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METACOGNITIVE ABILITIES OF PRE-SERVICE TEACHERS IN RELATION WITH THEIR SOCIAL COMPETENCE AND GENDER

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ABSTRACT
A number of studies in educational psychology and cognitive science have shown that students who apply better metacognitive skills and self regulation strategies during their learning process have better learning outcomes. Upon further reflection we found that metacognitive thinking controls and guides the learner to solving a problem. Successful problem solving ability plays an important role in person's social compatibility and it increase the level of social competence. It also prevent facing problems caused by the lack of social skills. The present study focused on the study of metacognitive abilities of pre-service teachers in relation with their social competence and gender. The sample was drawn from B.Ed college students by applied random sampling method. The sample consisted of 179 students 116 females and 63 male pre-service teachers. For collection of data, social competence scale and Metacognition Inventory was administered. The researcher used two way ANOVA for the analysis of data. The findings of the study revealed that female pre-service teachers have high KCP than male pre-service teachers. The male and female pre-service teachers with low or high social competence do not show significant difference in the KCP and RCP. The male and female pre-service teachers do not show significant difference in the RPC. The male and female pre-service teachers do not show significant difference in the metacognitive abilities. The findings of the study have implications for the teachers who can develop a proper teaching learning environment. Effective training in developing metacognitive skills for during pre-service training should be included.
Keywords-: *Metacognitive Abilities, KCP (knowledge of cognitive process), RCP (regulation of cognitive processes), social competence, gender and pre-service teacher.*

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INTRODUCTION

Metacognition- is an awareness of oneself as "an actor in his environment, that is, a heightened sense of the ego as an active, deliberate storer and retriever of information. It is

whatever “intelligent weaponry the individual has so far developed” is applied to mnemonic problems **(Flavell, 1977)**. The knowledge and control children have their own thinking and learning. The term Metacognition first appeared around 1976 in the work of developmental psychologist **John Flavell** from Stanford University. He used the term to denote: “One’s knowledge concerning one’s own cognitive processes and products or anything related to them and refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes, usually in the service of some concrete goal or objective.”**(Flavell, 1976)**. This definition emphasizes the executive role of metacognition in the overseeing and regulation of cognitive processes

Knowledge of Cognition Knowledge of cognition refers to what individuals know about their own cognition or about cognition in general. It usually includes three different kinds of metacognitive awareness: declarative, procedural, and conditional knowledge. Declarative knowledge refers to knowing "about" things. Procedural knowledge refers to knowing "how" to do things.

Conditional knowledge refers to knowing the "why" and "when" aspects of cognition

Regulation of Cognition Regulation of cognition refers to metacognitive activities that help to control one's thinking or learning. Although a number of regulatory skills have been described in the literature, three essential skills are included in all accounts**:** planning, monitoring, evaluation.

Planning - Planning involves the selection of appropriate strategies and the allocation of resources that affect performance.

Monitoring - Monitoring refers to one's own awareness of comprehension and task performance. The ability to engage in periodic self-testing while learning is a good example.

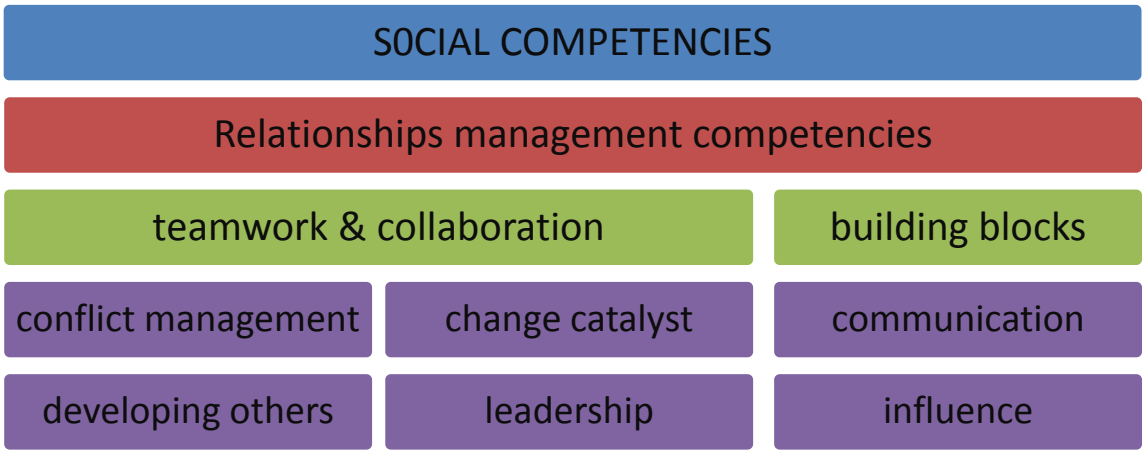
Evaluation - Evaluation refers to appraising the products and a regulatory process of one’s learning. Typical examples include re-evaluating one's goals and conclusions.

