# Exploring the ESL Students' Metacognitive Awareness about Reading Strategies Inventory in Pakistani Context

\* Azhar Pervaiz, Assistant Professor (Corresponding Author)

\*\* Faria Shahzadi, Principal

\*\*\* Faheem Arshad, Lecturer

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### *Abstract*

*The main aim of this study is to find out the methods through which learners learn and further to find out the phenomenon that how learning and cognition work to increase better learning skills. Research shows that Meta Cognition (MC) is an influential soothsayer of acquisition. In this study, the researchers examined the effects of thinking techniques on students' learning performance and for this purpose Metacognitive focus of analyzing techniques inventory (MARSI) along with a reading comprehension test is carried out. A sample comprising of the students at schools (N = 291) was randomly selected from a cluster of the Pakistani population. The researchers selected the students of Elementary level from different schools of Pakistan including English medium and Urdu medium as a target population and divided the population into different clusters on the basis of provincial, district, and tehsil level. The study provided the basis for the validity of MARSI in the Pakistani context and at the first step, the researchers implemented the MARSI test, and at the second stage, the Reading Comprehension test was conducted. The analyses show a strong positive correlation between Reading strategies and Metacognitive techniques awareness among the students. The study further helps and guides the researchers to implement additional studies to get benefits from these strategies in the classroom setting, learning, and training of the students. Awareness about consciousness and its implications in the classroom will be a nourishing régime for the brains of the learners. Not only do the learners get benefits from it, but it also helps for the development of curriculum at all levels of school students.*

**Keywords:** Metacognition, Knowledge, Learning, Techniques, Acquisition, MARSI

**Introduction**

Cognition is a process to understand the mental process, mechanism of the human mind, and its functional understanding. MC (39 Metacognition (cognition of cognition) is a term used to describe the process of thinking that has been investigated by researchers. MC triggers individualistic learning by providing opportunities to look into one's thinking. This kind of consciousness can guide adaptable and confident problem-solving and Feelings of self-efficacy and self-esteem that's it. Especially beneficial for pupils who struggle in school since they don't know how to evaluate and organize their learning resources. According to Paris and Winograd (1990), there are four kinds of instructions: Metacognitive explanation, scaffold instructions, cognitive coaching, and cooperative. Now teachers can use a single method or combine all the strategies for teaching students how to think when reading, writing, or computing in the classroom.

Alt (2015), analyzed how the self-performance of the learner within the higher education system is related to work based on constructivist ideology. For this purpose, constructivist ideas, the self-academic learning development were measured. 167 students, who were learning in a problematic environment (PBL) through traditional ways and in a traditional environment. It was highlighted that the students learned more and more in highly problematic environments as compared to traditional lecture-based environments. The main focusing interest was based on "higher cognitive tactics for learning in academic fields and functions in knowledge and knowledge simulation. It was the dominant predictor for the learning of self-efficiency and academic ways."

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\*    Department of English, University of Sargodha Email: azhar.pervaiz@uos.edu.pk
\*\*   Aspire Grammar School, Phalia, Mandi Bahuddin Email: kazmifaria89@gmail.com
\*\*\*Department of English, University of Sargodha Email: faheem.arshad@uos.edu.pk

**Instruments and Inventories**

To measure learners' MC reading strategies awareness an instrument MARSI is used. MARSI stands for Metacognitive recognition of a catalog of reading strategies. Used for measurement students' awareness about their MC skills while reading academic and 22 School-related texts. It was designed by Mokhtari to help students improve their metacognition and work more strategically. Methods for reading and learning. It was originally developed in 2002 and is applicable for grade six and onward grades and the method of administration will be pen and pencil. This survey form includes 30 items and the approximate time for completion will be 10 to 12 minutes. It follows the format of the Five-point Likert scale. The (MARSI) model measures the three broader perspectives in learning. (1) GRS (21 Global Reading Strategy), (2) PSS (Problem Solving Strategy), (3) SRS (Support Reading Strategy). These reading strategies provide support mechanisms or tools designed to maintain responsiveness to reading (for example, the use of dictionaries and other support systems, orientation materials). These three types of strategies are interrelated and supportive when used in the process of building meaning from text

**Research objectives**

The major goal of this study is to evaluate the application and validity of MARSI in the Pakistani context. Moreover, how metacognitive strategies awareness affects the ESL students' performance. The researchers have chosen the Metacognitive Awareness of Reading Strategies Inventory (MARSI) to measure students' Metacognitive awareness and the use of reading strategies while reading academic materials. The MARSI measures three broad categories of strategies including global reading strategies (GRS), problem-solving strategies (PSS), and support reading strategies (SRS).

