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Metacognitive Skills Among High School Teachers

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ABSTRACT

The research is called Metacognitive Skills among High School Teachers, and it discusses a critical issue in the modern world of pedagogical practice. At the center of the discussion, the issue of metacognition in educational achievement is evident since the quality of teaching is intertwined with high-level metacognitive abilities of the teachers and students. In fact, the metacognition has acquired importance as a necessary component of teaching psychology, which is evident in daily occurrences of every member of society. It allows a person to be a successful learner and can be referred to as being intelligent. Studies in metacognition have given the educational psychologists insight on the cognitive processes that are used to learn and the factors that distinguish the successful students/learners with those who are not so successful. It also has significant implications on the teaching practice including educating students on how to be more conscious about their learning processes and results and how they can control those processes to learn better. The study used purposive sampling and survey technique on a population of Hundred high school teachers in Dindigul district, Tamil nadu, India. The researcher created and tested a Metacognition Scale' and made a 'personal data sheet. Categorical data in terms of "percentage, mean, standard deviation, t-test, and ANOVA were used to analyze" data.

Introduction

The term cognition comes from the Latin cognoscere, meaning "to know." It encompasses the way of thinking and entails different ways of knowing which include sensing, recollecting, imagining, conceiving and judging. The cognition about cognition is called metacognition, which is applied to cognition in order to evaluate, observe, or manage cognition (Flavell, 1979). Often described as "thinking about thinking," it is understood as an individual's knowledge concerning their own cognitive processes and products, or anything related to them. In the context of learning, this can be interpreted as a person's awareness of what they have and have not learned. For teachers, metacognition is essential in order to self-regulate and effectively guide students. Flavell (1976) explains that metacognition involves the active monitoring, regulation, and orchestration of cognitive processes in relation to the cognitive objects or data they engage with, typically in the pursuit of specific goals or objectives.

Need and "Significance of the Study"

The teachers are regarded as important agents in learning among their students in the classroom. As the curriculum is transacted in schools, it is the duty of the teacher to decide what activities and experiences to give to the students. Teachers are therefore expected to exercise logical thinking, democratic conducts, emotional stability and anxiety-free. Quality of any educational program is highly determined by the quality of teachers who are involved in delivering the program and the quality of education is closely connected with the quality of higher-order thinking of teachers and students, which is their metacognition. The concept of metacognition or, more precisely, the thinking about the thinking can be explained as the capacity not only to judge the understanding of the material one is studying at the moment but also to employ this judgment in making predictions about how effectively one can do a given task. It is the concept of our conscious, control and management of our thinking (Sternberg, 2009). The training of metacognitive skills in the school system is essential as it will lead to the development of scientific competence and an increase in the level of achievement (Larkin, 2009). The metacognition research has presented educational psychologists with renowned knowledge about the cognitive processes that make successful learners and unsuccessful learners different. Moreover, it has important implications on the instructional practice including the teaching of students to be more sensitive to their learning processes, products and strategies and to control these to achieve better results. It is against this context that the current research intends to examine metacognitive abilities among the teachers in high schools.

Objectives

1. To establish the degree of metacognition in high school teachers.

2. To establish the degree of metacognition of high school teachers relative to school locality.

3. To ascertain the degree of metacognition in the teachers in high schools according to the type of school.

4. To determine the existence of statistically significant difference in metacognition among the high school teachers in terms of school locality.

5. To determine the statistical significance of a difference between the high school teachers in metacognition in terms of the school type.

Hypotheses of the study

Ho1: Male and Female high school teachers do not differ significantly in their metacognition.
Ho2: Government, aided and matriculation school high school teachers do not have a

significant difference in regard to their metacognition.

Delimitations of the Study

- The research will cover high school teachers specifically in the district of Dindigul of Tamil nadu.
- The researcher has suggested that 100 teachers should be selected as the sample of the research.

Background of the Study

Parvathi, S. U. (2024). The study by Parvathi involved looking at metacognition, teaching competence, and teaching attitude of potential mathematics teachers. The results of the research were as follows: 1) There was a strong gender disparity in memory dimension of metacognition between potential mathematics teachers. 2) Planning, monitoring and evaluation aspects of metacognition were also quite different in regard to the school level medium of instruction.

Prytula, M. P. (2022). Prytula examined metacognition in teacher professional learning groups. The study findings can be summarized as follows: 1) In professional learning communities, members could contemplate and analyze their thoughts to a certain extent and the development or implementation of plans on how to turn those thoughts into action. 2) The extent of the community leader metacognition affected the kind of professional activities of the leader in the learning community.

Method Used

Metacognition among High School Teachers is being studied with a poll method.

Population and Sample

The current study will focus on high school teachers in the Dindigul area of Tamil Nadu. In addition, the researcher chose the sample using the simple random sampling method, which picks samples from a community. 100 high school teachers are taking part. There was a total of 148 high school teachers, equal numbers of men and women.

Tool Used

This paper seeks to research on Metacognition of High School Teachers. The researcher has created and proven the Metacognition Scale.

Reliability

In the current investigator, test retest reliability was established on Metacognition Scale. The instrument was given to a sample of 50 High School Teachers. The tool was administered on the day one and After 15 days the same tool was administered to the same group of students. Then the scores were made on both the responses. The correlation between the two sets of scores was done and the co- efficient was determined. The value of co-efficient of reliability is 0.846. Therefore, test- retest method was used to prove the reliability of the tool.

