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A STUDY ON METACOGNITIVE AWARENESS AMONG TEACHERS

Dr. S. Devasahayam Selvakumar[1] and C. Jeba Evangeline[2]
[1]Principal, Meston College of Education, Chennai.
[2]Assistant Professor, Meston College of Education, Chennai.

ABSTRACT :

This paper deals with the understanding of metacognitive awareness among teachers. In this context the investigator made an attempt to find the existing level of Metacognitive Awareness in Teaching of teachers at school level. The concept of metacognition is operationalized. In this study metacognitive awareness of teachers were investigated. A total of 1147 teachers were participated. Data were collected by a survey which was developed by Cem Balcikanli (2011). Here simple random sampling technique was used to collect the sample from various schools. Data was analysed through mean, standard deviation, "t" test and Anova. A significant difference of metacognitive awareness level in between female and male teachers was recognized. The study showed that there is a significant difference on metacognitive awareness of teachers according to their age.

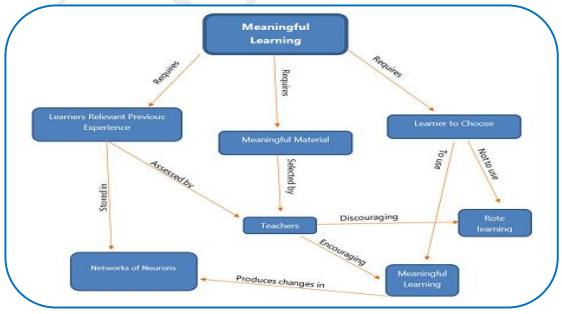
KEYWORDS : *Metacognitive awareness, Metacognitive Knowledge and Regulation, teachers.*

INTRODUCTION

According to Cross & Paris (1988) Metacognition is knowledge and control children have over their own thinking and learning activities". Hennessey (1999) defined metacognition as awareness of one's own thinking, awareness of the content of one's conceptions, an active monitoring of one's cognitive processes, an attempt to regulate one's cognitive processes in relationship to further learning, and an application of a set of heuristics as an effective device for helping people organize their methods of attack on problems in general. Kuhn and Dean (2004) explain, metacognition is what enables a student who has been taught a particular strategy in a particular problem context to retrieve and deploy that strategy in a similar but new context. Based on definitions metacognition has been operationalized in terms of meta cognitive skills. These skills fall fewer than two domains are meta cognitive knowledge and meta cognitive regulation (Flavell, 1979, 1987; Schraw & Dennison, 1994).

METACOGNITIVE KNOWLEDGE

Metacognitive Knowledge refers to what individuals know about themselves as cognitive processors, about different approaches that can be used for learning and problem solving, and about the demands of a particular learning task. The three components of the metacognition knowledge are declarative, procedural, and conditional knowledge (Schraw, 2001). A teacher's instruction of metacognition may be influenced by his/her individual understandings of what it means to teach metacognition (Baylor, 2002). This includes the use of reflection or debriefing techniques think aloud, problem-solving activities, small and whole group



discussions about process and explicit strategy instruction.

METACOGNITIVE REGULATION

Metacognitive regulation refers to adjustments individuals make to their processes to help control their learning, such as planning, information management strategies, comprehension monitoring, de-bugging strategies, and evaluation of progress and goals.

SIGNIFICANCE OF THE STUDY

Shedding more light on the effect of metacognitive awareness of learners may help teachers to find new ways to direct students toward the use of more metacognitive strategies in their learning. More support and clarification on the effect of metacognitive awareness on learners may encourage teachers to get to know more about how to boost up practical use of the strategies in learners.

In this context the investigator got an interest in the area of metacognitive awareness. Investigator thought so because if the level of metacognitive awareness of teachers were found out, then it would be helpful for the teachers to lead their students in proper way and provide appropriate techniques to students so that their metacognitive awareness may develop which will enhance the learning of concepts in a better way.

OBJECTIVES OF THE STUDY

1. To find out whether there is any significant differences in metacognitive awareness with regard to gender.
2. To find out whether there is any significant differences in metacognitive awareness with regard to age.

HYPOTHESES OF THE STUDY

1. There is no significant difference in the mean scores of Metacognitive Awareness and all its dimensions with regard to gender.
2. There is no significant difference in the mean scores of Metacognitive Awareness and all its dimensions with regard to age.

DESIGN OF THE STUDY

Population and Sample

The present investigation is carried out in government school, government aided school and private schools of Chennai, Thiruvallur, Thiruvannamalai and Kanchipuram district in Tamilnadu. 1147 school teachers were selected using simple random sampling technique. As the study intends to collect data pertaining to Metacognitive awareness among school teachers, survey method was used.