**Research Questions**

1.     What is the level of MARSI of good readers and poor readers?
2.     Whether or not there is a significant difference between the good readers' and the poor readers' levels?
3.     Which reading strategy of subscales and items of MARSI is the most used and least used?
4.     What is the overall tendency of Metacognitive awareness of strategy used as reported by ESL in an academic context?

**Literature Review**

In modern educational psychology, MC research is defined as a study of self-thinking. Devine (1993) defines the field of education itself. It is a true sense of thinking with positive self-control or self-learning.

The first researcher in this field was Flavell (1976), who first used the term in the field of education. He used this term for self or individual perception of learning. He claims that "metacognition is all about oneself and his or her learning tactics or the consequences of something related to self-learning." He further argued that productive learning is information, not only learning in the field but also active self-management. Impact-based results are the central tenant of the MC process. There are two important key considerations to consider when investigating the MC learning process. Awareness of MC knowledge and MC learning strategies. The reader not only goes into the text while understanding a particular text or passage but also has something like a symbol that is an important point in identifying the author's mood for the audience. If you do not understand the sign clearly, you cannot understand it directly. Reading comprehension is not a one-way task, and the reader must think about many other things to see the true meaning of his or her mind. This is in contrast to Collins & Smith (1980), who describes certain steps teachers may follow when teaching metacognitive skills. There is debate as to whether MC is field-specific or broader and cross-cutting. Many studies have shown the benefits of using MC skills in specific areas, such as reading and solving math problems. However, it is unclear how skills learned in one discipline or task will be transferred to another discipline or task.

Veenman & Spaans (2005) argue that metacognitive skills originally developed within separate domains and were later transferred and generalized between domains. Recognition of automatic or implicit metacognition can cause further difficulty in distinguishing between cognitive and metacognitive processes. Still, there are other complications to consider when testing newborn metacognition. It depends on age, society, and the learner's education (Whitebread et al., 2010). Contrary to the view that metacognitive thinking occurs in children aged 8 to 10 years, various studies have been conducted. Further research documented different cases of adolescent learners and their

different results based on MC's work (Veenman & Spaans, 2005). Findings include an 18-month-old child with error correction strategies, a 5-year-old child with unconsciousness awareness, and a 3- to a 5-year-old child who uses various linguistic and non-verbal indicators of the metacognitive process.

Flavell (1979) proposed a model of cognitive monitoring that includes four interactive subparts: metacognitive knowledge, metacognitive experience, goals, and strategy. According to him, metacognitive knowledge is defined as "a piece of conserved knowledge related to humans as cognitive beings and their multiple cognitive tasks, goals, behaviors, and experiences" (p.906). This type of knowledge is part of the knowledge that treats an individual as a cognitive being and takes into account various cognitive tasks, goals, behaviors, and experiences.

Wenden (1998) applied Flavell's model of metacognitive knowledge later to the realm of L2 learning. This includes three different categories: human knowledge, task knowledge, and strategic knowledge. Human knowledge includes generally available information about human thinking and how that thinking process works in the human brain, as well as internal and external influences that lead to the success or failure of the learning process. Includes judgments regarding learning ability (Vandergrift et al., 2006). A task or task knowledge is the learner's information about the purpose, type, and requirements of the learning task. It also contained information and knowledge of different difficulties for the two specific tasks. This type of knowledge can also remind learners to consider the various factors that can play a role in task complexity, as well as the characteristics of the spoken message (Vandergrift et al) 2006). Finally, strategic knowledge refers to the learner's knowledge of the use of strategies to achieve cognitive goals.

