

Metacognitive Awareness among Adolescents

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Abstract:

Metacognition is the awareness about and control over the way information is acquired, processed and stored in the human mind. The present study was conducted to find out the metacognitive awareness of adolescent. The sample comprised of 388 students (222 boys and 166 girls) studying in VIII, IX and X standards. The study examined the impact of gender and levels of education on metacognitive awareness. Metacognitive Awareness Scale was used to collect responses. Among students of X standard, metacognitive awareness of the boys was better than girls, while of students of VIII and IX standards did not record significance differences in metacognitive awareness between genders. The students of IX standard showed better metacognitive awareness as compared to that of VIII and X standards. Previous researches, however, revealed that girls are better in metacognitive knowledge while boys are in metacognitive regulation. The finding of this study denotes that gender differences and levels of education have profound relevance to teaching and learning.

Keywords: Metacognitive awareness, Metacognitive knowledge, Metacognitive regulation, Adolescents, Gender differences.

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I. INTRODUCTION

The major role of modern education is not only to enrich students with knowledge but also to groom them to acquire metacognitive skills and scientific study habits. Some of the most challenging aspects of teaching are to develop motivation, goal setting abilities and independent problem solving skills among the students. Conscious individuals will be able to contribute to society only if they are armed with self-knowledge ability (Morin, 2003). The efforts for educating conscious learners began to follow a more meaningful trend with appearance of metacognition awareness and skills.

Metacognition is a realization about our own thinking. It's often referred to as "thinking about thinking". It is a regulatory system that helps an individual to understand and control his or her own cognitive performance. According to Flavel (1979), metacognition is to execute process that monitors and controls our cognitive process and is often defined in terms of metacognitive knowledge and metacognitive experiences. Modern studies discuss the metacognition under two main headings - metacognitive knowledge and metacognitive regulation (Flavel, 1979; Nelson & Narens, 1990; Otani & Widner, 2005). Metacognitive knowledge concerns with one's own cognitive strategies, skills and knowledge about what to do under which circumstances. The ability to use metacognitive knowledge is known as metacognitive regulation (Flavel, 1979). Metacognition involves awareness of how they learn, an evaluation of their learning needs, generating strategies to meet these needs and then implementing the strategies.

Adolescence is a period of transition from a relatively dependent childhood to relatively independent adulthood, involving economic, psychological and social dimensions.

An adolescent student aged between 13 and 19 years has anxiety, fear, fatigue or pain that adversely affects his or her self-confidence and consequent academic achievements. A teacher can lower these threats by working on metacognitive skills of students and thereby attempt to create a nonthreatening classroom environment that helps them to feel relaxed and achieve set academic goals. Academically weak students benefit from metacognitive training (White & Frederiksen, 1998).

The proposed research is focusing on metacognitive awareness. The findings can be useful for the different level of education with profound relevance for teaching and learning i.e. the way things are taught and will be taught.

II. OBJECTIVES

The proposed research has the following objectives –

1. To study the metacognitive awareness of students at different level of education.
2. To study their metacognitive awareness in relation to gender.

Sample, Tool and Methodology

The present research has been carried out on the students of VIII, IX and X standards. The sample consisted of 388 students distributed as below:

Level of Education	Boys	Girls	Total
VIII	75	64	139
IX	62	55	117
X	85	47	132
Total	222	166	388

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The investigator used her own constructed tool entitled 'Metacognitive Awareness Scale' to measure metacognitive awareness of the students. The scale has 20 statements. One mark is to be awarded for each correct response without any negative marking. The scale has the maximum score of 20 marks and the minimum of 00 marks. The direction of scoring is such that a higher scoring at the scale shows better metacognitive awareness.

Norms used to categorize the metacognitive scale are defined as below:

Category of Metacognitive Awareness	Range of Score
Above-average	15-20
Average	07-14
Below-average	Less than 06

Due to prevailing COVID – 19 pandemic, the investigator administered the scale online by Google forms that were shared students through various social media networks. They were given proper instructions about filling protocol of the form. After getting their response sheets, the received responses were scored according to the procedure and protocol as mentioned above.

III. RESULTS AND DISCUSSION

Table 1 shows distribution of students across category of metacognition awareness, level of education and gender. Among the students of VIII standard, metacognitive awareness scale ranged from 07 to 19. There was no student who scored 20/20. The maximum proportion of the students belonged to the above-average category, i.e. 76% boys and 80% girls. Rest of 24% boys and 20% girls were in the average category. None of the boys or girls belonged to the below-average category. Among the students of IX standard, metacognitive awareness scale ranged from 06 to 19. The maximum proportion of the students belonged to the above-average category, i.e. 79% boys and 80% girls. A minor fraction of boys (i.e. 19%) and girls (i.e. 20%) had their score in the average category. Only 2% boys were in below-average category. Among the students of X standard, metacognitive awareness score ranged from 04 to 19. The maximum proportion of the students had their scores in above-average category (i.e. 72% boys and 60% girls), followed by those who belonged to the average category (i.e. 27% boys and 36% girls, and the minimum were in the below-average category (i.e. 1% boys and 4% girls).

The proportion of students belonging to above-average metacognition awareness did not vary much between VIII and IX standards (i.e. 78 and 79%, respectively), which was significantly higher than that of students of X standard (i.e. 67%). Consequently, fraction of X standard students increased in the average category (i.e. 30%).

Table 1: Categorization of metacognition awareness among students along gender and levels of education.

Level of Education	VIII		IX		X		Total
Gender	Male	Female	Male	Female	Male	Female	
Above-average	57	51	49	44	61	28	290
Average	18	13	12	11	23	17	94
Below-average	00	00	01	00	01	02	04
Total	75	64	62	55	85	47	388
Grand Total	139		117		132		

The present study failed to record any significant gender differences across VIII and IX standard students. Prior researches have also shown inconsistent results regarding gender differences in metacognitive awareness. Pagers and Valiante (2002) found that girls had better metacognitive awareness than boys. Pokay and Blumenfeld (2012) reported better metacognitive knowledge in girls compared to boys. However, the present research denoted gender differences (i.e. boys doing better than girls) as well as lowering down in metacognition awareness among X standard, as was earlier reported by Indu and Vinitha (2011). This study successfully documented far better levels of metacognition awareness in adolescent students.

IV. REFERENCES

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