

**A STUDY ON: METACOGNITIVE AWARENESS AMONG TRAINEE TEACHERS' IN
HOOGHLY DISTRICT, WEST BENGAL**

Anindita Bachhar

M.Phil. Research Scholar,
WBUTTEPA

Dr. Sanghamitra Ghosh (Gayen)

Assistant Professor & OSD ,
Supervisor & Communicating author ,
Dept. of Teacher Education

Abstract

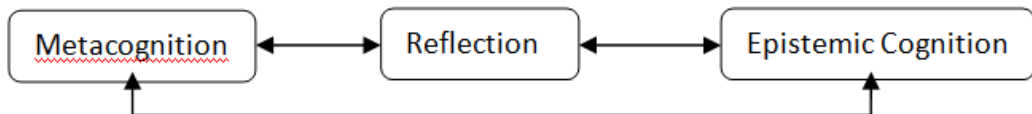
The quality of a student depends upon the competency, dedication, teaching strategies of a teacher. It acts as catalyst for changes, changes in classroom environments, exchanging information, teaching process, methods, learning approaches etc. The knowledge of self is very important for a trainee teacher to develop their teaching skills as they will be constructors of future generation. Therefore the present paper aimed to study the Metacognitive Awareness of trainee teachers in Hooghly District, West Bengal. Researcher also likes to study whether there is any significant difference in Metacognitive Awareness of trainee teachers based on their gender, subject and study level. The necessary data were collected from 150 trainee teachers of Hooghly district. We found a significance difference between two groups of students in the same institution regarding their Metacognitive awareness.

Keywords: metacognitive awareness, trainee teacher

Introduction:

Education is going through an unprecedented period of change. Across the world, quality teachers are becoming a key policy concern. As knowledge expand and technologies emerge, the teacher needs to acquire information, application of their knowledge, critical thinking, problem solving ability, communication skill, positive attitude and awareness about their teaching, so that they can embellish the future generation. For all these a trainee teacher should have the knowledge of their own. This inability of learners to self-regulate their own learning often results in poor academic performance. Self-regulated learner is one who is “organized, autonomous, self-motivated, self-monitoring, self-instructing, in short, behaves in ways designed to maximize the efficiency and productivity of learning process” (Choudhury & Choudhury, 2015). This concept of self regulating behavior is known as “Metacognition” which is indispensable for the teachers as well as the learners.

Metacognition is one of the obscure concepts in educational psychology. For last few decades there is much debate over exactly what 'Metacognition' is. 'Meta' basically is a Greek word. Meta means 'beyond' and cognition means 'to know'. So, the term 'Metacognition' refers to second-order cognition about cognition. It also refers higher order thinking which involves active control over the thinking process engaged in learning. 'Metacognition' is often defined as thinking about one's thinking, the factor of personal epistemology – Individuals beliefs about knowledge and knowing (Hofer and Sinatra, 2010). It means cognition or knowledge about knowing and learning (Murcia & Torregrosa, et.al 2015). Metacognition is a regulatory system that helps a person to understand and control his/her cognitive phenomenon. It allows people to take charge of their own learning. Sometimes people use the phrase 'going-meta' that means becoming an audience of their own intellectual performance. Metacognition was originally referred to the knowledge and regulation of one's own cognitive activities in learning process (Flavell, 1979; Brown, 1978). It is the application of learning form one context to another. It has been labeled as a 'buzzword', 'ill-defined', 'obscure', 'fuzzy', 'vague', 'messy' and an 'epiphenomenon' but also a conceptually significant phenomenon in cognitive psychology and educational research (Brown, 1987). It prefer to refers as an awareness of one's own thoughts (Murcia & Torregrosa, et.al 2015), one's knowledge and beliefs about one's own cognitive process and one's resulting attempts to regulate those cognitive process to maximize learning and memory (Ormrod, 2006). Many assertions explained that thinking is a part of problem solving or inquiry process requiring reflection upon prior knowledge, (Tarricone, 2011) and Metacognition is the conscious and periodic self-checking process of whether one's goal is achieved or not (Alkan & Erdem, 2014).



Foundation of the conceptual framework of Metacognition

The term 'Metacognition' was put forward for the first time in 1976 by John Flavell and it developed by many researchers until today. Flavell (1976) define Metacognition as, Knowledge and Cognition about Cognitive Phenomenon.

According to Schraw and Dennison (1994), Metacognition is the ability to reflect, control and understand, in a self-aware mode, one's own learning and cognition. Tailor (1999) defines Metacognition as – an appreciation of what one already knows, together with a correct apprehension of the learning task and what knowledge and skills it requires, combined with the ability to make correct inference about how to apply one's strategic knowledge to a particular situation and to do so efficiently and reliably. Metacognition have two-dimension – **Metacognitive Knowledge**- it includes the learner knowledge of their own cognitive abilities (e.g., I have trouble to remember mobile number) and **Metacognitive regulation** – it describe how learners monitor and control their cognitive processes (e.g., If I break mobile numbers into chunk it's easy to remember them).

