A CORRELATIONAL STUDY OF METACOGNITION STYLE OF LEARNING AND THINKING AMONG SECONDARY LEVEL STUDENTS

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Abstract: Metacognition, which refers to an individual's awareness and regulation of their own thinking processes, plays a crucial role in effective learning. Similarly, the style of learning and thinking influences how students acquire, process, and apply knowledge. This study aims to explore the correlation between metacognition and the style of learning and thinking among secondary-level students. A quantitative correlational research design was employed, with a sample of secondary school students selected through purposive sampling. Standardized scales were used to assess students' metacognitive awareness and their preferred learning and thinking styles. Statistical analyses, including Pearson's correlation coefficient, were conducted to determine the relationship between these variables. The findings suggest a significant positive correlation between metacognitive and style of learning and thinking indicating that students with higher metacognitive awareness tend to exhibit more effective learning strategies and cognitive flexibility. The study highlights the importance of metacognitive training in enhancing students' learning experiences and suggests educational interventions that promote self-regulated learning practices. These findings have implications for educators and policymakers in designing curricula that foster metacognitive skills and accommodate diverse learning styles among secondary school students.

Keyboards*: Metacognition, Learning Styles, Thinking Styles, Secondary Students, Correlational Study, Self-Regulated Learning.*

INTRODUCTION: Educators, parents, and politicians are continuously searching for that magic solution that will reform our public education system of education for our youth, by providing them with a quality education **Edward (2002)**. For providing quality education, instructors must know the needs of the learners; every child comes with some innate qualities. These qualities differentiate him from the others. These qualities form the basis of individual differences that is why individual differences exist among the learners. Every student uses different approaches for receiving and processing information. These different approaches of students are often termed as styles, that is, style of learning and thinking. Learning styles is an individual's natural or habitual pattern of acquiring and processing information in learning situation. For example, one child may welcome structure in learning while another may welcome new ways of doing things, and the rest may have fear for learning. One child may perform task in an orderly and systematic pattern and another may perform tasks in an asymmetric pattern. In academic institution, learning and teaching processes are mismatched. Teaching and

thinking styles of the teachers and thinking styles of students differ because learning differences are not tied up to the understanding and thinking abilities of students. Many educators are still perplexed about the styles of students in learning and thinking process cognitive what effect these styles have on children's performance in schools, and why attention should be given to children's performance to assess their levels of ability. Metacognition is a special type of knowledge and ability that develops with personal experience and with schooling. metacognition is often simply defined as, "thinking about thinking" or a higher thinking method. Metacognition involves activities such as planning how to approach a learning task, monitoring comprehension, and evaluating the progress. People in their everyday basis use metacognition. For example, after reading a paragraph the reader may ask himself questions about the text. If the reader cannot answer his own questions, then he must go back and reread the text for better understanding. Although related, cognition and metacognition differ: cognitive skills are those needed to perform a task whereas metacognitive skills are necessary to understand how it was performed. Successful adult learners employ a range of metacognitive skills, and effective teachers of adults attend to the development of these skills "Yakasaiopinionated "that a learning style refers to an individual's preferred way to absorb, process, comprehend and retain information. The four key learning styles are; visual, auditory, tactile and kinesthetic. Visual learners prefer to use picture graphs, and images to organize and communicate their thoughts and learn best from using cards Auditory learners prefer to listen, discuss, memorize and debate in class. They learn best from audiobooks rather than print ones. Tactile learners learn best by touch and movement—they find opportunities to take part in demonstrations, writing or building models. Kinesthetic learners prefer to use their whole body in the learning process—they use gestures to communicate ideas and learn best in a hands-on environment. Metacognition helps students discover their own individual learning preferences and abilities, which will change depending on the task at hand. When students understand the principles of metacognition, they are able to plan, monitor, and evaluate their own learning. Focusing on metacognition rather than learning styles provides students with the opportunity to develop strategies that can be adapted and applied in any class or learning situation. Metacognition is a vehicle to foster this type of learning by allowing students to embrace their personal cognitive differences and leverage them to develop dynamic approaches to learning. Moving from a focus on learning styles to metacognition represents a significant but important shift in teaching. Moreover, the implications for this work extend beyond the classroom and into individual interactions with students that may occur in academic achievement.

