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METACOGNITION AMONG HIGH SCHOOL TEACHERS

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Abstract

The present study is entitled as "Metacognition among High School Teachers". Metacognition is one of the greatest concerns of teachers. The quality of education depends upon the higher order thinking of teachers and students in other words their metacognition. In the field of educational psychology, metacognition is an emerging concept. Metacognitive activities are there in every one's daily life. Metacognition enables an individual to become a successful learner. It is being associated with intelligence. The study of metacognition has provided educational psychologists with insight about the cognitive processes involved in learning and what differentiates successful students from their less successful peers. It also holds several implications for instructional interventions, such as teaching students how to be more aware of their learning processes and products as well as how to regulate those processes for more effective learning. The research was a survey type, which consists of purposive sampling of 100 high school teachers in Dindigul district. The investigator has constructed and validated the Metacognition scale. Personal data sheet was prepared by the investigator. The interpretation of data was done with statistical methods in percentage analysis, mean, standard deviation, 't'-test and ANOVA.

Introduction

The word 'Cognition' comes from the Latin term 'cognoscere' which means "to know." It covers the process of thought and involves various modes of knowing, such as perceiving, remembering, imaging, conceiving, and judging. Metacognition is defined as cognition about cognition and refers to cognitive processes that are involved in appraisal, monitoring or control of cognition (Flavell, 1979). Metacognition often referred to as "thinking about thinking," is defined as "one's knowledge concerning one's own cognitive processes and products or anything related to them" . With respect to learning, this can be interpreted as an individual's awareness of what they have and have not learned. Metacognition is essential for teachers to in order to self-regulate and guide students. Metacognition refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective" (Flavell, 1976).

Significance of the Study

Teachers are considered as an important entity to facilitate students in the classroom. Through transacting curriculum in the school, it is the sole responsibility of the teacher to decide how and through what activity and kind of experience he/she wants to make students to think about themselves. Hence, it is expected that teacher resolve to be a person of rational thought, exhibiting democratic behavior, anxiety free and stable minded. It is generally agreed that the goodness of an educational programme to a large extent is dependent on the quality of teachers available to implement it. The quality of education depends upon the

higher order thinking of teachers and students in other words their metacognition. Metacognition is thinking about one's own thinking. More technically, metacognition involves in the ability to evaluate one's own comprehension of subject matter and use that evaluation to predict how well one might perform a task. It refers to our understanding and control over our own thinking processes including awareness, control and regulation (Sternberg, 2009). It is extremely important that metacognitive skills are taught within the educational system, regarding their role in the development of students' scientific competence and raising the achievement level (Larkin, 2009). The study of metacognition has provided educational psychologists with insight about the cognitive processes involved in learning and what differentiates successful students from their less successful peers. It also holds several implications for instructional interventions, such as teaching students how to be more aware of their learning processes and products as well as how to regulate those processes for more effective learning. By this study the investigator wants to find out the metacognition among high school teachers.

Objectives

1. To find out the level of metacognition among high school teachers.
2. To find out the level of metacognition among high school teachers with regard to the selected background variables such as locality of school and type of school.
3. To find out whether there is any significant difference in metacognition among high school teachers with regard to the selected background variables such as locality of school and type of school.

Hypotheses

H₀1: There is no significant difference between male and female high school teachers in their metacognition.

H₀2: There is no significant difference among government, aided and matriculation school high school teachers in their metacognition.

Delimitations of the Study

1. The study is limited to high school teachers in Dindigul district only.
2. The investigator has proposed to choose only 100 teachers as sample for the study.

Background of the Study

Parvathi, S. U. (2014). Conducted a study on Metacognition, teaching competency and attitude towards teaching profession of prospective mathematics teachers. The findings of the study were that there was significant difference in the metacognition of prospective mathematics teachers in the dimension memory with respect to gender, there was significant difference in the metacognition of prospective mathematics teachers in the dimensions 'planning' and 'monitoring' with respect to educational qualification and there was significant difference in the metacognition of prospective mathematics teachers in total and in

the dimensions 'memory', 'monitoring' and 'evaluation' with respect to medium of instruction at school level.

Prytula, M. P. (2012). Made a study on, Teacher metacognition within the professional learning community, The findings of the study revealed that as members of professional learning communities, participants had the opportunity to reflect on and analyze their thoughts and to different degrees, put or plan to put thoughts to action and the professional learning communities leaders' metacognitive ability impacted the type of work that they led in the professional learning communities.