REVIEW OF RELATED LITERATURE:

From the review of related literature the researcher found that the concepts of Metacognition is not just a thinking process, it is that level of thinking where the people are highly self – directed. Govil & Sarwer (2003) studied on only English knowing college students of India with a purpose to differentiate between high and low level of students in respect to Metacognition to identify students with poor Metacognitive level who may need counseling and to help them move towards high achievements. Where Jaleel, S. & Jaleel, S. & Premachandran, P. (2016) studied on the Metacognitive Awareness of Secondary School Students at Kottayam district. By this study they tried to find out whether there exists any significant difference between the various sub samples Gender, Locality and Type of Management of school based on their Metacognitive Awareness. Findings of the study showed that there is no significant difference in the Metacognitive Awareness of secondary school students based on their gender, locale and type of management of the school. Liliana, C. & Lavinia, H. (2011) indicated that generally both girls and boys use their Metacognitive skills in their learning process. Kummin, SA. & Rahman, S. (2010) also reported that there is no significant difference in the use of Metacognitive strategies between male and female students. The study also reveals that the diversity of demographic data such as gender, ethnicity and age has no effect on the use of relevant Metacognitive strategies. But Alci, B. & Karatas, H. (2011) studied on Teacher Candidates'

Metacognitive Awareness according to their domain and sex, findings of the research revealed that there was not a significant difference among the scores of Metacognitive awareness of male and female teacher candidates. Though Rani (2013) indicated that fathers' educational qualification have no significant impact on Metacognition of the students but mothers' education has significant impact on it. Findings of Justice and Dornan (2000) study suggested that educators in higher education will need to respond pedagogically to differences in the motivation and learning processes of non-traditional students. Howard, et al. (2001) found that Metacognitive self-regulatory skills were so important for individual students that even classroom-level variables such as the type of instruction received did little to take away from this effect.

RATIONALE:

In the context of present education system, more so in relation to higher education, a student needs multidisciplinary knowledge to get success in his/her life. Sometimes students experience difficulties in acquiring knowledge due to the inability to make use of knowledge and skills and take control of their learning. This inability to self-regulate their learning and behavior often results in poor academic performance along with difficulties in social interaction. Instead of telling them the solution of a particular problem it will be better to develop their own cognitive awareness that may enable them not only to solve the problem but also apply them throughout their lives. This concept of self-regulating of behavior is known as Metacognition.

Teacher Education is a course of study where students come to manifest themselves as future teacher. So, besides providing knowledge to the learner, it's better to teach them “learning how to learn” that helps them to organize their thinking process to solve different problems and to develop competencies to meet future challenges. Therefore the present researcher made an attempt to study the Metacognitive awareness of trainee teachers.

OBJECTIVES OF THE STUDY:

- O₁:** To study the level of Metacognitive awareness of trainee teachers at Hooghly District.
- O₂:** To study whether there is any significant difference in the Metacognitive awareness of trainee teachers based on their Gender (male-female) and subjects (arts - science) variation.
- O₃:** To study the significant difference in the Metacognitive Awareness of trainee teachers

at studying at two levels (second semester and fourth semester of B.Ed. programme).

HYPOTHESIS:

- H₀1:** There exists no significant difference in Metacognitive Awareness of trainee teachers in relation to gender variation.
- H₀2:** There exists no significant difference in Metacognitive Awareness of trainee teachers in relation to academic subject variation.
- H₀3:** The trainee teachers in second semester and fourth semester will not differ significantly on their Metacognitive awareness.

LIMITATION:

The present study is limited to check the Metacognitive awareness of trainee teachers only. Moreover the study is limited to Hooghly district only.

METHODOLOGY:

A simple survey method was used in this study. The methodology followed for the study discussed as follows:

Population and Sample:

All trainee teachers from various B.Ed colleges of Hooghly district, West Bengal constitute the population of the study. The sample consists of 150 trainee teachers from various B.Ed colleges of Hooghly District. A simple random technique has been used for the purpose of data collection.

Table -1: Distribution of the Sample

Sl No.	Variables	Category	Size
1	Gender	Male	90
		Female	60
2	Subject	Arts	90
		Science	60
3	Semester	Second Semester	78
		Fourth Semester	72

Tools used:

To assess the Metacognitive level among trainee teacher of Hooghly district, West Bengal, a self-reporting scale developed by Punita Govil (2003) was used which consists of 30 items.

Statistical technique:

The researcher used the statistical technique percentage, mean, standard deviation (SD), t-test etc. for analyzing and interpretation of the data collected for the study.