Establishing the Validity

In order to determine the face validity, the tool was made available to the professionals in the field psychology. Some were rejected and some were modified basing on the recommendations provided by the experts. Therefore, the validity of the tool as a face validity was determined.

Statistics Techniques Used

In this study, percentage analysis, t and ANOVA test were applied.

Results and Discussion

Table 1 shows that, among the high school teachers in the group, metacognition and its parts are at a medium level. This level shows the percentage of high school teachers who have a high level of knowledge in this area. A

high level of metacognition is reached by 20% of high school teachers and 16% of them have a high level in regulating their own thoughts.

Based on the location of the school, Table 2 shows that the level of metacognition of high school teachers varies. At this level, 25.0% of teachers in rural high schools and 75.0% of teachers in urban high schools have high knowledge about cognition, 43.8% have high regulation of cognition, and 30.0% have high overall metacognition.

Table 1. Level of Metacognition among High School Teachers

Dimensions	**Low**		**Moderate**		**High**	
	N	**%**	**N**	**%**	**N**	**%**
Knowledge of Cognition	12.5	12.5	66.5	66.5	21	21.0
Regulation of Cognition	9.5	9.5	74	74.0	16.5	16.5
Overall Metacognition	8.5	8.5	71.5	71.5	20.0	20.0

Table 2. Level of Metacognition among High School Teachers With regard to Locality of School

Dimensions	**Locality of School**	**Low**		**Moderate**		**High**	
		N	**%**	**N**	**%**	**N**	**%**
Knowledge of Cognition	Rural	9	69.2	30	44.8	5	25.0
	Urban	4	30.8	37	55.2	15	75.0
Regulation of Cognition	Rural	5	55.6	32	42.7	7	43.8
	Urban	4	44.4	43	57.3	9	56.2
Overall Metacognition	Rural	7	77.8	31	43.7	6	30.0
	Urban	2	22.2	40	56.3	14	70.0

Table 3 . Level of Metacognition among High School Teachers with regard to Type of School

“Dimensions	**Type of School**	**Low**		**Moderate**		**High**	
		N	**%**	**N**	**%**	**N**	**%**
Knowledge of Cognition	Government	6	17.1	23	65.7	5	14.3
	Aided	2	4.3	29	63.0	17	37.0
	Matriculation	3	14.3	9	42.9	7	33.3
Regulation of Cognition	Government	5	14.3	26	74.3	4	11.4
	Aided	1	2.1	34	71.8	11	23.2
	Matriculation	3	15.0	11	55.0	5	25.0
Overall Metacognition	Government	4	11.4	24	68.6	6	17.1
	Aided	1	2.1	31	66.0	17	36.2
	Matriculation	3	14.3	11	52.4	7	33.3”

Table 4. Difference between Rural and Urban School High School Teachers in their Metacognition

Dimensions	Locality of School	N	Mean	S.D	'P' value	Remarks
"Knowledge of Cognition	Rural	44	82.00	9.479	0.044	**S**
	Urban	56	85.77	8.737		
Regulation of Cognition	Rural	44	85.05	10.202	0.049	**S**
	Urban	56	88.80	9.148		
Overall Metacognition	Rural	44	167.05	17.509	0.027	**S"**
	Urban	56	174.57	15.435		

Table 5. Difference among Metacognition of High School Teachers with regard to Type of School

Dimensions	Sources of variation	df = 2, 97		'P' value	Remarks
		Sum of squares	Mean square		
Knowledge of Cognition	Between	718.741	359.371	0.013	**S**
	Within	7693.049	79.310		
Regulation of Cognition	Between	866.786	433.393	0.009	**S**
	Within	8559.964	88.247		
Overall Metacognition	Between	3156.111	1578.055	0.003	**S**
	Within	24525.129	252.836		

Analysis of Data

Table 3 shows the metacognition level of high school teachers based on the type of school they work at. At this level, 5.0% of government high school teachers, 75.0% of aided high school teachers, and 20.0% of matriculation school high school teachers have high knowledge of cognition, 18.8% of government high school teachers, 56.2% of aided high school teachers, and 25.0% of matriculation school high school teachers have high regulation of cognition, and 10.0% of government high school teachers, 70.

According to Table 4, high school teachers in rural and urban places know very different amounts about how we think, how to control our thinking, and how our thinking affects our overall understanding of what we think. Based on the mean results, the teachers at the high school in the city are better than those at the high school in the country. This might be because teachers in cities share their subject knowledge with their coworkers more often, which may help them learn how to think about how they think. • Table 5 shows that there is a lot of variation in what government, aided, and matriculation school high school teachers know about cognition, regulation cognition, and overall metacognition. Based on the average grades, the high school teachers at the aided school are better than those at the government school and the matriculation school. It might be because teachers who get help are freer to plan shows and competitions related to their subjects without having to ask for permission from the management. This can help them develop their metacognitive skills.

Conclusion

The results indicate that both government and matriculation high school teachers need to further develop their metacognitive skills. To support this, the government should provide in-service and free training programs related to subject matter and

metacognitive strategies. Teachers should also be encouraged to organize creative activities aimed at enhancing memory, attention, problem-solving skills, comprehension, and language development. For rural school teachers, specific training in meta-thinking and lateral thinking is essential. Additionally, participatory processes and experiential learning methods should be introduced as alternatives to traditional lecture-based and content-focused training, thereby fostering deeper engagement and metacognitive growth among teachers.

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