Brown (1987) proposed a model in which metacognition consists of two dimensions. Cognitive knowledge and cognitive regulation. Cognitive knowledge merged with what the learner knew about the cognitive process, facilitating an insightful aspect of metacognition. Further research divided cognitive cognition into declarative knowledge, procedural knowledge, and conditional cognition (Jacobs & Paris, 1987). Declarative knowledge includes knowledge of yourself as a learner and the factors that influence your performance. Know about.

**Theoretical Framework and Methodology**

The population of the present study is Pakistani students and a sample of 291 students of 8th, 9th, and 10th grades from Government Secondary School for Boys, Makk-e-Waal, Beacon house School System, Mandi Bahuddin, and Government Girls High School Kadhar, Tehsil Phalia, District Mandi Bahaudin is randomly obtained. All participants will complete a 12-item version of the 30-item instrument. This is the Metacognitive Awareness (MARSI) of the Reading Strategy Catalog, which measures a student's metacognitive awareness and the use of reading strategies when reading academic material. In addition, reading comprehension tests are conducted to test whether awareness of various reading strategies is somehow related to reading comprehension. The current study employed the experimental method of research to evaluate the predictive validity of the test instrument of MARSI to understand the validity of the test instrument.

For better understanding, test scores of MARSI are correlated with school performance grades of ESL students to find out the predictive relationship of the MARSI scores with School performance grades. Cross-sectional method of Time horizon context of experimental research used. Students of 8th, 9th and 10th grades are taken as samples from the target population by using a stratified sampling technique. The theoretical building lies in the assumption that metacognitive strategies have positive effects on students learning. Students who use different metacognitive strategies have good learning abilities than those who do not. Metacognitive strategies expand the capabilities of students' understanding.

The present study has employed MARSI, to measures a student's MC awareness and use of reading strategies when reading academic material. MARSI has measured three broad categories of strategies, including Global Reading Strategy (GRS), Problem Solving Strategy (PSS), and Supportive Reading Strategy (SRS). The population of this study consists of Pakistani students and samples of 291 students of 8th, 9th, and 10th grades from Government Secondary School for Boys, Makk-e-Waal, Beacon house School System, Mandi Bahuddin, and Government Girls High School Kadhar, Tehsil Phalia, District Mandi Bahuddin were taken randomly. In a test trial, for example, all the participants are supposed to choose an option for every question of tool (MARSI) which evaluates the learners' Metacognitive awareness or inventory for academic trials. There would be differences in results and that difference would be the indicator to highlight the weaknesses or errors in self-

learning. Skilled and unskillful readers are separated primarily based totally on comprehension skill, which employs their general expertise to recognize and draw appropriate inferences from literary writings and use their comprehension tracking to restore techniques (Mokhtari & Reichard, 2002).

A mixed technique is used to obtain each qualitative and quantitative record which might be statistically examined to validate the hypothesis. The quantitative measures of this research are primarily based on descriptive facts and inferential facts. Descriptive facts describe the records received with the assistance of using the use of raw rankings, means, standard deviation, and rank order. The inferential facts might be Pearson correlation and t-test. The SPSS software is used to research the results received from the reading comprehension. Interpretation of correlation coefficient is provided in the form of tables. By doing this, the causal connection between MC studying, interpretation focus, and studying comprehension is discussed deeply. This study would be a pioneer study to explore the Awareness of Reading Strategies Inventory in Pakistani Context. The quantitative method has been chosen for the study and it stresses objective measurement and the mathematical or numerical examination of information gathered through a survey, questionnaires, and investigations, or by maneuvering pre-existing numerical information employing computational tools.

The researchers have used the survey method and surveyed for collection of the data at Science school about the performance of 291 selected students who use metacognitive strategies while learning a second language. Generally, it needed a questionnaire to be designed to collect data for survey-based research. The researchers have also collected data for the research with the help of a questionnaire attempted by the students of ESL Mandi Bahuddin

**Data Analysis**

The data is collected through classroom tests and in a controlled environment students were given tests with mild intervals of time. At the first stage, the students were given a MARSI test to score their response in a given time. After the collection of filled forms students were given a break interval to reduce the likelihood of boredom and fatigue. In the second part of data collection, the students were called back to the same classrooms and controlled conditions and implemented the comprehension and reading test. In the third phase of data collection, data scores were calculated and forms evaluated to avoid the missing values and responses of data after those 40 collected records had been entered into the SPSS device for interpretation of scores. The 23 Metacognitive Awareness of Reading Strategies Inventory which is used to acquire the records incorporates extraordinary varieties of Metacognitive analyzing strategies.

