

## **Teaching Competency of Secondary Teacher Educators In Relation To Their Metacognition Awareness**

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**ABSTRACT :** *In the present research the investigators made an attempt to explore the effectiveness of Metacognition skills in developing the teaching competency among secondary teacher educators. The concept of Metacognition can be described as a higher –order cognitive structure. More specifically, Metacognition is 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 agility to make correct inferences about how to apply one’s strategic knowledge to a particular situation, and to do so efficiently and reliably. Students with good Metacognition were able to perform efficiently in teaching. The study reveals that majority of the secondary education students both male and female of Tinsukia and Dibrugarh district, Assam have average degree of teaching competencies and Metacognition awareness. The study demonstrated that there is a significant positive relationship between teaching competencies and Metacognition awareness. The study also revealed that there is significant difference between male and female secondary teacher educator in their teaching competency as well as in their Metacognition awareness.*

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### **I. INTRODUCTION**

Learning how to learn and developing a repertoire of thinking process which can be applied to solve problems, is a major goal of education. Education is the main force, which influences the quality of life. The quality and efficiency of education depend to a great extent on the quality of teachers who truly add value to the students. The present educational system is aimed at, besides providing knowledge to the learner, to teach them ‘learning how to learn’, to organize their thinking processes to solve different problems and to develop competencies to meet future challenges. In the context of present education system, a student needs to acquire information, application of knowledge, judging ability, critical thinking, analytical skills, problem solving, creativity and innovative attitude, aptitude for research, quantitative ability, multidisciplinary knowledge, computer skills, communication skills, soft skills, leadership, working in a team, positive attitudes, broader world view etc. A student develops these competencies and skills in an institution, through the curricular and co-curricular and extra-curricular activities. Sometimes students experience difficulties in acquiring these competencies and behaviors due to their 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. Lindner and Harris suggested that the self-regulated learner is "organized, autonomous, self-motivated, self-monitoring, self-instructing, in short, behaves in ways designed to maximize the efficiency and productivity of the learning process". Thus a careful guidance in recognizing and regulating one’s own thinking processes may help learners to solve problems of their lives. Instead of telling them the solution of a particular problem it will be better to equip them with the knowledge to have a practical assessment of their own skills and cognitive processes which may enable them not only to solve the present problem but the problems throughout their lives. This concept of self-regulating of behavior is known as ‘Metacognition’ it is highly imperative for the teacher as well as the taught.

### **II. METACOGNITION**

In education, Metacognition plays an important role. It is closely related to learning styles as well as teaching styles adopted by the teacher. In the process of learning, thought provoking questions are essential for the development of learning abilities of pupils. Teacher can use a variety of strategies to enhance Metacognition independent of grade level and subject area. Metacognition refers to awareness of one’s own thoughts. It has recently become a popular topic for theorizing and empirical research and is of interest because it implies that models of teaching might be divided leading to more effective learning. In general, Metacognition is thinking about thinking. Metacognition means cognition or knowledge about knowing and learning. Donald Meichenbaum and his colleagues (1985) describe Metacognition as people’s awareness of their own cognitive machinery and how the machinery works. This Metacognitive knowledge is used to monitor and regulative cognitive processes such as reasoning, comprehension, problem solving.

Learning etc., (Metcalf and Shimamura). More specifically, Taylor (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 agility to make correct inferences about how to apply one’s strategic knowledge to a particular situation and to do so efficiently and reliably.” According to Flavell (1976) Metacognition is “...knowledge concerning one’s own cognitive processes and products or anything related to them...Metacognition refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes in relation to cognitive object or data....”

Thus the concept of Metacognition includes two components –(a)knowledge of cognition and (b) regulation of cognition. Knowledge of cognition deals with all the concepts, which are related to our thinking processes includes all those mechanisms through which we regulate our thinking process, such as orientation, planning, monitoring, testing, repairing, evaluating, reflecting etc. Although the concept of Metacognition is still in the state of infancy, yet a large number of researches conducted in this area have proved its efficiency. Experimental evidence of the studies carried out by Goh (1997), Kramarski (1997) Swarup (1999), Mevarech (1996,1997,1999), Antonietti (2000) and others support the notion that high metacognitive levels are associated with best performance.