Education aims to enhance students' cognitive abilities, equipping them with skills necessary for academic success and lifelong learning. Among the various cognitive factors influencing learning, metacognition and learning and thinking styles play crucial roles. Metacognition, often defined as "thinking about thinking," includes processes such as self-regulation, monitoring, and evaluating one's cognitive strategies **(Flavell, 1979).**

Similarly, learning and thinking styles reflect individual differences in how students process and internalize information. These styles influence academic performance, problem-solving abilities, and overall intellectual engagement **(Sternberg & Grigorenko, 2001**). Understanding the relationship between metacognition and learning-thinking styles is essential for developing personalized teaching approaches that cater to diverse learners **(Zhang & Sternberg, 2005).**

This study aims to explore the correlation between metacognition and styles of learning and thinking among secondary-level students. By examining this relationship, the research seeks to provide insights into how students' awareness of their cognitive processes interacts with their preferred ways of acquiring knowledge. Findings from this study may contribute to more effective pedagogical strategies, fostering self-regulated learning and improving overall academic outcomes.

Table 1.1 Researches related to Metacognition and Style of learning and thinking

S.No.	Year	Name of the researcher	Researches
1.	2019	Dr. Suresh T. Kotwani	Metacognitive awareness of primary teachers
2.	2018	Seema Singh	Relationship of metacognition-regulation with problem solving ability of higher secondary students
3.	2018	Narula Rakhi	The influence of learning styles and thinking and study habits on the academic achievements
4.	2020	Devmurarishi	An analysis of the learning style of the students in 9th standard of secondary school students

OBJECTIVES OF THE STUDY: Objectives of the study were as follows;

- To study the metacognition of secondary level students.
- To study the style of learning and thinking among secondary level students.
- To study the relationship between metacognition and style of learning and thinking among secondary level students.

HYPOTHESIS OF THE STUDY: There will be no significant relationship between metacognition style of learning and thinking among secondary level students

VARIABLE OF THE STUDY: The present research is a correlational study, the relationship of metacognition and style of learning and thinking is being examine. So instead of defining variables are dependent or independent variables, these termed as study variables (SV).

- Metacognition
- Style of learning and thinking

METHODS OF THE STUDY: For the accomplishment of the objectives of the present study, descriptive survey method will be used by the way researcher.

POPULATION OF THE STUDY: By population we mean the aggregate or totality of individuals from which inferences are to be drawn in a study. The population in the present study consists of students of IX and X grade studying in secondary school affiliated with the C.B.S.E. board Agra district. Researcher has selected those coeducational institutions which are situated in Agra city.

SELECTION OF SAMPLE: Population of the present study consisted sample is a proportion selected for observation and analysis. As it is not possible to study the entire population therefore it becomes necessary to select a representative sample of an adequate size. The sample of 200 students IX and X grade affiliated to C.B.S.E. Board by purposive sampling and random sampling.

SELECTION OF THE SCHOOL: From the secondary schools of C.B.S.E. Board further co-educational institutions of Agra city has been listed researcher has further selected 4 schools and from them only four co-educational secondary schools are selected by Purposive sampling method.

SELECTION OF THE SAMPLE UNITS: For the selection of required number of sample unit's researcher first selected the one section of class IX and X by simple random method. Selection of the school and sample units are present in the

table given below. Thus, the present study consists of a sample unit (200) of classes of IX and X in co-educational secondary schools affiliated with C.B.S.E Board.

1.10 TOOLS OF THE STUDY: Metacognition inventory by **Dr. Punita Govil and SOLAT** (Styles of learning and thinking) developed by **Dr. Venkataraman (1994**) modified version of the tool developed by **Psy- Chom Services (2011),**

Metacognition Inventory: Selection of metacognition inventory by **Punita Govil (2018)** was analyzing all tools available. This tool is new as compare to others. The format is appropriate, this tool is applicable to the researcher populations. This tool is widely used because it fulfills present needs.

Justification of the Metacognition TOOL

Meta-cognition was designed by **Dr. Punita Govil (2003)** is used to examine the achievement level of students. The test seeks to differentiate between high and low level of the students in respect to Metacognition. Selection of metacognition inventory by **Punita Govil (2018**) was done by analyzing available tools on Metacognition and finding that this was the only tool which covered all three major areas of metacognition mentioned in **Flavell's (1979) and brown's (1987**) models of metacognition, viz metacognitive experiences. And this tool is widely used **Mishra (2018), Dubey (2019), Singh (2020), etl.** The statements of test consist of 30 questionnaires dealing with both aspects of Meta-Cognition process and regulation of Meta-cognition process. The tool is helpful in identifying student with poor metacognition level.

Validity: To ascertain the validity of the test, the draft test was given to a panel of experts consisting 20 eminent scholars of different universities. Each expert was asked to indicate the degree to which each item assessed the Metacognition of the respondent. The degree of agreement of experts of each item indicated the validity of the Test. Corrections was made in the test in accordance with their suggestions. According to their views the test possessed satisfactory content validity.