**Table 1: Use of Metacognitive Strategies by School Students (N=291)**

| Name of the Strategy | Frequency of Usage (%) | |
| --- | --- | --- |
| | Use most of the time | Don't use it regularly |
| Use of Global Reading Strategy | 57.04 | 42.96 |
| Use of Problem-Solving Reading Strategy | 66.67 | 33.33 |
| Use of Support Reading Strategy | 61.17 | 38.83 |

Table 1 suggests the usage of Metacognitive techniques used by school students for all lessons. The consequences display that the problem-solving studying approach is the very best used approach in school students with a percent of 66.67. The 2nd maximum used approach is the Support studying approach and 61.17 percent of school students use this approach in studying. Global studying approach is the bottom used approach with the aid of using college students with a percent of utilization of 57.04. The following desk suggests the categorized evaluation approximately the usage of Metacognitive techniques for eighth, 9th, and tenth magnificence college students

**Table 2: Use of Metacognitive Strategies by 8th Class School Students (N=28)**

| Name of the Strategy | Frequency of Usage (%) | |
| --- | --- | --- |
| | Use most of the time | Don't use it regularly |
| Use of Global Reading Strategy | 89.29 | 10.71 |
| Use of Problem-Solving Reading Strategy | 89.29 | 10.71 |
| Use of Support Reading Strategy | 75.00 | 25.00 |

Table 2 suggests the results of eighth-class school students who are using Metacognitive techniques in studying. The Global studying approach and Problem-Solving Reading Strategy are the very best used techniques among eighth class students. The utilization of the Support studying approach with the aid of using eighth magnificence college students is seventy-five percent which suggests that the ratio of college students the usage of the Support studying approach is much less

than the Global studying approach and Support studying approach. The outcomes display that grade eighth school students are properly aware of the use of numerous MC studying techniques. Results demonstrate that students of grade Eight use global reading strategy and problem-solving strategy most of the time. As it is witnessed that these students represented a better and quick understanding of given reading material as compared to 9th grade and 10th-grade students.

**Table 3: Use of Metacognitive Strategies by 9ᵗʰ Class School Students (N=149)**

| Name of the Strategy | Frequency of Usage (%) | |
|---|---|---|
| | Use most of the time | Don't use it regularly |
| Use of Global Reading Strategy | 53.02 | 46.98 |
| Use of Problem-Solving Reading Strategy | 73.83 | 26.17 |
| Use of Support Reading Strategy | 66.44 | 33.56 |

Table 3 displays the results of ninth-grade school students regarding the usage of Metacognitive techniques. The table shows that Problem-Solving Reading Strategy is the best-used method among the students of ninth grade. Eighty-three percent of students are using this strategy. The next most used strategy is the Support analyzing method. 66.44 students are using this strategy. The usage of the Global analyzing method among ninth-grade school students is 53.02 percent.

As compared to the information accumulated from grade eighth school students this table suggests a decrease in awareness of analyzing techniques. When it comes to awareness of activities, techniques, and methods that help us to control our cognition difference or similarity of age, class, and culture isn't a rule. It varies from culture to culture, age to age, and grade to grade. MARSI is a suitable tool to assess the MC awareness of a big or small group of people as Dabarera et. al. (2014) that MARSI is a useful data collection instrument to analyze students' needs and awareness. 13 items out of 30 of MARSI forms are discussing GLOB reading strategies while 9 of them are SUP reading strategies and the lowest number of strategies mentioned in the inventory is of PROB. The analysis of collected data shows students of class 9th are mostly aware of these 9 strategies and using them to comprehend the reading texts.

