



A study on the Metacognitive Awareness of Primary School Students

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Abstract:

Metacognition is one of the emerging words in contemporary educational psychology. Metacognition refers "thinking about thinking" it is mention to a higher level of thinking process of one's. Metacognition is cognition about cognition. Metacognition helps an individual to understand and control their cognitive execution. It has two components:- "Knowledge of cognition"-individual's knowledge about their own cognition and "Regulation of cognition"- Activities that help to control ones' thinking or learning. Metacognitive awareness means awareness of an individual about what he/she thinks and how he/she thinks, the strategies he/she use for resolving problems. In this paper investigator study the metacognitive awareness in primary school students. An individual acquiring these metacognitive ability could not only become a better learner but would also become a batter problem solver, batter planer and thinker. There are many terms associate with metacognition like metacognitive skills , metacognitive experiences, metacognitive ability, metacognitive knowledge, high order thinking, and metamemory.

The investigator use self- made metacognitive awareness scale to examine the metacognitive awareness of primary school students. The study try to map-out whether there exists any significant difference between the Gender, Locality, Cast on their metacognitive awareness. The investigator use appropriate statistical techniques for the analysis of the data.

Keywords: *Metacognitive Awareness, Metacognitive Awareness scale, Primary school Students.*

1. Introduction

According to many researchers psychologist, educationist, thinking ability of child could be improved in early childhood stage. The thinking ability of a child is not limited to good performance in the class, social activities and other mental activities. Here thinking ability refer critical thinking to lead students to analyze and have critical through based upon problem solving (Woolfolk, 1998;). Metacognition is awareness of one's own cognition or thinking. It is high level of thinking process which includes functional control of cognitive activities like learning, problem solving, reading. Students practices metacognitive activities during their studies like planning how to complete, regularly monitoring and evaluation of learning task at last.

Unembellished meaning of Metacognition is 'thinking about thinking' and cognition about cognition' it is closely related to theory of mind the ability to attribute mental states to other people (Kuhn, 2000). Metacognition regulate thinking and learning. It include three skills planning, monitoring and

evaluation (Woolfolk, 2013; schraw, 1998;). Metacognition is the process which helps student to know their cognition, and it is self- awareness process which means understanding of one's own thinking process." Meta cognition was originally referred to as the knowledge about the regulation of once own cognitive activities in learning process" (Flavell, 1997; Brown, 1978). There are many terms associate with metacognition like metacognitive skills, metacognitive experiences, metacognitive ability, metacognitive knowledge, high order thinking, and metamemory.

"Metacognition involves awareness of how they learn, an evaluation of their learning needs, generating strategies to meet these needs and then implementing the strategies"(Hacker,2009).

John Flavell, originally associate with metacognition, defined metacognition in two parts as metacognitive knowledge which means awareness of own thinking and metacognitive regulation which means skills to manage one's own thinking process. According to Flavell (1979) metacognition is knowledge about cognition and cognition is knowledge about things in the real world. According to Brown (1987) metacognition has two components, Knowledge of cognition and Regulation of cognition. Knowledge of cognition are of types such as - Declarative knowledge, Procedural Knowledge, Conditional knowledge. Regulation of Knowledge includes Planning, Monitoring, and Evolution.

2. Metacognition could be summarized as the following

- Linking new information to prior information.
- Considered to using problem solving strategies.
- Planning, Monitoring and Evaluating thinking process.

3. Metacognitive Awareness

Metacognitive awareness is higher level thinking process that is important for learning and problem solving. Metacognitive awareness is active knowledge of individuals cognitive process, planning of achieving learning task, monitoring, and critically and continuous evaluation of learning task or other task. Metacognition is important for meaning full learning so now it is necessary for students to learn metacognitive activities, strategies. It is also important for teachers to be aware with metacognitive activities and strategies in order to know how to teach students better. So that student could able to use their cognitive ability they already have.