### III. TEACHING COMPETENCY

The term ‘Competency’ and ‘Competence’ are used interchangeably (Passi and Lalitha, 1994). In the words of Singh (2002), competence is personal traits or a set of habits that leads to more effective and superior job performance. Teacher competence includes a thorough knowledge of the content. A teacher’s competency mainly includes the strategies, understanding of student psychology and the process of learning. Synder and Drumon (1998) defined competency as ‘a complex set of relationship between one’s performances’. In the context of teaching competency means the right way of conveying units of knowledge, application and skills of students (Shukla, 2000). Here, the right way includes knowledge of contents as well as processes, and methods of conveying in an interesting way. Rama (1979) defines teacher competency as ‘the ability of a teacher manifested through a set of overt teacher classroom behaviors which is a resultant of the interaction between the presage and the product variables of teaching within a social setting. The term ‘Teaching’ can be defined as a set of observable teacher behaviors that facilitate or bring about pupil learning an ‘teaching competency’ means an effective performance of all the observable teacher behaviors that bring about desired pupil outcomes. Based on the micro-criteria approach to study ‘teaching’ (Gage, 1963), teaching is perceived as a set of teaching skills where in a teaching skill is a set of teaching behaviors that facilitate or bring about a specific instructional objective. In other words, teaching competence involves effective use of these various teaching skills.

**Need of the study :** Effective academic learning requires high and sustained intellectual efficiency which requires high cognition. Cognition is a universal language of thought process. Learners should be surrounded by construction and lovely things so that their cognition will continue to grow and deepen. Teachers can play a significant role in the establishment of structure and network in meaning learning in students. In fact, there are strong recommendations that teachers should carefully train students in purposeful, strategic studying, reading and problem solving (Gourgey,; Willen and Phillips,; Lacalgeli et al.; Feden; Ganz and Ganz,; Hyde and Bizar,). Today teachers need an instructional technique which is of low cost and which does not demand hard work, so that they could love the subject and be more efficient in their teaching. Metacognitive knowledge of people is an important concept for the classroom. Metacognition knowledge of tasks operates when the nature of task forces us to think about how we will manage. As society changes, the skills that students need to be successful in life also change. Basic literacy skills of reading, writing, and arithmetic are no longer sufficient. Our students need to master those basic skills as well as read critically, write persuasively, think and reason logically, and solve complex problems. A successful student must be adept at managing information, finding, evaluating and applying new content understanding with great flexibility. They must be equipped with skills and perspectives designed to help them anticipate change. This is possible only by the help of teachers, who possess the potentialities like metacognitive thinking, emotional balance and competencies relevant to teaching learning process. While going through the literature it is found that in India and abroad number of studies have been undertaken on ‘Teaching competency of secondary teacher educators in relation to their Metacognition awareness’ but in the North East number of such studies are very few. No work has yet been undertaken on Teaching Competency of Secondary Teacher Educators in relation to their Metacognition awareness of the Tinsukia District and Dibrugarh district of Assam. Therefore the present Investigator being a teacher of Mathematics in a Secondary School of Tinsukia District has made an attempt to study the teaching competency in relation to Metacognition awareness expecting that the result of the study would have its far reaching implications for both teachers and students at the secondary level.

#### IV. OBJECTIVES OF THE STUDY

- To find out the level of teaching competency and level of Metacognition of male and female secondary teacher educators.
- To find out if there is any significant difference between male and female secondary teacher educator in their Metacognition.
- To find out if there is any significant difference between rural and urban college secondary teacher educators in their Metacognition.
- To find out if there is any significant difference between male and female secondary teacher educator in their teaching competency.
- To find out if there is any significant difference between rural and urban college secondary teacher educators in their teaching competency.
- To find out if there is any significant relationship between Metacognition and teaching competency of secondary teacher educators.

#### V. METHODOLOGY

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

**Population and Sample :** All the teacher educators from various B.Ed colleges of Tinsukia and Dibrugarh district, Assam constitute the population of this study. A sample consisting of 170 teachers belonging to different communities was taken from three B.Ed colleges all in and around the Tinsukia and Dibrugarh district of Assam. The teacher educators were selected through incidental or purposive sampling technique.