**Table 4: Use of Metacognitive Strategies by 10ᵗʰ Class School Students (N=114)**

| Name of the Strategy | Frequency of Usage (%) | |
|---|---|---|
| | Use most of the time | Don't use it regularly |
| Use of Global Reading Strategy | 54.39 | 45.61 |
| Use of Problem-Solving Reading Strategy | 51.75 | 48.25 |
| Use of Support Reading Strategy | 50.88 | 49.12 |

The above Table 4 indicates the results of tenth class school students who are using Metacognitive techniques in studying. The Global studying method and Problem-Solving Reading Strategy are the highest used strategies by 10th class students with a percentage of 54.39 (GLOB) and 51.75 (PROB). The usage of the Support reading strategy by 10th class students is 50.88 percent. As compared to the other two classes (8th and 9th) results of this class show there is hardly 52 percent of students who are frequently taking help from MC strategies to resolve their problems while reading texts. 48 percent of students are either not aware of the strategy, use it while comprehending reading stuff, or use them irregularly and seldom. Reading comprehension is one of the critical abilities for gaining knowledge of any dialect and students who face problems in reading mostly cannot perform better in other language learning skills as well.

**Table 5: Correlation between Reading Accuracy and Metacognitive Strategies (N=291)**

| | Reading accuracy | Global strategy | Problem-solving strategy | Support reading strategy |
|---|---|---|---|---|
| Reading accuracy | 1 | # | # | # |
| Global strategy | .598 | 1 | # | # |
| Problem solving strategy | .468 | .523 | 1 | # |
| Support reading strategy | .504 | .519 | .565 | 1 |

Table five shows the relationship between the reading accuracy and Metacognitive techniques utilized by the school students of the 8th, 9th, and tenth classes. The reading accuracy is especially correlated with the Global analyzing method and the correlation is 0.598. The 2nd maximum correlation exists among analyzing accuracy and Support analyzing method this is 0.504. The

problem-Solving method has the bottom courting with reading accuracy with a correlation value of 0.468.

**Table 6: Dependence of Reading Accuracy on Metacognitive Strategies (N=291)**

| DV (reading accuracy) | Coefficients | p-value |
|---|---|---|
| Global strategy | 8.518 | .000 |
| Problem-solving strategy | 2.045 | .028 |
| Support reading strategy | 4.115 | .000 |
| Constant | 17.002 | .000 |

Table six shows the regression results taking reading accuracy as a dependent variable and the three Metacognitive strategies as independent variables for the school students of 8th, 9th, and 10th classes. It shows the dependence of reading accuracy on Metacognitive strategies. The coefficient of Global strategy shows that as the use of Global strategy will increase by one Likert- scale point the reading accuracy will increase by almost 8.5 percent. Similarly, the coefficient of the Support reading strategy shows that as the use of the Support reading strategy will increase by one Likert-scale point the reading accuracy will increase approximately four percent. The Problem-Solving reading strategy has the lowest contribution towards the improvement of reading accuracy is around two percent with each additional Likert-scale point.

Further, table six shows that reading accuracy is a dependent variable (DV) while p-value represents the probability to get results on a higher level as seen in the results of the statistical measurement. If the P-value is smaller, the coefficient value is higher.

Table seven and table eight are statistical illustrations of correlation and dependence of reading accuracy and Metacognitive strategies. These results are based on the results collected from the MARSI survey and reading comprehension test. The results prove the hypothesis of the research that selection of reading strategies

**Table 7: Correlation between Reading Accuracy and Metacognitive Strategies (N=28)**

| | Reading accuracy | Global strategy | Problem-solving strategy | Support reading strategy |
|---|---|---|---|---|
| Reading accuracy | 1 | # | # | # |
| Global strategy | .466 | 1 | # | # |
| Problem solving strategy | .310 | .380 | 1 | # |
| Support reading strategy | .347 | .324 | .786 | 1 |

The correlation of different strategies with reading accuracy is presented in Table 7. This table individually tackles with N=28 who are students of grade 8 on school level. Relation between reading accuracy and the use of various MC reading strategies is investigated in detail and GLOB reading techniques won the ground with the correlation of .466 and SUP strategies got their position in the second rank with the correlation of .347 and among all three PROB strategies correlation is .310 which recorded as the lowest one.