Software used:

The raw data were tabulated in MS Excel 2007 and analysis of data done through SPSS 20.0 version.

ANALYSIS AND INTERPRETATION OF THE DATA:

The investigator categorized the whole sample used for the study is to Very Low, Low, Average, High and Very High Metacognitive Awareness groups based on the manual of Metacognitive Inventory scores of Metacognitive awareness using the scores of responses. The score 69 and below are categorized as very low awareness, 70 – 81 are categorized as low awareness, 82 – 94 are categorized as Average level awareness, 95 – 106 are categorized as high awareness and 107 and above are categorized as Very high level Awareness. The frequency of students and its percentage is given in table no 2.

Table-2: Number and Percentage of different groups of trainee teacher based on their Metacognitive Awareness

Group	Frequency	Percentage
Very low Awareness	0	0%
Low Awareness	1	0.7%
Average Awareness	29	19.3%
High Awareness	107	71.3%
Very High Awareness	13	8.7%
Total	150	100%

Table 2 reveals that there is no trainee teacher in Hooghly district, who has very low level of Metacognitive Awareness, But 0.7% of them have Low level, 19.3% of them have Average level, 71.3% have High level awareness and 8% have Very High level of Metacognitive Awareness. Most of them have high level awareness. Therefore it shows that the levels of Metacognitive Awareness of trainee teachers are not equally distributed.

Table-3: Descriptive Statistics for the score of Metacognitive Awareness of trainee teacher.

N	Mean	Median	Std. Deviation	Skewness	Kurtosis
150	99.52	101	6.51	-0.847	0.69

It is inferred from Table 3 that the mean score 99.52 out of 120 in Metacognitive Awareness scale indicates trainee teachers have not in normal range of Metacognitive Awareness in Hooghly District of West Bengal.

H₀1: There exists no significant difference in Metacognitive Awareness of trainee teachers in relation to gender variation.

Table-4: Difference between male and female trainee teachers in their Metacognitive awareness.

Variable	Male (N=90)		Female (N=60)		Levene's Test for Equality of variance		t-test for equality of Means			Remarks
	Mean	SD	Mean	SD	F	Sig	t	Df	Sig.(2-tailed)	Not-significant
Meta-cognition	99.13	6.93	100.11	5.83	1.621	0.205	0.905	148	0.367*	

(*Not-significant at 0.05 level of significance)

To test the equality of variance Levene's F statistics was calculated and it was found that $F=1.621$ and $P=0.205$ ($p>0.05$) for gender variation, so equal variance can be assumed for the case. Table-4 also shows that in case of comparing mean score of male and female trainee teachers the calculated $t_{(148)}$ value is 0.905 and $P=0.367$ ($p>0.05$). Hence, 't' is not significant at 0.05 level of significance. So, the null hypothesis is not rejected and it can be concluded that male and female

trainee teachers are not significantly differ on the measure of their Metacognitive awareness.

H₀2: There exists no significant difference in Metacognitive Awareness of trainee teachers in relation to academic subject variation.

Table-5: Difference between arts and science trainee teachers in their Metacognitive awareness.

Variable	Arts (N=90)		Science (N=60)		Levene's Test for Equality of variance		t-test for equality of Means			Remarks
Meta- cognition	Mean	SD	Mean	SD	F	Sig	t	Df	Sig.(2- tailed)	Not- significant
	99.67	6.27	99.30	6.90	0.686	.409	0.347	148	0.729*	

(*Not-significant at 0.05 level of significance)

To test the equality of variance Levene's F statistics was calculated and it was found that $F=0.686$ and $P=0.409$ ($p>0.05$) for subject variation, so equal variance can be assumed for the case. Table-5 also shows that in case of comparing mean score of arts and science trainee teachers the calculated $t_{(148)}$ value is 0.347 and $P=0.729$ ($p>0.05$). Hence, 't' is not significant at 0.05 level of significance. So, the null hypothesis is not rejected and it can be concluded that arts and science trainee teachers are not significantly differ on the measure of their Metacognitive awareness.

H₀3: The students in second semester and fourth semester will not differ significantly on their Metacognitive awareness.

Table-6: Difference between second semester and fourth semester trainee teachers in their Metacognitive awareness.

Variable	Second Semester (N=78)		Fourth Semester (N=72)		Levene's Test for Equality of variance		t-test for equality of Means			Remarks
Meta- cognition	Mean	SD	Mean	SD	F	Sig (p)	t	Df	Sig.(2- tailed)	significant
	97.93	7.12	101.25	5.31	8.596	0.004	3.245	141.93	0.001*	

(*Significant at 0.05 level of significance)

To test the equality of variance Levene's F statistics was calculated and it was found that $F=8.596$ and $P=0.004$ ($p<0.05$) for appearing different semester, so equal variance cannot be assumed for the case. Table-6 also shows that in case of comparing mean score of second semester and fourth semester trainee teachers the calculated $t_{(141,93)}$ value is 3.245 and $P=0.001$ ($p<0.05$). Hence, 't' is significant at 0.05 level of significance. So, the null hypothesis is rejected and it can be conclude that second semester and fourth semester trainee teachers are significantly differ on the measure of their Metacognitive awareness.