Tools used

Metacognitive Awareness Inventory for Teachers standardized by Cem Balcikanli (2011).

Analysis of Data:

The collected data are analyzed using the relevant statistical procedures, the details of which are given in the following tables.

Hypothesis-1: Metacognitive Awareness based on Gender

Mean scores of Metacognitive awareness along with its dimensions of male and female teachers have been computed and the difference is tested for significance as shown below:

Table 1

Showing the significance of the difference between the mean scores of male and female in their Metacognitive Awareness and its dimensions

Metacognitive awareness and its Dimensions		Gender	N	Mean	SD	't' Value	Remark
MetaCognitive Knowledge and its dimensions	Declarative	Male	294	15.10	3.136	4.469	0.01
		Female	853	15.97	2.783		
	Procedural	Male	294	15.62	10.637	0.271	NS
		Female	853	15.73	2.906		
	Conditional	Male	294	14.81	3.353	4.332	0.01
		Female	853	15.86	3.664		
	Metacognitive Knowledge in toto	**Male**	**294**	**45.54**	**13.836**	**2.993**	**0.01**
		Female	**853**	**47.56**	**8.188**		
Metacognitive Regulation and its dimensions	Planning	Male	294	15.07	3.888	1.794	NS
		Female	853	15.46	2.994		
	Monitoring	Male	294	15.48	10.658	0.580	NS
		Female	853	15.78	6.132		
	Evaluating	Male	294	15.05	2.885	3.213	0.01
		Female	853	15.76	3.401		
	MetaCognitive Regulation in toto	**Male**	**294**	**45.60**	**13.710**	**1.900**	**NS**
		Female	**853**	**46.99**	**9.729**		
MetaCognitive Awareness in toto		**Male**	**294**	**91.14**	**23.034**	**2.741**	**0.01**
		Female	**853**	**94.56**	**16.610**		

The above table clearly indicates that comparing the obtained value of't' (2.741) with that of table value (2.58) at 0.01 level,it is found that the male and female teachers are significantly differed in their metacognitive awareness in toto.

On comparing the obtained value of't' (2.993) with that of table value (2.58) at 0.01 level, it is found that the male and female teachers are significantly differed in metacognitive knowledge in toto. Comparing the obtained value oft' (0.271) with that of table value (1.96) at 0.05 level, it is found that the male and female teachers are not significantly differed in the dimensions of metacognitive knowledge- Procedural. Also comparing the obtained values of 't' (4.469 and 4.332) with that of table value (2.58) at 0.01 level, it is found that the male and female teachers are significantly differed in the dimensions of Metacognitive knowledge- Declarative and Conditional.

On comparing the obtained value of't' (1.900) with that of table value (1.96) at 0.05level, it is found that the male and female teachers are not significantly differed in Metacognitive regulation in toto. Comparing the obtained value of t' (1.794, 0.580) with that of table value (1.96) at 0.05 level, it is found that the male and female teachers are not significantly differed in the dimensions of Metacognitive Regulation- Planning and Monitoring. Also comparing the obtained values of't' (3.213) with that of table value (2.58) at 0.01 level, it is found that the male and female teachers are significantly differed in the dimensions of Metacognitive Regulation –Evaluating.

Moreover, female teachers have exhibited significantly higher in Metacognitive awareness than male teachers. Female teachers have exhibited significantly higher Metacognitive knowledge in toto and its dimensions- Declarative and Conditional than their counter parts. Also female teachers have exhibited significantly higher in the dimensions of Metacognitive regulation -Evaluating than their counter parts. Hence, Hypothesis – 1 stating that "There is no significant difference in the mean scores of Metacognitive Awareness and all its dimensions with regard to gender" is partially verified.

Hypothesis-2: Metacognitive awareness based on Age

The mean scores of metacognitive awareness along with its dimensions of teachers based on their age have been compared for finding the significance of the difference as shown below.

