BODHI

International Journal of Research in Humanities, Arts and Science

An online, Peer reviewed, Refereed and Quarterly Journal

Vol : 2 No : 2 January 2018 ISSN : 2456-5571

(UGC Approved Journal No: 44274)

CENTRE FOR RESOURCE, RESEARCH & PUBLICATION SERVICES (CRRPS)

www.crrps.in | www.bodhijournals.com

METACOGNITIVE AWARENESS OF HIGHER EDUCATION STUDENT TEACHERS

Sr. Marthal
Assistant Professor in History,
St. Justin's College of Education, Madurai, Tamil Nadu, India

Dr. P. Pandia Vadivu
Tamil Nadu Open University, Chennai

Abstract

The investigators, who feel that Meta cognitive awareness helps the Bed student teachers to perform many cognitive tasks more effectively, find that the new generation teachers suffer from many problems in their classroom practices.

Meta Cognition

Meta cognition is one of the latest buzz words in the field of education. People engage in meta cognitive activities every day. Meta cognition enables us to be successful learners and it has been associated with intelligence. Meta cognition refers to higher order thinking which involves active control over the cognitive processes engaged in learning. Activities such as planning how to approach a given learning task, monitoring comprehension, and evaluating progress towards a completion of a task are Meta cognitive in nature.

Concept of Meta Cognition

The root of Meta cognition is the notion of thinking about one's own thoughts. How can the thoughts be looked at in three different dimensions, viz, knowledge, skill and experience? Since it includes what one knows about that internal representation, how it works? And how one feels about it? Meta cognition sometimes has been defined as thinking about thinking, cognition of cognition, or in Flavell's (1979) words, "knowledge and cognition about cognitive phenomena".

In Flavell's description that Meta memory involves intelligent structuring and storage, intelligent search and retrieval and intelligent monitoring suggests that Meta cognitive thoughts are deliberate plan full, intentional, goal-directed and future oriented mental behaviors that can be used to accomplish cognitive tasks (Flavell, 1971). Meta cognition is an awareness of oneself as "actors in his environment, that is, a heightened sense of the ego as an active, deliberate stored and retriever of information".

The idea of deliberate, plan full and goal-directed thinking applied to one's thoughts to accomplish cognitive tasks is deeply embedded in Piaget's conceptualization of formal operations in which higher-order levels of thought operate on lower-order levels. During this stage of cognitive development, the abilities of the adolescent begin to differentiate from those of the child.

Role of Meta Cognition in Learning Meta Cognitive Process

David Nun an, Clarice Lamb (1996) speaks about effective management in language learning which has three dimensions.

1. Planning and Preparation
2. Classroom strategy coping with problems as they arise
3. Whole school strategy ensuring that the actions and intention of teacher are in harmony.

Nun emphasizes the learner-centered curriculum in language learning and how they want to go about learning. In planning learners are consulted on what they want to learn and how they want to proceed in learning. They are involved in setting, monitoring and modifying the goals and objectives of the programs being designed for them. During implementation, learners are actively using and reflecting on the language inside and outside the classroom. Assessment and evaluation learners monitor and assess their own progress. They are also actively involved in the evaluation and modification of teaching and learning during the course and after it has been completed. Awareness means learners are made aware of the pedagogical goals and content of the course. Involvement learners are involved in selecting their own goals and objective from a range of alternation of others. Peter Tomlinson (1995) in his book understanding "Monitoring" stresses the impotence of reflective teaching an essential component of Meta cognition. His teaching cycle consists of functions such as planning the teaching on appropriate selection of strategies; monitoring the action and its effects and providing Feedback from the monitoring into reflection and replacing of the teacher.

Meta Cognitive Process

Meta cognition is an important concept in cognitive theory. It consists of two basic processes occurring simultaneously; viz, monitoring the progress as we learn and making changes and adopting our strategies. This leads to an increase in motivation, which future strengthens the Meta cognitive regulation and monitoring. The active monitoring, 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 result in better learning. Meta cognition involves learning about one's own thinking processes and learning how to learn. Meta cognition processes include prediction, checking, monitoring and reality testing. It refers to the deliberate control of one's own cognitive action.

