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TEACHING COMPETENCY OF SECONDARY TEACHER EDUCATION STUDENTS IN RELATION TO THEIR METACOGNITION

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ABSTRACT

In the present research to investigator made an attempt to explore the effectiveness of metacognitive skills in developing the teaching competency among secondary teacher education students. The concept of metacognition can be described as a higher-order cognitive structure. More specifically, 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. Students with good metacognition were able to perform efficiently in teaching.

Key words: Metacognition, metacognitive knowledge, regulation of cognition and teaching competency.

INTRODUCTION

Metacognition is one of the holy grails of education. Defines as "knowledge and beliefs about thinking and the factors affecting thinking" which regulate 'the articulation of strategy and knowledge' (Pressley, 1998). It is the primary enabling state for students to be able to work independently and flexibly. Metacognition helps the people to perform many cognitive tasks more effectively. It refers to a level of thinking that involves active control over the process of thinking that is used in learning situations. Individuals with a high level of metacognitive knowledge and skills identify blocks to learning as early as possible and change 'tools' or strategies to ensure goal attainment. The person who have the awareness of metacognitive knowledge, he is able to know about his own strengths and weakness, the nature of task at hand, and available 'tools or skills'.

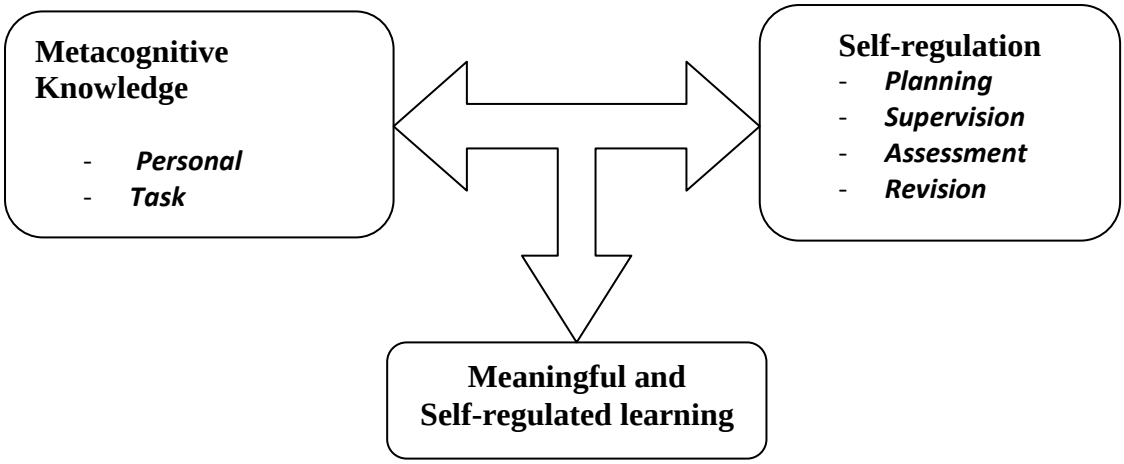
Theoretical Framework

According to Flavell (1976), metacognition refers to one's knowledge concerning one's own cognitive processes and products or anything related to them. Metacognition includes "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". It has been extensively studied in cognitive psychology and in other related fields.

Metacognition refers to a person's knowledge about his or her own cognition and about the control he or she has over it (Flavell, 1976). Since the term 'metacognition' was coined it has been considered as an essential element in the study of the teaching-learning process, because it is seen as the 'control centre' of the cognitive system. Brown (1987) explores this field more deeply, defining two broad and inter-related dimensions:

knowledge of cognition (knowledge about when and how to use them) and regulation of cognition (planning, supervision and assessment of the regulatory processes of one's own learning). This is illustrated in Fig 1.

Dimensions of metacognition and its influence on learning



Metacognition has a critical role to play in successful learning means it is important that it be demonstrated by both students and teachers. Teachers who demonstrate a wide range of metacognitive skills perform better in their teaching and complete work more efficiently. Planning the way to approach a task, monitoring, comprehension and evaluate the progress towards completion of a task: these are the metacognitive skills may help the teachers to improve their competency in teaching. Metacognitive skills and awareness helps the person to oversee his own learning process, plan and monitor ongoing cognitive activities and to compare cognitive outcomes with internal or external standards. In creation of a metacognitive environment, teachers monitor and apply their knowledge, deliberately modeling metacognitive behavior to assist students in becoming aware of their own thinking.