**Table 01 : Distribution of the sample**

Sl. No.	Variables	Category	Size	Percentage
1	Gender	Male Teachers	90	52.94
		Female Teachers	80	47.06
2	Location	Urban	95	55.88
		Rural	75	44.12

#### b) Tools used

- [1] **General Teaching Competency Scale** developed by B.K Passi and Mrs. M.S Lalitha.  
 [2] **Metacognition awareness scale** developed by Dr. D. Sivakumar

#### c) Procedure of data collection

After selecting the sample, the investigator approached them individually and requested them to fill up the two scales. Though the scales were self administering, the investigator explained the student teachers how to fill the same. After collecting the filled in scales, they were scored and tabulated systematically for statistical calculation.

#### d) Statistical technique used

The investigator used the statistical technique like percentage, mean, standard deviation (SD), 't' test etc. for analyzing and interpretation of the data collected for the study.

### IV. RESULTS

The collected data have been analyzed as well as, interpreted and results of the investigation are discussed as follows:-

**Table-2: Level of Metacognition awareness of the Male and Female teacher educators in terms of percentage**

Gender	Low	Moderate	High
Male	3.7	40.7	6.5
Female	7.3	38.5	3.5
Total	11	79	10

Table 2 reveals that 3.7% of the male students have low, 40.7% of them have moderate and 6.5% of them have high level of Metacognition awareness; among female students 7.3% have low, 38.5% of them moderate and 3.5% of them have high level of Metacognition awareness.

**Table -3: Level of Teaching Competency of the Male and Female teacher educators in term of percentage**

Gender	Superior	High	Above average	Average	Below Average	Low	Inferior
Male	3	5	12	32	2	1	–
Female	2	2	6	30	3	2	–
Total	5	7	18	62	5	3	–

Table 3 reveals that 3% of the male teacher educators have superior, 5% of them have high, 12% of them have above average, 32% of them have average, 2% of them have below average and 1% of them have low level of teaching competency. On the other hand among female teacher educators 2% of them have superior, 2% of them have high, 6% of them have above average, 30% of them have average, 3% of them have below average and 2% of them have low level of teaching competency

**Hypothesis 1: There is no significant difference between male and female teacher educators in their Metacognition awareness.**

**Table 4: Difference between Male and Female teacher educators in their Metacognition awareness.**

Variable	Male (N=90)		Female (N=80)		't' value	Remarks
	Mean	S.D	Mean	S.D		
Metacognition	81	9	76	11	3.23	Sig

It is inferred from Table 4 that there is a significant difference between male female teacher educators in their Metacognition awareness. Hence the null Hypothesis is rejected. It is concluded that male and female teacher educators differed significantly in their Metacognition awareness. While comparing the mean scores of male and female educators, male educators are better than female educators in their Metacognition Awareness.

**Hypothesis 2: There is no significant difference between Urban and Rural teacher educators in their Metacognition awareness.**

**Table 5: Difference between Urban and Rural teacher educators in their Metacognition awareness**

Variable	Urban (N=95)		Rural (N=75)		't' value	Remarks at 0.05 level
	Mean	S.D	Mean	S.D		
Metacognition	79.68	9.68	73.33	12.25	3.69	Significant

It is inferred from Table 4 that there is a significant difference between Urban and Rural teacher educators in their Metacognition awareness. Hence the null Hypothesis is rejected. It is concluded that Urban and Rural teacher educators differed significantly in their Metacognition awareness. While comparing the mean scores of Urban and Rural students, Urban educators are better than Rural educators in their Metacognition Awareness.

**Hypothesis 3: There is no significant difference between male and female teacher educators in their teaching competency**

**Table 4: Difference between Male and Female teacher educators in their teaching competency**

Variable	Male (N=90)		Female (N=80)		't' value	Remarks at 0.05 level
	Mean	S.D	Mean	S.D		
Teaching Competency	312	22.7	284	25.67	7.35	Significant

It is inferred from Table 4 that there is a significant difference between Male and Female teacher educators in their Teaching Competency. Hence the null Hypothesis is rejected. It is concluded that male and female students differed significantly in their Teaching Competency. While comparing the mean scores of Male and Female students, Male students are better than female teacher educators in their Teaching competency.