Table 1.4-Dimensions and Sub-dimensions of metacognition

S.no	Dimensions	Sub-dimensions
1.	Knowledge of Cognition	1.Self –concept 2.Self –intelligence 3.Attention 4.Self-memory 5.Study habits
2.	Regulation of Cognition	1. Orientation/Planning 2.Monitoring/Evaluating 3.Repairing 4.Reflecting
3.	Metacognitive Experiences	1.Feeling of familiarity/Feeling of knowing. 2.Feeling of confidence/Feeling of satisfaction. 3.Feeling of difficulty. 4.Judgement of learning.

SELECTION AND DISCRIPTION OF THE STYLE OF LEARNING AND THINKING (SOLAT) TOOL

Style of Learning and Thinking: Dr." Venkataraman (2011) revised by Psy-com services (2011) Validity : 0.84 & Reliability : 0.89

Justification of the Tool of Style of Learning and Thinking: For the present investigation the researcher has selected the "style of learning and thinking Constructed by **Dr." Venkataraman (2011)** revised. This tool was selected because on student's learning styles as well as thinking style finding that this was the only tool which covered all major areas of learning and thinking and this tool is applicable to the population. It concentrates on student's style of learning and thinking in different parts of brain.

Table 1.7-Dimensions of Style of learning and Thinking Scale

Sr.no.	Concepts	Item Numbers
	Learning Style	
1.	Verbal	1 to 5 items
2.	Content Preference	6 to 10 items
3.	Class Preference	11 to 15 items
4.	Learning Preference	16 to 20 items
5.	Interest	21 to 25 items
	II Thinking Style	
1.	Logical/Fractional	26 to 30 items
2.	Divergent Convergent	31 to 35 items
3.	Creativity	36 to 40 items
4.	Problem Solving	41 to 45 items
5.	Imagination	46 to 50 items
	Total number of items	50

2.0 STATISTICAL TECHNIQUES

The statistical techniques have been used in the analysis and interpretation of the results were;

Descriptive statistics: Measures of Central Tendency, Measures of variability Standard Deviation **&** Graphical Representation.

Inferential statistics: Pearson product moment correction

3.0 ANALYSIS OF DATA: The purpose of analysis is to find out the relationship between the variables, which lead to verification of hypotheses. It involves a process of breaking up the complex factor into simpler ones and making new arrangements for the purpose of interpretation, analysis and interpretation of data to help the future researchers address the problem with appropriate statistical techniques and to avoid unnecessary labor. Analysis and interpretation help the researcher infer the result on to be accomplished in the study. Hence, it is to be done carefully by examining the results obtained after analysis. The main aim of present study was to find the correlation between metacognition and style of learning and smart among secondary level students Thus keeping in view the objective and study variables of the study the analysis and interpretation of data was presented in the following heads;

- ❖ To study the metacognition of secondary level students
- ❖ To study the style of learning and thinking of secondary level students
- ❖ To study the relationship between metacognition and style of learning and thinking among secondary level.

DISTRIBUTION OF METACOGNITION SCORE

Table 3.0 Skewness and Kurtosis Statistics for Normality Assessment

Number of Sample	Mean	Standard Deviation	Skewness	Kurtosis
195	88	13.806	-0.4743	0.006775

The table 3.0 showing that the mean value of metacognition of total students was found to be 88. The standard deviation of scores found to be 13.806 which indicated slight homogeneity among the scores of metacognition secondary school students. The scores of metacognitions were found to be normally distributed because the skewness and kurtosis lies between the range of -1.96 to + 1.96.