Metacognition and Teaching competency

Metacognition has been described as a conscious awareness of one's own knowledge and the conscious ability to understand, control and manipulate one's own cognitive process. The metacognitive knowledge is used to monitor and regulate cognitive processes of reasoning, comprehension, problem-solving and learning. This enables the students to be successful learners.

Effective learning involves planning and goal-setting, monitoring one's progress and adapting as needed. All of these activities are metacognitive in nature. By teaching these skills for the students, the teachers can improve student learning. There are three critical steps to teach metacognition.

(i) Teaching students that their ability to learn is mutable.
(ii) Teaching planning and goal-setting.
(iii) Giving students ample opportunities to practice monitoring their learning and adapting as necessary.

It is apparent that only the possession of metacognitive knowledge can act as a catalyst to provide metacognitive learning strategies to the students. Hence there is an urgent need to equip the teacher with metacognitive knowledge, self-awareness and self-regulation in their professional training period itself. This may help them to enlarge their cognitive, affective components with motivational style, attributional style, internal dialogue with oneself, and self-efficacy. These factors definitely enrich the competency of teachers.

TEACHING COMPETENCY

The terms '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 Drumnon (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 and means of conveying in an interesting way.

Competency will refer to appropriate prior knowledge, skills, attitudes, and abilities in a given context that adjust and develop with time and needs in order to accomplish a task effectively and efficiently and is measured against a minimum standard. To be precise, teaching competencies are functional abilities which teachers show in their teaching activities. A teacher who has flared for teaching is intelligent and is enthusiastic can evolve any number of strategies to make his/her teaching effective. It is rightly said that teaching competency is an ability to apply to practical situations, the essential principles and techniques of teaching.

The International Encyclopedia of Teaching and Teacher Education classified teaching competencies into six classes. They are a) Cognitive-based teaching competencies, b) Performance-based teaching competencies, c) Consequence-based teaching competencies, d) Exploratory competencies, e) Managerial teaching competencies and f) Affective teaching competencies (Momin, 2009).

Teaching is a cooperative affair between the teachers and the taught. Successful teaching must create a congenial atmosphere in the classroom for mutual interaction between the teachers and students and among the students also. Hence, democratic spirit should prevail in the classroom for making the teaching effective. Successful teaching should be invigorating and stimulating. It may be done through teacher's action, behavior and personality. It must be creative and promotive of all the good activities and qualities of students. Thus successful teaching requires metacognitive strategies and sound competencies.

SIGNIFICANCE OF THE STUDY

Globalization and advancements in technology are driving changes in the social, technological, economical, environmental and political landscapes at a rate and magnitude that is too great, and too multiple to ignore. 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.

Objectives

The main objectives of the study are:

1. To find out whether there is any significant difference between male and female secondary teacher education students in their metacognition.
2. To find out whether there is any significant difference between rural and urban college secondary teacher education students in their metacognition.

3. To find out whether there is any significant difference between male and female secondary teacher education students in their teaching competency.
4. To find out whether there is any significant difference between rural and urban college secondary teacher education students in their teaching competency.
5. To find out whether there is any significant relationship between metacognition and teaching competency of secondary teacher education students.

METHODOLOGY

Survey method was chosen for the present study. The study was conducted on teacher education students from various colleges in Tirunelveli and Tuticorin districts of Tamilnadu, India. The sample size was 600. It was selected by using stratified random sampling technique. This study tried to find out the relationship between metacognition and teaching competency of secondary teacher education students.

The tools used for the study were:

1. Metacognitive Inventory (2003) standardized by Punita Govil.
2. Teaching competency scale (2009) developed and validated by Sheeja V. Titus & Annaraja.

Data Analysis

Statistical techniques such as 't' test and Pearson's product moment correlations were employed to analyze the data.

Hypothesis 1 There is no significant difference between male and female secondary teacher education students in their metacognition.

Table 1: Difference between Male and Female Secondary Teacher Education Students in Their Metacognition

Dimensions of Metacognition	Male N=198		Female N=402		Calculated 't' value	Remarks at 5% level
	Mean	S.D	Mean	S.D		
Knowledge of cognition	36.07	8.35	37.50	7.49	2.12	S
Regulation of cognition	27.57	3.27	28.31	3.36	2.60	S
Metacognition in total	63.63	9.20	65.82	8.30	2.92	S

(at 5% level of significance the table value of 't' is 1.96, S-significant, NS-Not significant)

The above table indicates that the calculated 't' values are significant at 0.05%level. Hence the null hypothesis is rejected. It is concluded that male and female secondary teacher education students differed significantly in their Metacognition. While comparing the mean scores of male and female students, female students are better than the male students in their metacognition.