**Hypothesis 4: There is no significant difference between Urban and Rural teacher educators in their teaching competency.**

**Table 5: Difference between Urban and Rural teacher educators in their teaching competency**

Variable	Urban (N=95)		Rural (N=75)		't' value	Remarks at 0.05 level
	Mean	S.D	Mean	S.D		
Teaching Competency	302	19.6	294	23.8	2.35	Significant

It is inferred from Table 4 that there is a significant difference between urban and rural teacher educators in their Teaching Competency. Hence the null Hypothesis is rejected. It is concluded that Urban and Rural teacher educators differed significantly in their Teaching Competency. While comparing the mean scores of Urban and Rural teacher educators, urban students are better than rural students in their Teaching competency.

**Hypothesis5: There is no significant Relationship between Metacognition awareness and teaching competency of teacher educators**

**Table 5: Relationship between Metacognition and teaching of teacher educators**

Variable	N	Df	Calculated 'r' value	Table value at 5% level	Remarks at 0.05 level
Metacognition and teaching competency	170	168	.442	.433	Significant

It is inferred from Table5, that there is a significant relationship between Teaching competency and Metacognition Awareness of the teacher educators since 'r' value is greater than the table value at 5% level of significance.

### Findings

- Majority of the secondary teacher educators both male and female have average level of competencies in teaching.
- Majority of both male and female teacher educators have average level of Metacognition awareness.
- There is a significant difference between male and female secondary teacher educators in their Metacognition awareness. Mean score of male teacher educators are better than female teacher educators in their Metacognition awareness.
- There is a significant difference between rural and urban secondary teacher educators in their Metacognition awareness. Mean score of urban teacher educators are better than rural teacher educators in their Metacognition awareness
- There is a significant difference between male and female secondary teacher educators in their teaching competency. Mean score of male teacher educators are better than female teacher educators in their in their teaching competency.
- There is a significant difference between rural and urban college secondary teacher educators in their teaching competency. Mean score of urban teacher educators are better than rural teacher educators in their Teaching competency.
- There is a significant relationship between teaching competency and Metacognition awareness of secondary teacher educators.

**Implication :** Based on the aforesaid major findings the implications of this study may be enumerated below:

a)It is a matter of concern that majority of the teacher educators have average level of competency in teaching which may be one of the significant reasons of poor quality of teaching which in turn results in poor quality of

education. Hence, all possible efforts should be taken by all concerns to enhance teaching competency of teacher educators through trainings and orientation.

b) Metacognition being one of the important qualities to be possessed by the teachers for their professional growth and self-development concerning quality teaching needs to be enhanced with all possible efforts since the results of the study indicate an average level of Metacognition awareness among the teacher educators.

c) The result of the study indicate that male teacher educators are more competent than female teacher educators. Hence necessary steps enhancing competency of female teacher educators should be taken by the concerned authority by implementing required training or orientation programs. Female teacher educators should be motivated towards the profession resulting of their professional growth.

d) The study reported that urban teacher educators have better teaching competency than their counterparts hailing from rural areas which ,may be due to their lack of exposure to modern teaching technique, methodology or study materials. Hence necessary steps facilitating better avenues for professional development and equipping them with different techniques and methods or strategies required for a competent teacher should be taken by the concerned authority.

e) The teacher education curriculum should be revised from time to time keeping in view the needs and requirements of both secondary school students in particular and society in general.

f) Teacher educators should be motivated towards the very positive attitude towards the profession so that they have actual passion for the profession.

g) The current teacher education program is dominated by theory with hardly any emphasis on practice. If the teacher education program is to be made more performance and task-oriented, serious efforts must be made to cut down the theoretical competent and place more emphasis on the practical function of the classroom teacher.

h) If teacher education is to be meaningful and effective, more emphasis should placed on Practice Teaching that deals with the development of teaching competencies and skill in actual class room situations. Practice teaching should be a comprehensive experience that gives the student-teacher a feel of what it means to be a teacher.

i) Moving with the times, today's teachers should be well acquainted with the application of Information and Communication Technology in education

j) Metacognitive teaching strategies must be included in the teacher education Program. Likewise problem-based and project-based methods must be given importance in teacher education.

k) The test of reasoning and comprehension can be conducted in classrooms to analyze the learner's cognitive processes. so content pedagogy must be given importance in teacher education program.