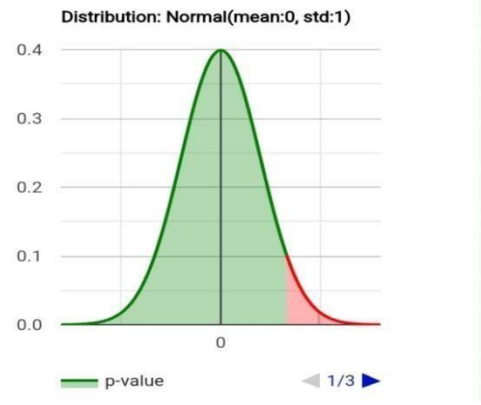


Fig 4.1 Normal DistributionCurve of Metacognition

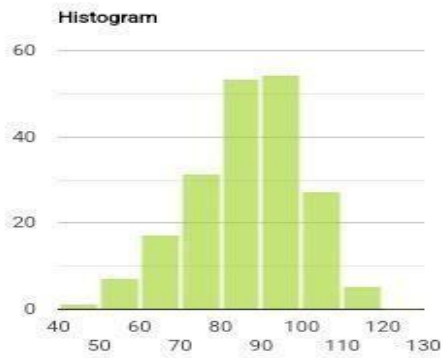
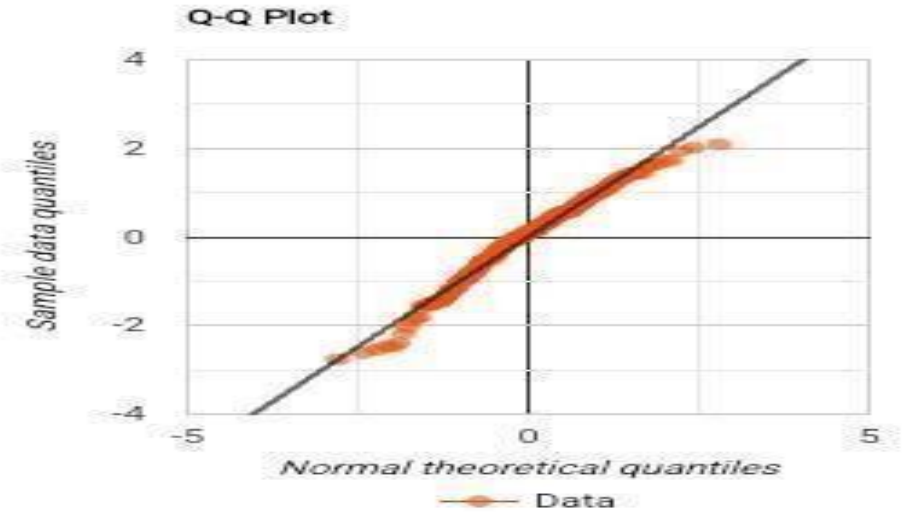


Fig 4.2Mean, SD of Metacognition

Distribution, mean, standard deviation, skewness and kurtosis: of the scores of metacognitions were computed and results were further checked by cumulative frequency curve. The metacognition scores of secondary students have normal distribution is mesokurtic value of curve is 0.984, so it is a mesokurtic and normally distributed. And it gives a researcher to further go for correlation between metacognition and SOLAT.



Graph 4.3 Q – Q Plot of Metacognition Scores

It can be seen from Graph 4.3 that obtained scores of Metacognitions were slightly mesokurtic the Q-Q Plot (Graph 4.3) shows deviation from Normal line of theoretical distribution which indicates that Metacognition Scores were slightly move toward non normal data.

DISTRIBUTION OF SOLAT SCORES: It can be seen from Graph 4.6 that obtained scores of SOLAT were slightly mesokurtic the Q-Q Plot (Graph 4.6) shows deviation from Normal line of theoretical distribution which indicates that SOLAT Scores were slightly normal.

Table 3.1 Skewness and Kurtosis Statistics for Normality Assessment

Number of Sample	Mean	Standard Deviation	Skewness	Kurtosis
195	**7.3795**	**0.8613**	**0.2567**	**-0.5372**

The table 4.2, showing that the mean value of SOLAT of total students was found to be 7.3795. The standard deviation of scores was found to be 0.8613 which indicated slight homogeneity among the scores of SOLAT secondary school students. The scores of SOLAT were found to be symmetrical, skewed and mesokurtic in nature**.** The scores of SOLAT were found to be normally distributed because the skewness and kurtosis lies between the range of -1.96 to + 1.96.