The Meta cognitive process includes better use of prior-knowledge, improving the ability both to monitor and self direct the learning processes and to evaluate learning performance. The individuals with Meta cognitive abilities excel in planning, managing information, monitoring, debugging and evaluating. Identifying the important aspects of a massage, allocating attention to major content areas, monitoring the level of comprehension, checking whether the goals of comprehension failures and detected; and there is prompt recovery from disruptions and distractions. Verbal modeling of Meta cognitive skills by high achieving students while learning in heterogeneous pairs will improve learning among both high and low achievers. Co-operative learning is effective for improvement of higher levels of cognitive processing because in co-operative learning groups, students will observe, imitate and build upon each other's strategies. This in turn increases their mastery of higher-level of reasoning skills.

Meta Cognition: Meta Awareness and Awareness

A fascinating aspect of being human is our capacity to watch our own minds- to be aware of our awareness. This meta-cognitive state is like being two places at the same time as we are capable of experiencing thoughts and feelings while simultaneously watching ourselves experience those events of mind. It is this form of somewhat removed or detached observation (i.e. like watching clouds pass across the sky) that allows us to monitor what our minds are doing.

This meta-cognitive process of 'awarenessing' (i.e. awareness of awareness) also helps to regulate how we perceive and respond to activities of the mind- how we 'see' our thoughts and feelings- how we relate to them- and discerningly how they may or may not serve us in the present moment. To penetrate our thoughts and feelings with awareness is to see them as they are- as events of mind. It is this inherent 'wisdom' of awareness that may lead us to question the factual nature of what we think to be true- and to not always believe what we think. It can also help us to gain clearer insight as to how these activities of mind directly relate to what is actually experienced.

Over time and as we refine our inner capacity for awarenessing, we come to realize the sometimes faulty nature of our perceptions- and that they are not always reliable or trustworthy. Our capacity to discern the accuracy of our perceptions is fine tuned through our observational (i.e. mind-watching) skills of abiding attention & concentration. With practice, we can begin to clearly identify the trends for certain thought patterns as well as the more subtle cues and messages associated with our emotions.

Continued exercise of *awarenessing* allows for a more flexible modulation of our 'free attention' so that we can maintain 'observational distance' from our thoughts & feelings. It is this ***observational distance*** that helps us to cultivate the 'clear seeing' of 20/20 'mind sight'- as well as the ability to see with some precision how the mind tries to control our perceived 'reality'…

Meta Cognitive Knowledge

To increase their Meta cognitive abilities, students need to possess and be aware of three kinds of content knowledge; declarative, procedural, and conditional.

Declarative Knowledge

Is the factual information that one knows; it can be declared-spoken or written.

Procedural Knowledge

Is knowledge is knowledge of how to do something, of how to perform the steps in a process.

Conditional Knowledge

Is knowledge about when to use a procedure, skill or strategy and when not to use it; why a procedure works and under what conditions; and why one procedure is better than another?

Meta Cognitive knowledge or awareness is about us, the tasks, and the strategies she/ he employs. Knowledge about ourselves may include knowledge about how well we perform certain types of tasks or our proficiency levels.

Knowledge about tasks may include knowledge about task difficult level. The Meta cognitive knowledge is used to monitor and regulates cognitive processes such as reasoning, comprehension, problem solving and learning (Met Calfe & Shaimamura, 1994). This enables the students to be successful learners. Meta Cognition plays a critical role in teaching and learning. Therefore, the investigators made an attempt to find out the level of Meta Cognitive awareness among Bed student teachers in Madurai district, Tamil Nadu.

Objectives

- To study the Meta cognitive awareness of the Bed college of education student teachers in Madurai district.
- To study whether there is any significant difference in Meta Cognitive awareness with respect to gender, type of college and locality of college.

Null Hypotheses

- There is no significant difference between male and female of Bed College of education student teachers in their Meta Cognition.
- There is no significant difference between aided and unaided college higher education student teachers in their Meta Cognition.
- There is no significant difference between rural and urban college higher education students in their Meta Cognition.

Method

Normative survey method was adopted in the study. This method of research attempts to describe and interpret what exists at present in the form of conditions or relations, processes, trends, beliefs and attitudes. The sample for the study was 240 colleges of education student teachers belonging to six Bed colleges in Madurai District of Tamil Nadu. The sample for the study had been selected by simple random technique. The investigator used Meta Cognitive inventory developed by Punitha Govil (2003). The inventory contains 30 items to measure the various facets of Meta Cognition such as knowledge of cognition and regulations of cognition. The inventory was prepared on four-point scale type with not at all, somewhat, to a considerable extent, and very much so. The validity of the tool was 0.85. By applying necessary statistical techniques, the analysis and interpretation of the data were made.