4. Need and significant of the study

Metacognition helps student for understanding how they could better learn various skills in the classrooms and outside of classroom. It helps the student in determining how they should carry out the thinking process (Oxford, 2013). Students get awareness of their own learning process through metacognition. The effect of metacognition strategies in educating young children differ across discipline. The effect may be worse in social studies that it could be in science (Zohar & Dori, 2012). Metacognitive knowledge boost student in reflecting on their thinking and what they already know or what they do not know (Cohen, 2014). Metacognitive awareness also encourages students to develop their methods of solving problems in learning. Students may decide to develop their shortcuts in solving problem (McInerney, 2013). Ellery (2008) examine that use of planned strategies in learning process is key factor of advance learning. Researcher evaluated the effect of two-stage test process played in guiding student learning in a second year module at the University of KwaZulu-Natal, South Africa. Students shows positive attitude about the assessment process. Van de Kamp & et.al (2015) study the effects of explicit instruction of metacognition on students' divergent thinking. Quasi experimental research implemented with 147 secondary school students in visual arts education. Results of research showed that instruction of metacognitive knowledge had a positive effect on fluency and flexibility, but not on originality. The study shows that visual arts, instructional support in building up metacognitive knowledge about divergent thinking may improve student's creative processes.

Diaz (2015) study the Effect of metacognitive strategies to help beginning young learners with difficulties increasing and retaining vocabulary. In this study students follow instructions under a five interventions based on cognitive academic language learning approach model. The result showed that Metacognitive strategies practices has positive associate with vocabulary acquisition skills, it increase students vocabulary learning.

Metacognitive thinkers are able to plan their learning in the proper ways and they know how to use metacognitive strategies. Studies show that metacognition also improve achievement and learning ability in various subjects. In present study researcher find out the metacognitive awareness of primary school students of Dehradun district Uttarakhand.

It would be helpful for the teachers for classrooms teaching in order to provide appropriate technique to students so that their metacognitive skills could develop and help them to enhance their achievement.

5. Objectives of the study

1. To study the metacognitive awareness of Primary school students.
2. To study the metacognitive awareness of primary school students based on locality.
3. To study the metacognitive awareness of primary school students based on gender.

6. Hypotheses of the study

1. The primary school students of Dehradun district may have a high level of metacognitive awareness. Or there is no significant difference between high level metacognitive awareness and low level metacognitive awareness of primary school students.
2. There is no significant difference in the metacognitive awareness of urban primary school students and rural primary school students.
3. There is no significant difference between boys and girls metacognitive awareness of primary school students.

7. Methodology of the study

7.1 Population and Sample

- The population of the study is all the government primary school students of Raipur block of Dehradun district Uttarakhand. The sample consisted of 140 primary school students from different schools of Dehradun district of Uttarakhand. The detailed of sample for the study is an shown in table 1.
- Normative survey method is adopted for data collection.

7.2 Tool used in the study

The tool, - “Metacognitive Awareness Scale”, used in this study developed by investigator. It consists thirty items on “Four Point Scale”. The “Reliability Coefficient” of metacognitive awareness scale is 0.92. Using “Cronbach’s Alpha Test” to ensure reliability of the scale. Validity of the tool ensured by “Content Validity”.

7.3 Statistical Techniques

Basic statistical Techniques like mean, median, standard deviation, chi-test and T-test has been used.

7.4 Limitations of the study

This study limited to government primary school students Raipur block of Dehradun districts of Uttarakhand. This study is limited to study the metacognitive awareness of government primary school student only.

8. Analysis and Interpretation of the Data

Table – 1 Sample description for the study

S.I.	Name of School	Locality	Number of Students
1.	Government Upper Primary School, Chandar Road.	Urban	38
2.	Government Intermediate Collage, Maal Devta.	Rural	42
3.	Government Intermediate Collage, Nalapani Road.	Rural	32
4.	Government Intermediate Collage, Dobhalwala.	Urban	28