4.3.0 SOLAT SCORES

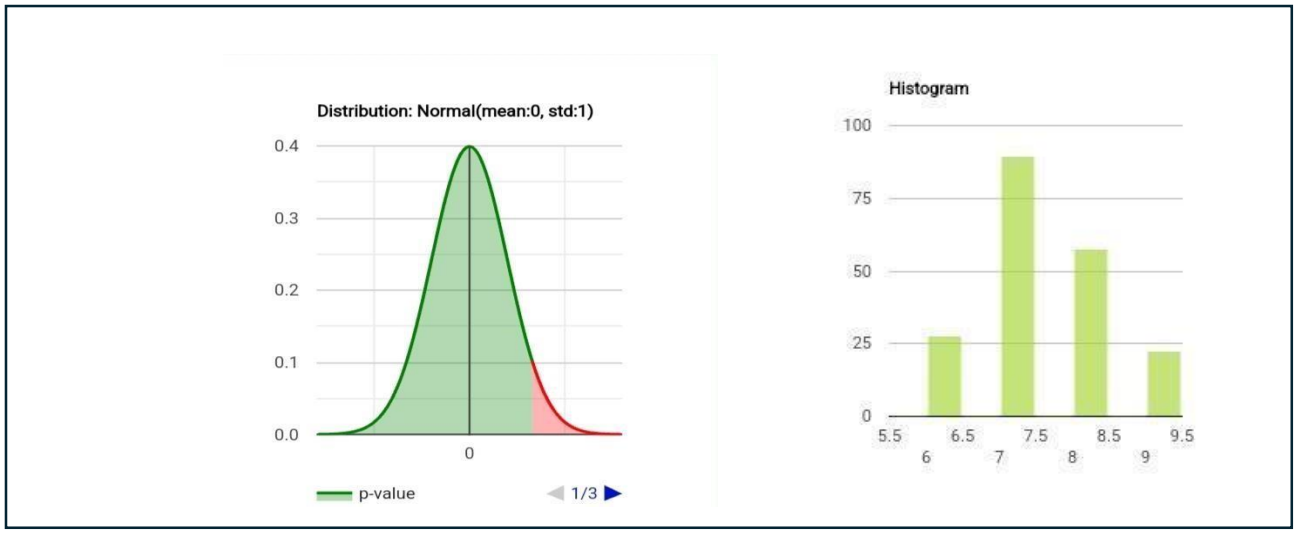


fig 4.4 Normal Distribution Curve of SOLAT **fig 4.5 Mean, SD of SOLAT**

Distribution, Mean, Standard Deviation, Skewness and kurtosis of the scores of SOLAT were computed and results were further checked by cumulative frequency curve. The SOLAT scores of secondary students have normal distribution is mesokurtic value of the curve is 0.121, so it is a Mesokurtosis and normally distributed.

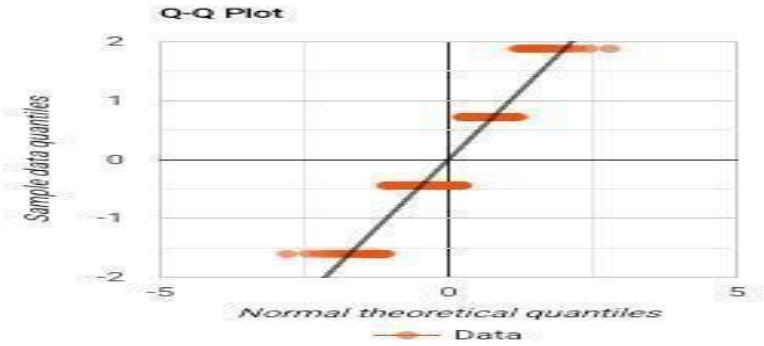


Fig 4.6 Q-Q plot.

4.4.0. Normality of data distribution fulfilled the assumptions of using the parametric statistics thus the researcher employed descriptive statistics for further analysis:

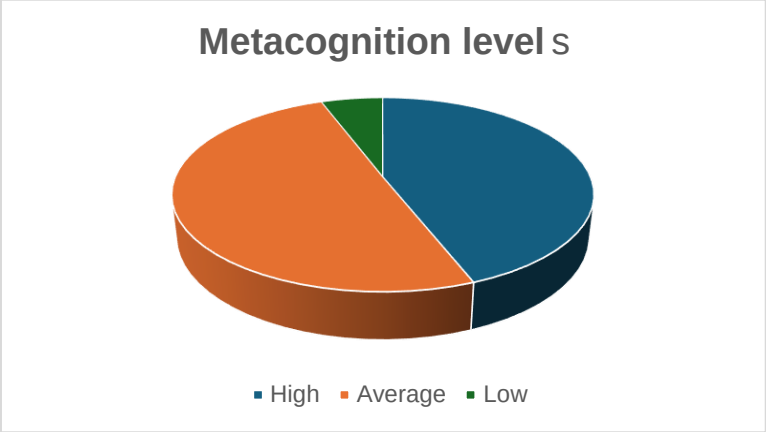
- Sample should be large.
- Scores must be normally distributed.
- Sample units must be selected by random method.
- Linear relationship between both study variables.

Analysis of data has been done to find out the actual level of Metacognition among secondary level students. The levels are categorized in three levels from the Metacognition question by **Punita Govil, KG (2018)**. Highly clubbing (extremely high, highly, moderate by clubbing, above average, average/moderate and below average), low by clubbing low and extremely low).