CONCEPT OF SOCIAL COMPETENCE

Man is not born socially competent. But that does not mean that a program and its teacher do not have an important role to play in the development of social competence. Children want to be socially engaged with other children, motivated by that desire leads them to learning that there are times they have to put their immediate desires aside in order for the group to function. Only social competent teachers can foster the development of social competence in children. Current

social challenges put forward new and higher requirement for professional training and formation of the personality of the future specialist.

Social competence refers to the social emotional and cognitive skills and behaviors that need for successful social adaptation despite this simple definition social competence is an elusive concept because the skills and behavior required for healthy social development vary with the age of the child and with the demands of particular situation



RATIONALE OF THE STUDY

Anyone can claim that they are teaching, but not every teacher can assertively Claim that students are learning. The same type teaching is not effective in all situations and for all students. So different methods should be used to make the teaching more effective and to cater to the needs of each and every student in the classroom. Teachers can assist their students to become successful learners by providing appropriate learning materials to study the specific subject matter; they also can show their students how to study the subject. Constructivist psychologists states that 'the more students know about effective learning strategies the greater their metacognitive awareness and higher their achievement is likely to be'. The teacher can manipulate the strategies and techniques in the classroom in a way that suits the students. It is basically a shift from the known to the unknown. The problem that all educators invariably encounter in teaching different subjects at different grade levels of our educational system is how to teach a lesson to a class that consist students with different skills, learning pace and learning styles. Another challenge in education is to make learning more effective, interesting, and exciting and less time consuming. Today's secondary level education follows Activity Oriented Method of Instruction. A research regarding metacognition in 1976 and found that metacognition refers to one's knowledge concerning one's cognitive processes or anything related to them

example the learning relevant properties of information or data. Brown(1987) conducted a research on metacognitive strategies and found that metacognitive strategies are sequential processes that one uses to control cognitive goals has been met where as in another studies Ridley(1992) point out that metacognitive strategies include taking conscious control of learning planning and selecting strategies monitoring progress of learning correcting errors analyzing the effectiveness of learning Strategies and changing learning behavior and strategies whenever necessary. The Journal of Teacher Education Document- a study conducted by researchers at Marymount University on the main difference between novice and expert teachers. The thinking and decision making of expert and novice teacher were compared before, after and during teaching. The novice teachers were five student teachers and the expert teachers their five cooperative teachers. The expert teachers thought about learning from the perspectives of the student and performed a cognitive analysis of each learning task during planning which they adopted to the needs of students during teaching. Coskum (2018) conducted study on metacognitive thinking skills of university students. The study was carried out with 407 university students. They were selected by convenience sampling method. The study has concluded that university students have higher metacognitive thinking ability together with their thinking skills, reflective thinking skills intended for problem solving, decision making skill,, alternative evaluation sub dimension . Students studying in the faculty of theology were determined to have highest level of metacognitive skills. This was followed by students studying in education, physical education and sports, sciences, forestry, agriculture and business administration**.** Jaleel and Premchandra (2016) conducted a study on metacognitive Awareness of secondary school students. The results found that the secondary school students are identically distributed among each group in the metacognitive awareness. There is no significant difference in the metacognitive awareness of secondary school students based on their locale. There is no significant difference in the metacognitive awareness of secondary school students based on their gender. There is no significant difference in the metacognitive awareness of the secondary school students based on type of management of the school.

OBJECTIVES OF THE STUDY

1. To study the metacognitive abilities of pre-service teachers.
2. To study the level of social competence of pre service teachers.

3. To study the main effect of the social competence on the KCP (Knowledge of cognition process) taken as a criterion of pre-service teachers.

4. To study the main effect of gender on the KCP (Knowledge of cognitive process) taken as a criterion of the pre-service teachers.

5. To study the interaction of social competence and gender on the KCP (Knowledge of cognitive process) taken as a criterion of the pre-service teachers.

6. To study the main effect of social competence on the RCP (Regulation of cognitive process) taken as a criterion of pre service teachers.

7. To study main effect of gender on the RCP (Regulation of cognitive process) taken as a criterion of pre-service teachers.

8. To study the interactional effects of social competence and gender on the RCP (Regulation of cognitive process) taken as a criterion of pre service teachers.

9. To study the main effect of social competence on the total metacognitive abilities of pre service teachers.

10. To study the main effect of gender on the metacognitive abilities of pre service teachers.

11. To study the interactional effect of social competence and gender on the metacognitive abilities of pre service teachers.