**Table 8: Dependence of Reading Accuracy on Metacognitive Strategies (N=28)**

| DV (reading accuracy) Variable | Coefficients | P-value |
|---|---|---|
| Global strategy | 12.619 | .046 |
| Problem-solving strategy | -.756 | .906 |
| Support reading strategy | 5.083 | .397 |
| Constant | 6.548 | .753 |

Data presented in Table seven demonstrate the correlation whereas the content of Table 8 is throwing light on the dependency of reading accuracy on MC reading strategies of 8th-grade learners. Coefficients and P-value are utilized to find out the level of reading accuracy dependency on the three variables of GLOB, PROB, and SUP subscales of MARSI. The overall result shows the dominance of the Global reading strategy with a coefficient value of 12.619 and a P-value of .046 which is less than0.05. It shows that students of 8th grade are mostly inclined to use those reading strategies that fall under the subscale of GLOB reading strategies and GLOB reading strategy has the highest influence on the reading accuracy of 8th class students. SUP and PROB reading strategies have an insignificant role in determining the reading accuracy of 8th class students. For instance, take the results of table seven, clearly shows that the learners of 8th grade who are inclined to employ GLOB reading strategies perform comparatively better than the other students who focus on the use of other subscale MC strategies and techniques. Table 5 results also support the idea that GLOB reading techniques are the

most effective one as far as reading accuracy in reading comprehension is concerned in the Pakistani context. It is highly correlated with reading accuracy as the correlation is 0.598. Results of Table 4 somehow support GLOB reading strategies as the most effective ones and it reports the almost equal use of GLOB (54.39) and SUP (51.75) reading strategies by the learners of grade 10th students. So, till here, it can be concluded that the subscale of GLOB reading strategies is heading all others as far reading comprehension of Pakistani learners are concerned.

**Table 9: Correlation between Reading Accuracy and Metacognitive Strategies (N=149)**

|  | Reading accuracy | Global strategy | Problem-solving strategy | Support reading strategy |
|---|---|---|---|---|
| Reading accuracy | 1 | # | # | # |
| Global strategy | 0.494 | 1 | # | # |
| Problem solving strategy | 0.413 | 0.457 | 1 | # |
| Support reading strategy | 0.351 | 0.402 | 0.463 | 1 |

The correlation of four different strategies is presented in table nine. This table individually tackles N=149 who are learning in grade Nine on school level. Relation between reading accuracy and the use of various MC reading strategies is investigated in detail and GLOB reading techniques won the ground with the correlation of 0.494 and PROB strategies got their position in the second rank with the correlation of 0.413 and among all three SUP correlations are 0.351which recorded as the lowest one.

It is noted that overall, the correlation of reading accuracy is weakest with Metacognitive reading strategies that fall under the subscale of support reading strategies as it is witnessed in the results of Table 2 where it is concluded that learners of 8th level use Support reading strategy the least. Almost the same kind of results could be seen in Table 3 which has represented the percentage of Support reading strategies 66 percent which is the lowest one among all three subscales of reading strategies used by 9[th-]grade learners. The usage of the Support reading strategy by 8th class students is 75 percent which shows that the ratio of students using the Support reading strategy is less than the Global reading strategy and Problem-Solving reading strategy. The same ratio of results could be seen in other classes also, with no specification or exception.

**Table 10: Dependence of Reading Accuracy on Metacognitive Strategies (N=149)**

| DV (reading accuracy)<br><br>Variable | Coefficients | P-value |
|---|---|---|
| Global strategy | 6.186 | 0.000 |
| Problem-solving strategy | 2.786 | 0.021 |
| Support reading strategy | 2.035 | 0.150 |
| Constant | 28.244 | 0.000 |

The prime focus of this study is to analyze the dependency of reading on three unbiased variables which include international strategy, problem fixing approach, and assist reading strategy along with that correlation of reading accuracy and three subscales of MC reading strategies. Data collected from grade Nine students (N=149) also supports the previous results of this research. It demonstrates that the GLOB reading strategies help students to improve reading skills with the coefficient of 6.186 and P-value .000 that a significant effect of GLOB reading strategies on reading accuracy. PROB solving reading strategies also have a 36a significant effect on the reading accuracy of grade 9 students with a coefficient of two .786. It shows reading accuracy will increase by 2.79 percent with the utilization of PROB solving reading strategy by one Likert-scale point. The role of SUP reading strategies is insignificant in improving the reading accuracy of grade 9 students.

