners in the other Control Group were given direct instructions to teach the same reading text and study skills, but they were not provided any explanation of the strategies or conscious monitoring of their mental activities. The control group was given more instructor-oriented sessions, whereas the experimental group went through a learner-centered experience. In every lesson, the teachers selected lessons and reading tasks from the textbooks of the English department of the institution, which were also appropriate for the students of that level.

## V. RESULTS

The pre and posttest scores of both the control and treatment groups were compared by using an independent sample *t-test.*

**Table 1:** Pretest, posttest, and gain scores of experimental and control groups

| | Group | N | M | SD | Mean Difference | Df | T | P |
|---|---|---|---|---|---|---|---|---|
| Pretest | Control | 70 | 16.44 | 4.62 | | | | |
| | Experimental | 70 | 15.94 | 4.61 | .500 | 138 | .641 | .522 |
| Posttest | Control | 70 | 15.00 | 4.42 | 3.286 | 138 | 4.576 | .000 |
| | Experimental | 70 | 18.29 | 4.07 | | | | |
| Gain Scores | Control | 70 | -1.44 | 1.18 | 3.786 | 132.886 | 17.089 | .000 |
| | Experimental | 70 | 2.34 | 1.43 | | | | |

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There was no significant difference in pretest of experimental (*M*= 15.94, *SD*= 4.61) and control group (*M*=16.44, *SD*= 4.62, p > .05).Experimental group (M = 18.29, SD =4.07) was significantly better than the control group (M = 15.00, SD = 4.42) in posttest (p < .001). Similarly, gain scores of experimental group (*M*= 2.34,*SD*= 1.433) were also significantly higher than the control group (*M*= -1.44,*SD*= 1.18, p < .001).

## VI. DISCUSSION

The purpose of this research study was to check how metacognitive strategies taught through verbal instructions, along with various opportunities to practice affect learners' reading comprehension skills. The findings of the research revealed a marked difference between the results of the experimental and control group, and it was proved that the learners in the experimental group were able to comprehend different reading texts better than those in the control group. This suggests that incorporating such kind of strategies in reading comprehension courses can improve students' performance. This result accords with the previously conducted research(Rupley, Blair, & Nicholas 2009; Taraban, Kerr, & Rynearson, 2004), which emphasized the importance of reading strategy training, and it seemed to have a fruitful impact on the learner's sense of reasoning and higher-order thinking skills. (Lovett, 2008) also claimed that introducing new skills and teaching reading through metacognitive strategies can improve the learner's ability if they apply and practice these efficiently. Besides, the findings of the research also can be related to the studies by (Cubukcu, 2008)and (J. M. O'Malley, 1987) supporting the fact that students' reading comprehension skills and self-recognition can be increased with the help of metacognitive strategies.

## VII. CONCLUSION

This study found that those students who work with the help of metacognitive strategies show a great difference in their reading comprehension than those learners who are guided by the conventional method of lecture. Meta-cognitive strategies helped the students learn the concepts and increased their reading comprehension skills. As students used metacognitive strategies, their performance improved in reading comprehension tests. Students of the treatment group practically applied metacognitive strategies and scored better than the learners of Control Group in the post-test. It proved that reading comprehension could be developed through metacognitive strategies. This study provides a basis for the teachers to encourage their students to adopt metacognitive strategies for developing reading comprehension skills as they move further towards higher education.

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