11. To suggest the educational implications drawn from the conclusions of the study

HYPOTHESIS OF THE STUDY

On the basis of the above review of related literature following hypothesis was framed.

1. There will be no significant main effect of social competence on the KCP(Knowledge of cognitive process) of pre-service teachers.

2. There will be no significant main effect of gender on the KCP(Knowledge of cognitive process) of pre-service teachers.

3. There will be no significant interactional effect of social competence and gender on the KCP (Knowledge of cognitive process) of pre service teachers.

4. There will be no significant main effect of social competence on the RCP (Regulation of cognitive process) of pre service teachers.

5. There will be no significant main effect of gender on the RCP (Regulation of cognitive process) of pre service teachers.

6. There will be no significant interactional effect of social competence and gender on the RCP (Regulation of cognitive process) of pre service teachers.

7. There will be no significant main effect of social competence on total metacognitive abilities of pre service teachers.

8. There will be no significant main effect of gender on the total metacognitive abilities of preservice teachers.

9. There will be no significant interactional effect of social competence and gender on the metacognitive abilities of preservice teachers.

METHODOLOGY

The investigators used descriptive method

SAMPLE

The sample consisted of 179 students 116 females and 63 male students studying in B.Ed colleges of Jammu district.

TOOLS FOR THE STUDY

The investigators used Sharma, Shukla and Shukla's social competence scale and Metacognition Inventory by Dr. Punita Govil.

RESULTS AND INTERPRETATIONS

Table -1 showing the 2 way ANOVA for KCP, RCP and Total Metacognitive Abilities.

KNOWLEDGE OF COGNITION	**SOURCE OF VARIABLES**	**SS**	**DF**	**MS**	**F**	**LEVELOF SIGNIFICANCE**
	SS_A(social competence)	180	1	180	**2.87**	Not significant
	SS_B(gender)	312.5	1	312.5	**4.98**	Significant
	SS_{AXB}	32.8	1	32.8	**0.52**	Not significant
	$SS_{With\ in}$	4768.9	76	62.75		
REGULATION OF						
	SS_A	174.05	1	174.05	**0.23**	Not significant
	SS_B	80	1	80	**0.10**	Not significant

COGNITION	SS_{AXB}	9.8	1	9.8	**0.013**	Not significant
	SS_{within}	57964.1	76	762.68		
TOTAL METACOGNITIVE ABILITIES	SS_A	125	1	125	**0.77**	Not significant
	SS_B	470.45	1	470.45	**2.88**	Not significant
	SS_{AXB}	530.45	1	530	**3.25**	Not significant
	SS_{within}	12407.3	76	163.25		

The table 1 shows that F-ratio for the main factor social competence has not come significance with KCP, as criteria. The F-ratio value for S.C. has came 2.87, when is less than the table value i.e. 3.96 at 0.05 level again (1, 76) df. It means that there is found no significant difference in the Metacognitive abilities between high social convert and low socially competent pre service teachers. Thus, the null hypothesis stating "There will be no significant main effect of social competence on the knowledge of cognitive process taken as a criterion of the pre service teachers" was accepted.

The F-ratio value for another main factor i.e. Gender has came significant with KCP as a criterion. The F-ratio value for gender has came 4.98 which are more than the table value at 3.96 at 0.05 level. By calculating the means it is found that males Pre service teachers have more KCP compared to female's pre-service teacher. It means the hypothesis stating that " there is no significant main effect of gender on the KCP as criterion of pre service teachers" is rejected. This finding is in agreement with the findings of Rao (2009) whereas it is in disagreement with the vaijanthi (2012).

The F-ratio value for the interactional effect of social competence and gender has come has not come significant with KCP as a criterion. The f-ratio value came 0.52 which is less than the table value i.e 3.96 at .05 level. Therefore hypothesis stating "there will be no significant interactional effect of social competence on the knowledge of cognitive process of preservice teachers" is accepted.

F-ratio value for the main factor social competence has not came significant with RCP as a criterion. The f-ratio value came 0.23 which is less than the table value i.e 3.96 at 0.05 against (1, 76) df. It means that there found no significant in the RCP between the pre service teachers having high and low social competence. Thus accepting the null hypothesis "there will be no

significant main effect of social competence on the regulation of cognitive process taken as a criterion of pre service teachers"

The f-ratio for the main factor gender has not come significant with regulation of cognitive process as a criterion. The f-ratio value came 0.10 which is less than the table value i.e 3.96 at 0.05 level against (1, 76) df. It means that there found no significant difference in the RCP between male and female preservice teachers. Thus accepting the null hypothesis stating "there will be no significant main effect of gender on the regulation of cognitive process taken as a criterion of pre-service teachers" is accepted. This finding is in agreement with the vajayanthi (2012). Whereas it is in disagreement with Rao (2009).