Table 3.2 To study the metacognition of secondary level students

Metacognition levels	Range of z scores	Scores	Percentage
High	+1.26 to +2.00	86	44.1
Average	-1.25 to 1.25	98	50.25
Low	Below to -2.01	11	5.65

The first objective was to study the metacognition of secondary level students. The sample is categorized as high, average and low of observed or calculated scores on the basis of classification. In the present study, the sample was 195 and the high scores are 86 and average scores are 98 and low scores are 11 and the participants whose metacognition scores lied above 98 were categorized as high metacognition and the participant whose metacognition scores are lied 62-89 as categorized as average metacognition and the participant whose scores are below 54 as low metacognition So it can be concluded that the number of 50% of students have average level of Metacognition.



Graphical Representation levels of Metacognition scores

Graph showing that the researcher classified the participant into 3 categories. There are 86 participants (44.1%,) in the high scores category which interpret that they have high metacognition. There are 98 participants (50.5%) in the average category which interpret that they have average metacognition. There are 11 participants (5.65%) lying in low metacognition.

To study of style of learning and thinking of secondary level students : Analysis of data has been done to find out the style of learning and thinking among secondary level students. The levels categorized in three levels from the SOLAT questionnaire by **(Dr. Venkataramanan) Psycho-Chom Service revised in India (2011).** clubbing (left brain, right brained both brain active),

Table 3.4 To study the SOLAT of secondary level students

SOLAT (Brain Dominance)	STEN	Scores	Percentage
Right Brain (R)	1 to 10	85	43.59
Left Brain (L)	1 to 10	81	46.67
Both brain (W)	1 to 10	19	9.74

The objective was to study the learning and thinking of secondary level students. The sample is categorized as right brain dominance, left brain dominance and both hemispheres observed of calculated scores on the basis of classification. In the present study, the sample was 195 and the right brain is 85 and left-brain scores 81 and 11 are both brains active. So, it can be concluded that the number of students is left brain active as compared to right brain. Average scores of left-brain active students are 46.67. And right brain active students are 43.59 % and only 9.74 % students are both brain active they think creative.

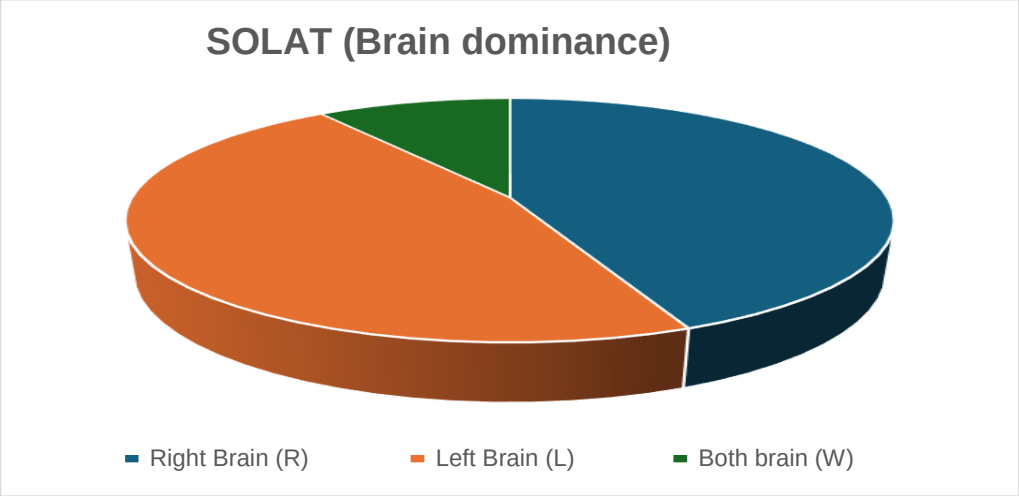


Fig 4.8; Graphical Representation of left brain and right brain scores

To Study the Relationship between the Metacognition and Style of Learning and Thinking : The Pearson Product Moment Correlation was used to calculate the relationship between Metacognition and style of learning and thinking among secondary level students .It was observed that the value of coefficients of correlation "r" between metacognition and style of learning and thinking among secondary level students was positive .The value of coefficients of correlation between metacognition and style of learning and thinking among level students r=.3846 ,p=less than .00001.This show positive correlation between Metacognition and style of learning and thinking at 0.5 level of significance . so, it can be concluded that the 3 objective is fulfilled.