FINDINGS:

- Majority of trainee teachers in Hooghly district have high level of Metacognitive awareness.
- There is no significant difference between male and female trainee teachers in their Metacognitive Awareness. So, it can be conclude that the variation of gender does not influence the Metacognitive awareness of trainee teachers in Hooghly district.
- There is no significant difference between arts and trainee teachers in their Metacognitive Awareness. So, it can be conclude that the variation of subject does not influence the Metacognitive awareness of trainee teachers Hooghly district.
- There is a significant difference between second semester and fourth semester trainee teachers in their Metacognitive Awareness. The mean score of fourth semester students are better than second semester student in their Metacognitive awareness. So, it can be conclude that the teacher education program may influence the Metacognitive awareness of trainee teachers.

DISCUSSION:

According to results obtained in the study, it has been determined that the trainee teachers of Hooghly district have high level of Metacognitive Awareness and the variation of gender and subject does not have any influence on Metacognitive awareness, which is similar to other research results (Liliana, Lavinia, 2011; Kummin, Rahman, 2010; Rani, 2013; Jaleel, Premachandran 2016; Alci, Karatas, 2011). On the other part of this study shows that there is significant difference between second semester and fourth semester trainee teachers in their Metacognitive Awareness.

CONCLUSION:

The present study reveals that majority of trainee teachers both male and female have high level of Metacognitive awareness. The finding of the study also reveal that in comparison with subject

variation the level of Metacognitive awareness have no significant difference but there have a difference between second semester and fourth semester student. So, it can be conclude that applying and executing strategies for monitoring the thinking style of trainee teachers may take this difference. It is important to focus our attention on lying emphasis on developing multiple strategies for trainee teachers as they are resourceful agents of transformation of the young generation.

REFERENCES:

- Abdellah, R. (2014). Metacognitive Awareness and its realation to academic achievement and teaching performance of pre service female teachers in Ajman University in UAE. Retrieved from www.sciencedirect.com
- Alci, B. & Karatas, H. (2011). Teacher Candidates' Metacognitive Awareness according to their domain and sex. International Journal of Multidisciplinary Thought. Retrieved from <https://pdfs.semanticscholar.org>
- Alkan, F. & Erdem, E. (2014). The Relationship between Metacognitive awareness, Teacher Self- Efficacy and Chemistry Competency Perceptions. Procedia- Social and Behavioral Sciences. Retrieved from www.sciencedirect.com
- Best, J.W., & Kahn, J.V. (2007). Research in education. New Delhi: Prentice hall of India.
- Cresswell, J.W. (2013). Qualitative Inquiry and Research Design. SAGE Publication.
- Cubukcu, F. (2009). Metacognition in the classroom. Procedia- Social and Behavioral Sciences. Retrieved from www.sciencedirect.com
- Dunlosky, J. & Metcalfe, J. (2009). Metacognition. New Delhi: SAGE Publication.
- Flavell, J. (1979). Metacognition and cognitive monitoring: A new area of cognitive developmental inquiry. American Psychologist.
- Gopinath, S. (2014). Metacognitive Awareness in Teaching and Teaching Competency: A Survey on trainee teachers at Secondary Level. IOSR Journal of Research & Method in Education. Retrieved from www.iosrjournals.org
- Kummin, SA. & Rahman, S. (2010) The relationship between the use of Metacognitive Strategies and Achievement in English. In Procedia – Social and Behavioural Science. Retrieved from www.sciencedirect.com
- Liliana, C. & Lavinia, H. (2011). Gender differences in Metacognitive skills. A study of the 8th grade pupils in Romania. Procedia- Social and Behavioral Sciences. Retrieved from

www.sciencedirect.com

Rani, R. (2013). Metacognition and its correlates: A study. International Journal of Advancement in education and Social science.

Sarwer, G. & Govil, P. (2003). Metacognitive awareness as Predicting Variables of Achievement in English among Secondary School Students. Aesearchers World- Journal of Arts, Science & Commerce. Retrieve from <http://dx.doi.org/10.18843/rwjasc/v8i4/07>

Tarricone, P. (2011). The Taxonomy of Metacognition. New York: Psychology Press.

Young, A. & Fry, J.D. (2008). Metacognitive Awareness and Academic Achievement in college students. Journal of the Scholarship of Teaching and Learning.

■ ■ ■