Method Used

The investigator has adopted survey method in this study to measure the Metacognition among High School Teachers.

Population and Sample

The population of the present study consists of teachers those who are working in high schools of Dindigul district, Tamilnadu. The investigator has used simple random sampling technique for selecting the sample from the population. The sample consists of 100 high school teachers. Among them 28 were male and 72 were female high school teachers.

Tool Used

To study the Metacognition among High School Teachers the investigator has constructed and validated the Metacognition Scale by self under the guidance of his research guide.

Statistics Techniques Used

Percentage analysis, 't' and ANOVA tests were used in this study.

Analysis of Data

Table 1 Level of Metacognition among High School Teachers

Dimensions	Low		Moderate		High	
	N	%	N	%	N	%
Knowledge of Cognition	13	13.0	67	67.0	20	20.0
Regulation of Cognition	9	9.0	75	75.0	16	16.0
Metacognition	9	9.0	71	71.0	20	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
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	8	61.5	25	37.3	1	5.0
	Aided	2	15.4	31	46.3	15	75.0
	Matriculation	3	23.1	11	16.4	4	20.0
Regulation of Cognition	Government	5	55.6	26	34.7	3	18.8
	Aided	1	11.1	38	50.7	9	56.2
	Matriculation	3	33.3	11	14.7	4	25.0
Metacognition	Government	6	66.7	26	36.6	2	10.0
	Aided	0	0.0	34	47.9	14	70.0
	Matriculation	3	33.3	11	15.5	4	20.0

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		
Metacognition	Rural	44	167.05	17.509	0.027	S
	Urban	56	174.57	15.435		

Table 5 Difference among Government, Aided and Matriculation School High School Teachers in their Metacognition

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		
Metacognition	Between	3156.111	1578.055	0.003	S
	Within	24525.129	252.836		

Results and Discussion

- The table 1 reveals that the level of metacognition and its dimensions of high school teachers in terms of total sample are moderate. Among the sample 20% have high level knowledge of cognition and 16% have high level regulation of cognition and 20.0% have high level metacognition.

- The table 2 reveals that the level of metacognition and its dimensions of high school teachers with regard to locality of school are moderate. Among the sample 25.0% of rural and 75.0% of urban high school teachers have high knowledge of cognition, 43.8% of rural and 56.2% of urban high school teachers have high regulation of cognition and 30.0% of rural and 70.0% of urban high school teachers have high metacognition.
- The table 3 reveals that the level of metacognition and its dimensions of high school teachers with regard to type of school are moderate. Among the sample 5.0% of government, 75.0% of aided and 20.0% of matriculation school high school teachers have high knowledge of cognition, 18.8% of government, 56.2% of aided and 25.0% of matriculation school high school teachers have high regulation of cognition and 10.0% of government, 70.0% of aided and 20.0% of matriculation school high school teachers have high metacognition.
- The table 4 reveals that there is significant difference between rural and urban school high school teachers in their knowledge of cognition, regulation cognition and metacognition. While comparing the mean scores, the urban school high school teachers are better than the rural school high school teachers in their knowledge of cognition, regulation cognition and metacognition. This may due to the fact that urban school teachers have more exposure to the outer world that helps them to set goals and also it helps them to plan, monitor, and evaluate their thinking process to reach their set goals.
- The table 5 reveals that there is significant difference between government, aided and matriculation school high school teachers in their knowledge of cognition, regulation cognition and metacognition. While comparing the mean scores, the aided school high school teachers are better than the government and matriculation school high school teachers in their knowledge of cognition, regulation cognition and metacognition. This may due to the fact that the aided schools have conducive metacognitive environment which develops their awareness on thinking. Teachers also discuss about their thinking strategies among themselves and that enables them to develop their Metacognitive skills.

Conclusion

The result reveals that the high school teachers from rural schools in general and government and matriculation high school teachers need to develop their metacognitive skills. The government should create a suitable metacognitive environment by which the teachers may become aware of their own thinking. The school libraries, the media and invited specialists may help them to develop their metacognitive strategies. Metacognitive skills are essential for the 21st century teachers. This would enable the teachers to cope up with the new situations and they will become good thinkers in near future.

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