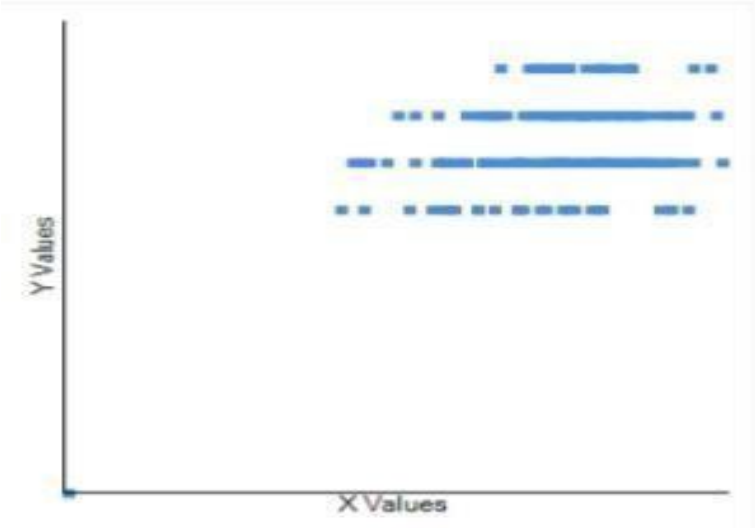


fig 4.9: Showing the linear correlation between metacognition and style of learning and thinking Testing of the Hypothesis: The following hypothesis was tested in light of the objectives of the present research: • **H0: There exist no significant relationship between Metacognition and style of learning and thinking among secondary level students.**

Appling Pearson Product Moment Correlation between metacognition and style of learning and thinking revealed that there exists a positive correlation between Metacognition and style of learning and thinking among secondary level

students with r =.3846, p= less than. 00001.The correlation was found to be statistically significant at p <. 0001.Therefore, the null hypothesis is rejected.

FINDINGS OF THE STUDY: Findings of the present study are systematically here in accordance with the objectives as mentioned below:

Findings related to meta-cognition of secondary students: 1. The distribution of scores in the whole group has been found Distribution, mean, standard deviation, skewness and kurtosis of the scores of metacognitions were computed and results were further checked by cumulative frequency curve. The metacognition scores of secondary students have normal distribution is mesokurtic value of curve is 0.984, so it is a mesokurtic and normally distributed

2. The secondary students have quite high level of meta-cognition as the mean value of total group was found to be 88

Findings related to Style of learning and thinking of secondary students: The objective was to study the of learning and thinking of secondary level students the Sample is categorized as right brain dominance, left brain dominance and both Hemisphere observed of calculated scores on the basis of classification. In the present Study, the sample was 195 and the right brain are 86 and average scores are 98 and low Scores are 11 and the participants whose metacognition scores lied above 98 were Categorized as high metacognition and the participant whose metacognition scores are Lied 62-89 as categorized as average metacognition and the participant whose scores Are below 54 as low metacognition.

2.The secondary students have quite brain dominance as the mean value of total group was found to be 7.3795

Findings related to correlation of meta-cognition and style of learning and thinking among secondary students1.The Pearson Product Moment Correlation was used to calculate between Metacognition and style of learning and thinking among secondary level students. It was observed that the value of coefficients of correction “r” between metacognition and style of learning and thinking among secondary level students was positive.

2.The value of coefficients of correlation between metacognition and style of learning and thinking among level students r=.3846, p=less than. 00001.This show positive correlation between Metacognition and style of learning and thinking at 0.5 level of significance

3.CorrelationWas found to be statistically significant at p <. 0001.Therefore, the null hypothesis Is rejected.

Conclusion and general discussion of results

On the basis of the findings of the study Correlation between metacognition and style of learning and thinking revealed that there exists a positive correlation. It was observed that the value of coefficients of correlation „r“=. 3846.Researcher found to be statistically significant at p <. 0001.Therefore, the null hypothesis is rejected. Through this study researcher knows the levels of metacognition decides style of learning and thinking among students. The researcher has used various statistical techniques to the hypothesis of the study, and on the foregoing on, the main findings of the study.

There is significant correlation between metacognition and style of learning and thinking Studies of **Argon et al (2004), Destino (2011), De Ture et al (2016)** suggest that the positive correlation between Metacognition and style of learning and thinking.

Educational implication:

For learners

- **Individualized Instruction:** Understanding how students' metacognitive abilities interact with their learning styles can help educators tailor instruction to better meet the needs of each student.
- **Promoting Self-Regulated Learning**: By fostering metacognitive skills, students can learn to monitor, regulate, and adjust their learning strategies based on their individual learning styles, leading to more effective learning outcomes.
- **Enhancing Study Skills**: Identifying the relationship between metacognition and learning styles can inform the development of targeted interventions aimed at improving study skills, such as goal-setting, time management, and self-assessment.
- **Facilitating Metacognitive Awareness**: Educators can use the findings to raise students' awareness of their own cognitive processes, helping them become more reflective learners who understand how they learn best.