Result

Table: 1 shows that significant difference is found between male and female College of education student teachers in their knowledge of cognition and Meta Cognition. While comparing the Mean scores, female college of education student teachers were found to be better than the male students.

Table: 2 shows that significant difference is found between aided and unaided college of education student teachers in their regulation of cognition. In comparison of the Mean scores, the unaided colleges of education student teachers were better than aided college student teachers.

Table: 3 shows that significant difference is found between rural and urban college of education student teachers in their regulation of cognition. When the Mean scores were compared, urban College of education student teachers was found to be better than rural college of education student teachers.

Discussion

It is observed from the research studies that female College of education student teachers is better than male student teachers (Winslow, 2006 & Mani Vannan, 2006). The present study also found that female student teachers are better than male student teachers. This may be because female student teachers are genuinely well-known for their planning and self-regulation even from their childhood stage. They are also interested to learn the subject well. This may tune them to have better Meta Cognitive awareness. It:

Table 1: Difference between Male and Female College of Education Student Teachers in their Meta Cognition

Dimensions of Meta Cognition	Male		Female		Calculated 't' Value	Remarks
	N= 40		N = 200			
	Mean	S.D	Mean	S.D		
Knowledge of Cognition	35.15	7.89	38.31	9.237	2.24	S
Regulation of Cognition	26.15	3.73	27.27	3.24	1.93	NS
Meta Cognition	61.30	7.381	65.57	9.61	3.16	S

(At 5% level of significance the table value 't' is 1.97, S-significant, NS-Not significant)

Table 2: Difference between Aided and Unaided College of Education student teachers in their Meta Cognition

Dimensions of Meta Cognition	Male		Female		Calculated 't' value	Remarks
	N= 40		N = 200			
	Mean	S.D	Mean	S.D		
Knowledge of Cognition	37.40	9.54	37.86	9.01	0.28	NS
Regulation of Cognition	25.48	3.05	27.40	3.32	3.58	S
Meta Cognition	62.88	9.42	65.26	9.37	1.46	NS

(At 5% level of significance the table value 't' is 1.97, S-significant, NS- Not significant)

Table: 3 Difference between Rural and Urban College of Education Student Teachers in their Meta Cognition

Dimensions of Meta Cognition	Male		Female		Calculated 't' value	Remarks
	N= 120		N = 120			
	Mean	S.D	Mean	S.D		
Knowledge of Cognition	38.60	8.84	36.96	9.28	1.40	NS
Regulation of Cognition	26.13	3.05	28.03	3.37	4.59	S
Meta Cognition	64.73	9.29	64.99	9.54	0.21	NS

(At 5% level of significance the table value of't' is 1.97, S-significant, NS –Not significant)

Was also found that unaided college students were better than the aided college students were better than the aided college students. The reason may be, today unaided colleges are laying more stress on maintaining quality. So they are providing good learning strategies for their students. It could be understood from the present study that urban college students have more regulation of cognition than their counterparts. The climate of the urban colleges may provide more opportunities to their students to participate in extra-curricular activities. It may help the students to improve their regulation of cognition.

Conclusion

The new generation college of education student teachers suffers from many problems in their school classroom practices. This situation calls for a change in student teachers classrooms. Meta Cognitive awareness helps the college of education student teachers selecting, revising and evaluating may improve the cognitive skills of students. So, concentration on developing and accelerating cognitive capabilities can never be ignored. The teacher educators and the teacher education institutions should model effective Meta Cognitive learning strategies.

References

1. Azevedo, R., & Aleven, V. A. W. M. M. (2013). International handbook of metacognition and learning technologies. New York, NY: Springer.
2. Badawy, M. (2012). Metacognitive Strategies and Grammar Learning: Using a Suggested Metacognitive Strategy Training on improving Grammar Achievement of EFL
3. Engineering Students. Saarbru□cken: LAP LAMBERT Academic Publishing.
4. Bentahar, A. (2012). Can ESL Teachers Teach Reading Metacognitive Strategies? The case of ESL students struggling with reading comprehension. Saarbrucken: LAP LAMBERT Academic Publishing.
5. Perfect, Timothy J. & Schwartz Bennett I. (2002). Applied Meta Cognition. Cambridge; Cambridge University press.