Table 2

Showing the significance of the difference between the teachers based on their age in Metacognitive Awareness and its dimensions

Metacognitive awareness and its Dimensions		Age	N	Mean	ssb	ssw	df	F	Remark
Metacognitive Knowledge and its dimensions	Declarative	Below 30 yrs	352	15.16	179.886	9467.777	2, 1144	10.868	0.01
		Between 30&50 yrs	653	16.05					
		Above 50 years	142	15.80					
	Procedural	Below 30 yrs	352	14.88	423.842	39926.988	2, 1144	6.072	0.01
		Between 30&50 yrs	653	15.92					
		Above 50 years	142	16.75					
	Conditional	Below 30 yrs	352	14.77	349.015	14626.214	2, 1144	13.649	0.01
		Between 30&50 yrs	653	16.00					
		Above 50 years	142	15.76					
	Metacognitive Knowledge	**Below 30 yrs**	352	44.81	2542.136	111556.938	2, 1144	13.035	0.01
		Between 30&50 yrs	653	47.97					
		Above 50 years	142	48.31					
Metacognitive Regulation and its dimensions	Planning	Below 30 yrs	352	14.64	262.142	11838.429	2, 1144	12.666	0.01
		Between 30&50 yrs	653	15.70					
		Above 50 years	142	15.58					
	Monitoring	Below 30 yrs	352	15.16	160.469	65180.361	2, 1144	1.408	NS
		Between 30&50 yrs	653	15.99					
		Above 50 years	142	15.70					
	Evaluating	Below 30 yrs	352	14.91	234.012	12169.910	2, 1144	10.999	0.01
		Between 30&50 yrs	653	15.91					
		Above 50 years	142	15.70					

	Metacognitive Regulation	**Below 30 yrs**	352	44.70	1942.797	134208.872	2, 1144	8.280	0.01
		Between 30&50 yrs	653	47.61					
		Above 50 years	142	46.96					
Metacognitive Awareness in toto		**Below 30 yrs**	352	89.51	8847.612	384243.769	2, 1144	13.171	0.01
		Between 30&50 yrs	653	95.59					
		Above 50 years	142	95.27					

From the above table, it is observed that comparing the obtained f value13.171at 0.01 level, there is a significant difference among teachers based on their age in Metacognitive awareness in toto. From the above table, there is a significant difference among teachers based on their age(f =13.035,10.868, 6.072 and 13.649at 0.01 level) in Metacognitive knowledge in toto and all its dimensions- Declarative, Procedural and Conditional.

On comparing the above values, there is a significant difference among teachers based on their age (f value 8.280 at 0.01level) in Metacognitive regulation in toto. Comparing the above results, there is no significant difference among teachers based on their age (f value 1.408at 0.05 level) in a dimension of metacognitive regulation – Monitoring. Comparing the above results, there is a significant difference among teachers based on their age (f value 12.666 and 10.999at 0.01 level) in the dimensions of metacognitive regulation –Planning and Evaluating.

It is concluded that teachers belong to above 30 to 50 years have significant metacognitive awareness in toto. Teachers belong to above 50 years have significant Metacognitive knowledge in toto. Teachers belong to above 30 to 50 years have significant in the dimensions of metacognitive knowledge- Declarative, Procedural and Conditional. Also, the teachers belong to above 30 to 50 years have significant Metacognitive regulation in toto and its dimensions –Planning and Evaluating. Hence, Hypothesis – 2 stating that "There is no significant difference in the mean scores of Metacognitive Awarenessand all its dimensions based on their age" is partially verified.

FINDINGS OF THE STUDY

- Female teachers have exhibited significantly higher in meta cognitive awareness in toto and its dimensions- meta cognitive knowledge in toto and its dimensions- Declarative, Conditional and the dimensions of meta cognitive regulation -Evaluating than their counter parts.
- Teachers belong to above 30 to 50 years have significant metacognitive awareness in toto. Teachers belong to above 50 years have significant Metacognitive knowledge in toto. Teachers belong to above 30 to 50 years have significant in the dimensions of metacognitive knowledge- Declarative, Procedural and Conditional. Also, the teachers belong to above 30 to 50 years have significant Metacognitive regulation in toto and its dimensions –Planning and Evaluating.

DISCUSSION &CONCLUSION

Meta cognitive awareness plays an important role in teaching, learning, social cognition, attention, self-discipline, problem solving, communication and personality development. Knowledge of teaching and learning process will not guarantee good teaching, but, without the knowledge of metacognitive awareness, teaching is simply a routine habit and trial and error procedure, many of which can be harmful to the students. Promoting safe and orderly environment, establishing a positive school climate will certainly help the teachers to perform well and bring about high achievement of their goals. It could be said that without

the right application of Meta cognitive awareness in teaching and learning process, there will be poor professional development which have great adverse impact in educational system.

The results of investigations substantiate that teachers' metacognitive awareness can promote successful accomplishment of their professional tasks. The results suggests that gender and age that teaching experience is an important factor in the way metacognitive awareness affects instructional success.

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