## **V. CONCLUSION**

The present study reveals that majority of the secondary teacher education students both male and female has average level of Metacognition awareness and their level of competencies in their teaching learning process is also average, the reasons behind such finding may be attributed to the fact that both teaching competencies and Metacognition awareness are interrelated. This is a matter of great concern since this may be one of the most important causes of students' low level of achievements and overall performance. The findings reveal that male secondary teacher Education students are better than female secondary teacher Education students in their Metacognition awareness. This may be due to the fact that male students are energetic, physically fit, enthusiasm for comprehended the concepts, with planning, courage, confidence and self regulation. This may help them improve their knowledge of cognition when compared to their counterparts. There is significant difference between Urban and rural students in their Metacognition awareness as well as their teaching competencies. It is may be due to greater exposure of the urban students to self awareness skills as compared to those living in rural areas. Urbanization makes them aware about concurrent challenges and opportunities on the other hand in rural areas opportunities are still limited. It is important to focus our attention on laying emphasis on developing multiple competencies and applying and executing strategies for controlling the thinking styles of teacher-trainees. It can be concluded that the teacher-trainees who are resourceful agents of transformation of the young generation have to concentrate on accelerating the cognitive capabilities and the concerned authority should take all possible efforts towards



enhancing the teaching competency of these trainees through revision of teacher education curriculum from time, and making it more and more motivating and practical keeping in view the needs and requirements of secondary school students as well as present scenario of the society.

#### REFERTENCES:

- [1] Bhandarkar, K.M, 2009: Statistics in Education, 3<sup>rd</sup> edition, Neelkamal Publication Pvt Ltd, New Delhi pp-247-2
- [2] Flavell, J., 1979, Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, Vol. 34, pg.no. 907-11.
- [3] Gage N.L (Ed.) (1963). *Hand book of Research in Teaching*. Rand McNally & Company, Chicago
- [4] Garrett, H.E and Woodsworths, R.S.nd.: *Statistics in Psychology*, 10<sup>th</sup> Edition, Vakil, Feffer & Simsons Ltd., Bombay.
- [5] Govil Punita : Metacognition inventory, National Psychological corporation, Agra-282004 (india)
- [6] Lindner, R. and Harris, B., 1992, The development and evaluation of a self-regulated learning inventory and its implications for instructor-independent instruction. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, C. A.
- [7] Passi B.K. and Lalitha M.S. : General Teaching Competency Scale, National Psychological corporation, Agra-282004 (india)
- [8] Rama.M (1979) Factorial Structure of Teaching Competencies Among Secondary School Teachers, Unpublished Doctoral Dissertation, M.S. University of Baroda, Baroda
- [9] Rani Rekha and Govil Punita (2013) Metacognition and its correlates: A study, *IJAESS* (2013), Vol.1, No.1, 20-25
- [10] Sivakumar D (2014) : Metacognition awareness of secondary teacher education students in relation to their attitude towards teaching, *Vol.13 No.7*.
- [11] S.N. Vijayakumari and D'Souza Myrtle Joyce Shobha : Metacognitive-Coperative learning Approach to enhance Mathematics Achievement, *Edutracks*, Vol.13 (No 5)
- [12] Synder and Drumnon (1998) : Quoted by ITTUS Sheeja V and ANNARAJA. P. (2011) : Teaching Competency of secondary teacher education students in relation to their Metacognition. *International Journal on New Trends in Education and Their Implications*, Sept, 2011 Vol:2 Issue 3
- [13] ITTUS Sheeja V and ANNARAJA. P. (2011) : Teaching Competency of secondary teacher education students in relation to their Metacognition. *International Journal on New Trends in Education and Their Implications*, Sept, 2011 Vol:2 Issue :3