**Table 11: Correlation between Reading Accuracy and Metacognitive Strategies (N=114)**

|  | Reading accuracy | Global strategy | Problem-solving strategy | Support reading strategy |
|---|---|---|---|---|
| Reading accuracy | 1 | # | # | # |
| Global strategy | 0.723 | 1 | # | # |
| Problem solving strategy | 0.550 | 0.551 | 1 | # |
| Support reading strategy | 0.659 | 0.631 | 0.538 | 1 |

**Table 12: Dependence of Reading Accuracy on Metacognitive Strategies (N=114)**

| DV (reading accuracy) Variable | Coefficients | P-value |
|---|---|---|
| Global strategy | 10.206 | 0.000 |
| Problem-solving strategy | 2.470 | 0.070 |
| Support reading strategy | 6.335 | 0.000 |
| Constant | 5.138 | 0.246 |

Regression and correlation methods are used to analyze the data collected from $10^{th}$-grade learners who were studying in different schools in Punjab. Reading accuracy is highly correlated with Global reading strategies as the coefficient of 0.723 given an elevated place among all other strategies used by students. These strategies came on the scene as a universal element for having a better reading experience as all the 12 tables have revealed these are the strategies that are used by competent readers. Learners of $10^{th}$ grade show a higher level of reading accuracy when they have used the MC strategies that fall under GLOB and this difference is not minor but very obvious as the coefficient of PROB reading techniques is 2.470 having a difference of 8 percentage points as compared to GLOB. The coefficient of SUP reading strategies is 6.335 for grade 10 students which shows that reading accuracy will increase by 6.335 percent with one Likert-scale point increase in the use of SUP reading strategy.

**Discussion**

This present study was conducted to investigate the use of metacognitive reading strategies in the Pakistani perspective, and the correlation between this reading accuracy and the use of MC reading strategies has also been investigated in detail. Based on the questions in this survey such as what are the MARSI scores for good and bad readers and is there any difference between the two levels, data collected from a sample of N=291 is analyzed in two different levels. Firstly, data gathered from groups of three grades, 8th, 9th, and 10th is analyzed on individual group level for locating dependency of reading accuracy on independent variable of three subscales of MC reading strategies including GLOB, SUP and PROB. Regression analysis demonstrates clear differences in MARSI levels between good and bad readers. To make this difference clearer and more obvious for the audience of this research dependency of reading on different MC reading strategies is also analyzed critically. The PROB-reading strategies are mostly used by the chosen sample (N=291) with regular users of 57.04 percent and irregular users of 48.06. Before conducting this study, the researchers planned to simply measure the MARSI level of students in the Pakistani context however, while conducting the research there occurred a need to test the reading abilities of the learners selected as sample (N=291) so a reading test was conducted also. There was a dire need to conduct the test to find the relation between the reading skill of students and awareness of MC reading strategies. While conducting the research a few more facts came on the scene that mastering MC strategies isn't limited to the field of education but encapsulates the whole life of an individual. Though this area is not covered in the research, it could be a topic to inspect further to take advantage of these skills.

**Conclusion**

The objective of the present study was to understand the validity of MARSI instruments in the Pakistani context. The research is conducted in a controlled condition and has controlled all intervening variables during data collection. Students were given a brief introduction to the research. They were introduced to the MARSI test and MC strategies rating scale. MARSI scale comprises 30 items inventory formed by Mokhtari & Reichard, (2002) was formulated to check and to evaluate validity and reliability of reading strategies that pupils recognize. The researchers also noticed moderate inter-correlations between the Global Reading and problem-solving Strategies subscales and between the problem solving and Support Reading Strategies subscales in the elementary school student sample. The researchers found a positive correlation between three subscales GLOB, PROB, SUP scores respectively. These inter-correlations were positive correlations. Our sample size (n=291), however, was less than the several hundred that were recommended.