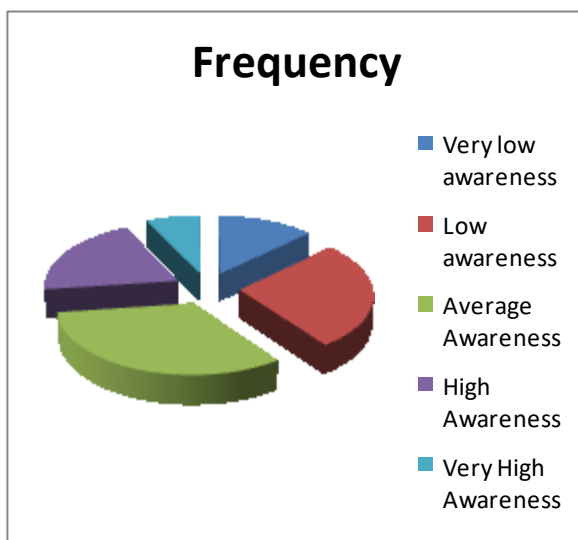
The researcher selected class 8th of primary level for the study. While taking the sample researcher kept it in mind that students from rural as well as from urban area ought to be selected. Researched selected 74 students from rural and 66 students from urban area.

9. Metacognitive Awareness of Primary school students

The category of sample categorized as Very high, High, Average, Low and Very low in the study. Students categories in Very High, High, Average, Low and Very Low groups according to the range of their score on metacognition awareness scale. Students scoring less then 60 have been categorized as very low awareness group, students scoring between 61-73as low, between 74-86 as average and 87-99 as high and score above than 100 Categorized very high awareness group. The frequency of students and the percentage is show in Table-2.

Table 2: Number and percentage of different group of government primary school students based on Metacognitive awareness.

Category	Frequency	Percentage	χ^2
Very low awareness	18	12.85	30.28
Low awareness	38	27.14	
Average Awareness	46	32.63	
High Awareness	28	20	
Very High Awareness	10	7.14	



The value of χ^2 is 30.28 shows the difference in the number of students in the distribution of category of students. Thence the distribution of government students in each category is not homogeneous. The table shows that the average awareness group contains comparatively higher number of students (46). Very low awareness category is more in numbers than very high awareness category.

10. Metacognitive Awareness of Primary school students Based on locality.

To map out the metacognitive awareness of primary school students based on rural and urban setting schools. The mean and standard deviation of the score of the rural and urban schools were calculated. T-test of mean of nonequivalent groups was administrated. The mean and standard deviation of Urban primary school students are 80.68 &14.258 and of rural primary school students are 76.24 &13.647. The value of T-test is -1.87. it is less than the values for 0.01 and 0.05 level of significance. Hence there is no significant difference in the metacognitive awareness of primary school students based on their locality.

Table 3: Result showing significance of difference between means of score of metacognitive awareness of government students based on locality

Locale	Sample Size	Mean	SD	t-value
Rural	76	76.24	13.647	-1.87
Urban	64	80.68	14.258	

11. Metacognitive awareness of secondary school students based on Gender

To map out the metacognitive awareness of primary school students on the bases the gender – The mean and standard deviation of the data on the metacognitive awareness of primary school students of boys and girls were calculated. The mean and standard deviation of metacognitive awareness of primary school boys are 78.92 & 12.58 and that of primary school girls are 78.23 & 15.28. The t-test of nonequivalent groups was administered.

The value of t-test- 0.29 is less than the values for 0.01 and 0.05 level of significance. Hence the result is no significant difference in the metacognitive awareness of primary school students based on gender.

Table 4: Result showing significance of difference between means of score of metacognitive awareness of government students based on Gender.

Gender	Sample Size	Mean	SD	t-value
Boys	65	78.92	12.58	-0.29
Girls	75	78.23	15.28	

12. Findings of the study

- There is no significant difference in the metacognitive awareness of primary school students based on Locality.
- There is no significant difference in the metacognitive awareness of primary school students based on Gender
- The Primary school students are not normally distributed among each category in the metacognitive awareness.

13. Conclusion

Metacognitive activities help students to find out what they know and what they need to work on. It helps to develop cognitive awareness of students. Metacognitive activity provides necessary information and strategies for problem solving in class room and beyond classroom. Students could become able to find out strength and strategy with the help of metacognitive activities which leads to improve their academic performance/ achievements. Metacognitive strategies help students to identify their own strength and problem solving strategies The study shows metacognitive ability of students do not affect by gender and locality. So we needed innovative teaching-learning strategies in our primary school classrooms. These practices develop metacognitive ability of students in early school stage. This helps him in their future as a good planner, thinker, and organized person.

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