The f-ratio for the interaction of social competence and gender has not come significant with the regulation of cognitive process taken as a criterion. The f-ratio value came 0.013 which is less than the table value. It means there is no significant difference in the RCP of male and female pre-service teachers having low and high social competence. Thus the null hypothesis stating "there will be no significant interaction effect of social competence and gender on the regulation of cognitive process taken as a criterion of preservice teachers" is accepted.

The f-ratio value for the main factor social competence is not significant with the metacognitive abilities. The calculated value for the social competence came 0.77 which is less than the table value i.e. 3.96 at 0.05 level against (1,76)df. It means that there is no significant difference in the metacognitive abilities of pre service teachers having high and low social competence. Thus hypothesis stating "there will be no significant main effect of social competence on the metacognitive abilities of preservice teachers" is accepted.

The f-ratio value for the main factor gender has not come significant with metacognitive abilities. The f-ratio value for the gender came 2.88 which is less than the table value at 0.05 against (1, 76) df. It means that there is no significance difference in the metacognitive abilities of male and female preservice teachers. Thus the null hypothesis stating "there will be no significant main effect of gender on the metacognitive abilities of preservice teachers" is accepted.

The f-ratio value for the interaction of social competence and gender has not come significant with the metacognitive abilities. The f-ratio value for the interaction of social competence and gender came 3.25 which is less than the table value at 0.05 level against (1,76)df. It means that

there is no significant difference in the metacognitive of male and female pre-service teachers having low and high social competence.

EDUCATIONAL IMPLICATIONS

For a long time, it has been regarded that problem of lack of cognitive abilities among the individuals should be treated by the psychiatrist. In 1971 Flavell used the term Meta memory in regard to an individual's ability to manage and monitor the input, storage, search and retrieval of the contents of his own memory.

In 1976 Flavell used the term metacognition and implied that metacognition is internal conscious foresighted, purposeful and directed at accomplishing a goal or outcome.

There are few educational implications as under:

1. Proper development of metacognitive abilities is essential for developing good learning habits and enables learners to perform well in the examination.
2. A child with in adequate metacognitive abilities fails to use wide range of skills like reading, oral skills, writing, language acquisition, memory, attention, social interactions, self instruction, personality development and thus fails to achieve the goals of life.
3. The level of development of metacognitive abilities among the students is different at different at different levels. It follows a sequential order thus a teacher should provide different task to their students which will help them to achieve success in academics.
4. The teacher educator should have higher metacognitive abilities so that they apply strategies to enhance the metacognitive abilities of preservice teachers by using different task.
5. Recent researches indicate that metacognitive aware learners are more strategic and perform better than unaware learners allowing individuals to plan, sequence and monitor their learning in a way that directly improves performance.
6. Teachers must do task analysis of strategies to be taught. In other words teachers must think about particular strategy is best applied and in what context. Teachers can observe students strengths and weaknesses in term of strategy used, which in turn will helping providing effective and appropriate strategy instruction.
7. Teachers must care about the process involved in reading and studying and must be willing to devote instructional time to them through direct strategy-instructions and modeling.
8. The findings of the study have implications for the teachers who can develop a proper teaching learning environment. The in service training of teachers include effective training

in developing metacognitive skills for teacher students during pre-service training. Teachers play critical role in making students become aware of what makes a skillful learner, how he/she can take the responsibility of his/her learning, and learn the knowledge with well developed understanding.

9. Policy makers can also make use of the present study. text books should be designed by raising meaningful and interesting questions and emphasizing applications and problem solving which can help students to develop self confidence among them.
10. Guidance workers can encourage teachers to initiate and develop activities that are sensitive to the diversity of students which can help in fostering healthy trait among the students. They can also play role in enhancing the self confidence of students, develop resilience among them and allow them to refocus on an ability to try again finding alternative means to accomplish the goals.

School authorities and parents should ensure that students studying in bed colleges are provided with healthy climate in colleges and home so as to enhance their metacognitive abilities as it is of vital for the success of an ideal teacher.

SUGGESTION FOR FURTHER RESEARCH

1. A sample of 179 preservice teachers was taken in the study under investigation. Same study can be done on large sample.
2. Same study can be conducted on school, colleges and university students as the present study was confined to B.Ed students.
3. Since present investigation was confined to Jammu district, similar study can be conducted in other districts of Jammu province.
4. A similar study can be conducted by taking some other independent variables such as emotional maturity, socio – economic status, parent's status.
5. Similar study may be conducted on different reserved categories including weaker and special tribal section of the society.

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