The study was further conducted to explore the effectiveness of metacognitive strategies in Pakistani students. Further, it explored the relationship of reading strategies with these MC strategies. Global Reading Strategies may be the concept of as accepted strategies that we use while we're studying. They frequently contain reflecting on what we're studying and why we're studying it, and lots of those strategies require little extra effort than textual content at hand. Global Reading

Strategies may be used for any form of studying; they generally tend to contain increasing socializing with the textual content and reflecting at the records at hand. In different words, in English mastering, school students can suit their new lesson with their preceding studies and this approach facilitates them to hold their information in an extra unique way. Some Global Reading Strategies like: Develop a motive to preserve thoughts even as studying. Think approximately what you understand that will help you to apprehend the given studying. Connect the textual content along with your studying motive even as studying. Use of tables, figures, and images to increase information. Problem-Solving Strategies are exactly as they sound: techniques that you could implore to resolve troubles even as you're studying. What do you do while the records turn markedly extra hard? Where do you switch whilst you stumble upon a phrase which you do now no longer apprehend? What do you do when you have to examine 3 pages in a chapter; however, you're now no longer positive about what the studying changed into? Well, in all of those cases, examining and realizing the textual content is very important; it helps you to resolve the problem. Some Problem-Solving Strategies include: Reading slowly and changing your studying pace to cope with hard material. Getting your attention on course with the technique of using re- studying when you get off track, paying your attention and interest, and re-studying while textual content turns into hard. Take a break from time to time to reflect on your thought on what you've got to examine. Picturing or visualizing the records to increase retention.

Some Support about Reading Strategies comprise of making notes during reading the academic material or lesson in the classroom to comprehend the textbook wording and make better connections. In this study, the researchers selected Students of Elementary and Secondary level classes of 8th, 9th, and 10th from the Pakistani population. The sample comprises 291 students (N = 291) of elementary and secondary school chosen from the local population. Data analysis was conducted on the SPSS tool and the researchers conducted a two-tailed Pearson correlation analysis. The Researchers found a strong and positive correlation between these two variables Reading skills and Metacognitive strategies. A correlation of 0.638 shows a positive linkage between two variables and this correlation is proof that Pakistani students who are well aware of the usage of MC strategies are also well performers in reading strategies. The researchers further analyzed GLOB, PROB, SUP scores' mutual relationship, and analysis proves that these scores were also exclusively related to each other. Correlation analysis between these three inventories subscales was exclusively related to each other. This relationship gives an understanding of the cognitive abilities' linkage with each other. Students who perform well in one scale also perform well in the other two subscales of MARSI. The relationship between these subscales shows that metacognitive strategies are related to each other. In other words, people use different strategies for acquiring one concept like if one student memorizes one concept by repeating again and again then he can also rememorize the same concept by understanding its meaning. Students who utilized metacognitive strategies while educating and learning found positively correlated their reading scores with MARSI scores.

Findings from collected data, nevertheless, recommend that the Metacognitive Awareness Reading Strategy Inventory (Mokhtari & Reichard, 2002; Mokhtari & Sheorey, 2002) may be completely appropriate for using with different grades or higher grades (secondary, higher secondary, school, and at school degree) readers on this front-line format. Research on this topic has been done by international researchers but in Pakistan, this research has not been conducted using the researchers. Self-appreciation and control of one's questioning procedure are the main areas of children's learning which might be on the whole now no longer given enough significance in Pakistan. MC as a mental assembles and measurement of questioning have numerous qualities: First, it focuses our interest on the position of recognition and government control of our questioning. It enables beginners to increase their performance, in preference to passive recipients of direction and imposed experiences. It is regular with constructivist bills of self-regulated mastering (Paris & Byrnes, 1989). Second, as MC emphasizes private assessment and control, it's far orientated in the direction of analyses of man or woman variations in cognitive improvement and mastering. Third, MC is embedded in cognitive improvement and it represents the type of information and government capabilities that expand with enjoyment and schooling.

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