

A Study On Metacognition Among IXth Standard Students

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Abstract:

In the present study the investigator attempts to study the metacognition of IXth standard students in Chengalpattu District, Tamil Nadu. The study was conducted on a sample of 910 IXth standard students from three types of schools (government, government- aided and private schools). The purpose of the study is to find the level of metacognition and to find whether there is any significant difference in the metacognition among the IXth standard students with respect to their gender, location of school, type of family, type of the management of the school and nature of the school. The investigator adopted the survey method and random sampling technique in the present study. The results showed that the level of metacognition of ninth standard students is average and there is statically significant difference in metacognition among the IXth standard students with respect to their gender, locality of school, type of the management of the school and nature of the school.

Keywords: Metacognition, IXth standard students.

Introduction:

Metacognition means knowledge of our self-recognition processes and the way in which we use them optimally to reach our goals. The individual's knowledge of understanding and adjusting of thinking processes is referred by metacognition. It plays vital role in the field of education. Many theorists investigated metacognition, among them Flavell's contribution is more significant. Flavell (1976) introduced the term 'Metacognition' refer to "the individual's own awareness and self-consideration of cognitive processes and strategies".

According to Schraw & Sperling Dennison (1994), Metacognition as "the ability to reflect upon, understands and controls one's learning". Metacognitive ability is a part of higher-order thinking skills and refers to controlling, monitoring, and self-regulating activities while learning and solving problems (Bannert,2008; Dorr,2019). when students face obstacles in solving problems, they are able to rethink and revise according to the target task objectives (Darmawan,2020). In the present study the investigator tried to find the level of metacognition of IXth standard students in Chengalpattu District.

Objectives of the study:

1. To find the level of metacognition of IXth standard students.
2. To find whether there is any significant difference in metacognition among the IXth standard students with respect to their
 - a. Gender
 - b. Locality of School
 - c. Type of Family
 - d. Type of the management of the school
 - e. Nature of the school

Hypotheses of the Study:

Based on the above objectives the following null hypotheses have been formulated:

1. There is no significant difference in metacognition of the IXth standard students with respect to their
 - a. Gender
 - b. Locality of School
 - c. Type of Family
 - d. Type of the management of the school

e. Nature of the school

Methodology of the study:

The investigator has chosen the survey method for the present study.

Sample:

The secondary school students studying IXth standard in Chengalpattu district are the population for this study. From them 910 students were taken as sample.

Tools used:

Metacognition Scale developed and validated by Dr. C.E. Jayanthi and Dr. P. Ganesan(2018) was used in the study.

Statistical techniques used:

The study adopted the statistical techniques like mean, standard deviation, t-test and 'F' test.

Percentage analysis:

Table 1 Percentage levels of metacognition

Variables	Percentage level		
	Low	Average	High
Metacognition	23.74%	44.29%	31.97%

From table 1, there are 23.74% of students have low level of metacognition, 44.29% of students have average level of metacognition and 31.97% of students have low level of metacognition. The level of metacognition of IXth standard students is average.

Differential Analysis

Table 2 Differences in the metacognition of IXth standard students with respect to demographic variables gender, location of the school and type of family.

Variable	Demographic variables	Sub-Group	N	Mean	S. D	't' value	Level of Significance
Meta Cognition	Gender	Boys	405	135.22	56.02	5.48	0.01
		Girls	505	155.94	57.10		
	Locality of the school	Rural	189	138.21	53.01	2.29	0.01
		Urban	721	148.95	58.48		
	Type of family	Nuclear	648	147.94	56.94	1.01	Not significant
		Joint	262	143.69	58.94		

It could be observed from table 2, the calculated 't' value for metacognition of IXth standard students with respect to their gender and location of the school are found to be significant at 0.01 level. It indicates that the IXth standard boys and girls, and rural and urban students differ statistically significant in their level of metacognition. Hence, the null hypothesis 1(a) and 1(b) are rejected.

The calculated 't' value for metacognition of IXth standard students with respect to their family type is not significant. Hence, the null hypothesis 1(c) is accepted. It is included that, there is no significant difference in metacognition of the IXth standard students with respect to their type of family.

Table 3.1 Significance differences in metacognition of IXth standard students with respect to the type of the management of the school.

Variable	Sources of variation	Sum of squares	df	Mean squares	'F' Value	Level of Significance
Type of the management of the school	Between groups	20156.269	2	10078.134	3.05	0.05
	Within groups	2988187.275	907	3294.584		
	Total	3008343.544	909			

It could be observed from table 3.1, the calculated 'F' value 3.05 is significant at 0.05 level. It reveals that the IXth standard students studying in government, government - aided and private schools differ statistically significant in their level of metacognition. Therefore, the null hypothesis 1(d) is rejected.

As 'F' value is significant, 't' test was employed to find the significance of mean differences between the students studying in government and government-aided, government and private and government-Aided and private schools. The 't' values are depicted in the following table.

Table 3.2 't' values between the means of metacognition of IXth standard students studying in government, government aided and private schools.

Variable	Type of the management of the school	N	Mean	S. D	't' Value	Level of Significance
Meta cognition	Govt	304	140.13	55.79	2.30	0.10
	Aided	298	150.79	59.90		
	Govt	304	140.13	55.79	2.01	Not significant
	private	308	149.29	56.47		
	Aided	298	150.79	59.90	0.31	Not significant
	private	308	149.29	56.47		

The table 3.2, reveals that the IXth standard students studying in government and government-aided schools differ statistically significant at 0.10 level, whereas the students of government and private

schools, government- aided and private schools do not differ significantly in their level of metacognition.

Table 4.1 Significance difference in metacognition of IXth standard students with respect to the nature of the school.

Variable	Source of variance	Sum of Squares	df	Mean Squares	'F' ratio	Level of significance
Metacognition	Between groups	50774.557	2	25387.279	7.786	0.01

	Withingroups	2957568.987	907	3260.826	
	Total	3008343.544	909		

It could be observed from table 4.1, the calculated 'F' value is 8.02 significant at 0.01 level. It reveals that the IXth standard students studying in boys, girls and co-education schools differ significantly in their level of metacognition. Therefore, the null hypothesis 1(e) is rejected. As 'F' value is

significant, 't' test was employed to find the significance of mean differences between the students studying in boys and girls, boys and co-education, and girls and co-education schools. The 't' values are depicted in the following table.

Table 4.2 't' Values between the means of metacognition of IXth standard students studying in boys, girls and co-education schools.

Variable	Nature of the school	N	Mean	S. D	't' Value	Level of Significance
Metacognition	Boys	98	133.54	59.45	3.54	0.01
	Girls	200	159.24	58.430		
	Boys	98	133.54	59.45	1.81	Not Significant
	Co-education	612	144.74	56.280		
	Girls	200	159.24	58.430	3.13	0.01
	Co-education	612	144.74	56.280		

The table 4.2, reveals that the students of boy's and girl's schools, girls and co-education schools differ statistically significant at 0.01 level. whereas, the students of boy's schools and co-education schools do not differ significantly in their level of metacognition.

Conclusion:

The level of metacognition of the IXth standard students is average. Further, the IXth standard students differ significantly in their metacognition irrespective of their gender, location of the school, type of the management of the school and nature of the school. Based on the present study, the investigator felt that in order to improve the level of metacognition among students metacognitive thinking programme could be included in school curriculum. Components of metacognitive thinking could be used classroom interaction in various subjects.

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