- **Differentiated Instruction**: Recognizing the diverse learning styles present among students allows teachers to implement differentiated instructional strategies that accommodate various preferences and strengths.
- **Teacher Professional Development**: Educators can benefit from professional development opportunities that focus on understanding metacognition and learning styles, enabling them to better support their students' learning needs

For Parents

- Educational implications of the correlation study of Metacognition and style of learning and thinking among secondary level students for parents in points
- **Understanding Individual Learning Styles:** Parents can identify their child's preferred learning style (e.g., visual, auditory, kinesthetic) and adapt learning activities accordingly to enhance comprehension and retention.
- **Promoting Metacognitive Skills:** Recognizing the importance of metacognition, parents can encourage their child to develop self-monitoring, planning, and reflection skills to become more effective learners.
- **Tailoring Study Strategies**: Armed with knowledge of their child's learning style and metacognitive abilities, parents can assist in developing personalized study techniques that align with their strengths and areas for improvement.
- **Encouraging Self-Regulation**: Parents can foster autonomy and responsibility by guiding their child to set goals, monitor progress, and adjust strategies based on feedback, promoting self-regulated learning habits.
- **Creating Supportive Learning Environments:** Understanding how their child learns and thinks can help parents create an environment conducive to learning, whether it involves providing access to resources, minimizing distractions, or offering emotional support.
- **Emphasizing Growth Mindset**: By highlighting the connection between effort, practice, and improvement, parents can instill a growth mindset in their child, promoting resilience and a willingness to tackle challenges.
- **Facilitating Open Communication**: Parents can engage in regular conversations with their child about their learning experiences, encouraging them to articulate their thought processes, challenges, and successes, fostering a deeper understanding of their cognitive development.
- **Advocating for Individualized Education:** Armed with insights into their child's learning profile, parents can collaborate with teachers and educators to advocate for personalized learning approaches that cater to their child's unique needs and strengths.

For Administration:

- **Personalized Learning Plans**: Administrators can use the findings to tailor individualized learning plans for students based on their preferred learning and thinking styles, enhancing overall academic performance.
- **Teacher Training and Professional Development**: Educators can receive training on how to recognize and

accommodate different learning styles in their teaching methods, fostering a more inclusive classroom environment.

- **Curriculum Design:** Insights from the study can inform curriculum development to incorporate diverse teaching strategies that cater to various learning styles, promoting deeper understanding and engagement.
- **Assessment Strategies**: Administrators can revise assessment methods to align with students' metacognitive processes and learning preferences, allowing for more accurate evaluation of student progress and achievement.
- **Support Services:** Schools can offer support services such as counseling or workshops to help students develop metacognitive skills, empowering them to become more effective learners regardless of their preferred learning styles.
- **Resource Allocation**: Allocation of resources such as technology, instructional materials, and classroom space can be optimized based on the identified learning and thinking styles prevalent among students, maximizing educational outcomes.

5.4.0 LIMITATIONS OF THE STUDY: Many times, a researcher fails to carry out his work as perfectly as he would like to do, due to the lack of resources, knowledge and expertise. The present study also has a few limitations which could not be overs due to lack of time and resources of the disposal of the limitations of the present study that have come to light are:

Related to sample: The sample of the present study was delimited to 200 secondary students (100 class 9th and 100 class 10th) due to capacity of time. Hence, the findings and conclusions cannot be generalized on the whole population.

Related to age group: In the present study only secondary students (13 to 15 years) have been taken hence the result derived from this study cannot be true for all age group.

Related to Institution: The present study is done upon the IX and standard students of four institutions affiliated in CBSE board.

Relation to Area: In the present investigation rural population is failed to have place in the sample. Therefor generalization of the results is limited to the urban population of Agra city only.

Related to Variables: The Study is limited to two variables only.

1. Study variable- Meta-cognition 2. Study variable: style of learning & thinking

SUGGESTIONS FOR FURTHER STUDY

The present study has thrown some light and insight correlational study of meta-cognition and style of learning and thinking among secondary level students.

- The present investigation is carried out on 200 female students study studying in class IX and X of the C.B.SE board of Agra city. Similar study can be carried out on a larger sample to get better and more authentic results.
- A similar study may be carried out upon the students of different educational level, different boards, different age groups, different educational stream and different level of socio-economic status.
- A comparative study of similar type may be conducted on rural and urban students of Agra district.
- The style of learning and thinking can be studied in relation to high metacognition level students which type of thinking meta-cognition.
- The correlational variable meta-cognition can be studied in relation to other other variables like moral development, self-concept, creativity etc.

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