Hypothesis 2 There is no significant difference between rural and urban college secondary teacher education students in their metacognition.

Table 2: Difference between Rural and Urban College Secondary Teacher Education Students in Their Metacognition

Dimensions of Metacognition	Rural N=300		Urban N=300		Calculated 't' value	Remarks at 5% level
	Mean	S.D	Mean	S.D		
Knowledge of cognition	36.24	7.87	37.82	7.68	2.49	S
Regulation of cognition	27.40	3.11	28.73	3.45	4.94	S
Metacognition in total	63.64	8.67	66.55	8.42	4.16	S

(at 5% level of significance the table value of 't' is 1.96, S-significant, NS-Not significant)

The above table indicates that the calculated 't' values are significant at 0.05%level. Hence the null hypothesis is rejected. It is concluded that rural and urban college secondary teacher education students differed significantly in their Metacognition. While comparing the mean scores of rural and urban college students, urban college students are better than the rural college students in their metacognition.

Hypothesis 3 There is no significant difference between male and female secondary teacher education students in their teaching competency.

Table 3: Difference Between Male and Female Secondary Teacher Education Students in Their Teaching Competency

Dimensions of Teaching competency	Male N=198		Female N=402		Calculated 't' value	Remarks at 5% level
	Mean	S.D	Mean	S.D		
Attitude towards children	60.09	8.60	61.00	7.765	1.30	NS
Interest in profession	69.39	7.18	70.61	6.65	2.05	S
Instructional strategy	61.78	6.94	62.81	6.88	1.73	NS
Classroom behaviour	66.20	7.02	65.97	8.14	0.35	NS
Teaching competency in total	257.45	5.87	260.39	25.64	1.31	NS

(at 5% level of significance the table value of 't' is 1.96, S-significant, NS-Not significant)

The above table indicates that the calculated 't' values are not significant at 0.05%level. It is concluded that male and female teacher education students do not differ significantly in their teaching competency except in the dimension of interest in profession.

Hypothesis 4 There is no significant difference between rural and urban college secondary teacher education students in their teaching competency.

Table 4: Difference Between Rural and Urban College Secondary Teacher Education Students in Their Teaching Competency

Dimensions of Teaching competency	Rural N=300		Urban N=300		Calculated 't' value	Remarks at 5% level
	Mean	S.D	Mean	S.D		
Attitude towards children	59.98	7.95	61.42	8.10	2.19	S
Interest in profession	69.95	6.64	70.47	7.06	0.92	NS
Instructional strategy	65.97	6.81	62.97	6.99	1.78	NS
Classroom behavior	65.42	7.75	66.67	7.79	1.96	NS
Teaching competency in total	257.32	25.11	216.53	26.21	2.00	S

(at 5% level of significance the table value of 't' is 1.96, S-significant, NS-Not significant)

The above table indicates that the calculated 't' values are not significant at 0.05% level. It is concluded that urban college students are better than rural college students in their interest in profession, instructional strategy and classroom behavior, except in the dimension of attitude towards children and teaching competency in total.

Hypothesis 5. There is no significant relationship between metacognition and teaching competency of secondary teacher education students.

Table 5: Relationship between Metacognition and Teaching Competency of Secondary Teacher Education Students

Variables	N	df	Calculated 'γ' value	Table value at 5% level	Remarks
Metacognition Vs. Teaching competency	600	598	0.292	.062	S

The above table indicates that the calculated 'γ' value is greater than the table value at 0.05%level of significance. It is concluded that there is a significant relationship between metacognition and teaching competency of secondary teacher education students.

FINDINGS

1. There is significant difference between male and female secondary teacher education students in their metacognition.
2. There is significant difference between rural and urban college secondary teacher education students in their metacognition.
3. There is no significant difference between male and female secondary teacher education students in their teaching competency except in their interest in profession.
4. There is no significant difference between rural and urban college secondary teacher education students in their teaching competency except in their attitude towards children.

CONCLUSION

It could be understood from the findings a significant relationship was existed between metacognition and teaching competency of secondary teacher education students. In this rapidly changing world, the challenge of teaching is to help students develop skills which will not become obsolete. Metacognitive strategies are essential for the twenty-first century. They will enable students to successfully cope with new situations. Teachers and school specialists capitalize on their talents as well as access a wealth of resources that will create a metacognitive environment which fosters the development of good thinkers who are successful problem-solvers and lifelong learners.

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