



A Gender-Wise Analysis on Metacognition And Learning Styles on Problem Solving Skill of B.Ed Trainees

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ABSTRACT

In the present research the investigators made an attempt to explore the effectiveness of metacognition, learning styles and problem solving skill of B.Ed trainees. 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

KEYWORDS

Metacognition, Learning Styles, Problem Solving Skill, B.Ed Trainees

INTRODUCTION

Education in 21st century has to meet the emerging needs of mankind, as it progress from the "local community to a world society" from social cohesion to democratic participation, from economic growth to human development, from unsustainable development to sustainable development. The teacher's role in moulding a student's personality is vital. Education is a powerful instrument of change and progressive improvement of human behaviour. It has played an important role in shaping the destinies of societies. It tends to create a social order based on values of freedom, social justice and equal opportunity and fits a man perfectly for the time.

Metacognition is one of the holy grails of education. It defines as "knowledge and beliefs about thinking and the factors affecting thinking" which regulate 'the articulation of strategy and knowledge'. 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.

Learning styles are simply different approaches or ways of learning. Psychologists, academics and other theoreticians have developed any number of ideas and theories about the way people learn. Educationalists have used these theories to develop pedagogies, which are aimed at allowing children to be more effective and efficient learners.

The problem solving skill is the highest operation of cognitive process. The process in which student is bound to be engaged for finding out the answer or solution of the confronted problem or situation.

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.

Each person's individual learning style is unique as a signature. When a person has something difficult to learn, that students learn faster and enjoys learning more if student unique learning style affirmed by the way the teacher teaches.

In a fast-changing global economy, the problem solving skills are more important than ever. The ability to solve problems in a range of learning contexts is essential for the development of knowledge, understanding and performance. Requiring students to engage with complex, authentic problem solving encourages them to use content knowledge in innovative and creative ways and promotes deep understanding. This is possible only by the help of teachers, who possess the potentialities like metacognitive thinking, learning styles and problem solving skills are relevant to teaching learning process.

OBJECTIVES

1. To find out whether there is any significant difference between male and female B.Ed trainees in their metacognition.
2. To find out whether there is any significant difference between male and female B.Ed trainees in their learning styles.
3. To find out whether there is any significant difference between male and female B.Ed trainees in their problem solving skill.
4. To find out whether there is any significant influence of metacognition, learning styles and problem solving skill of B.Ed trainees.

METHODOLOGY

Survey method was used for the present study. The study was conducted on B.Ed trainees studying in the colleges of education in Tirunelveli, Thoothukudi and Kanyakumari Districts. The investigators have randomly selected 915 B.Ed trainees.

TOOLS USED FOR THE STUDY

1. The Metacognitive inventory (MCI) by Punita Govil (2003).
2. The learning styles (VAK) tool was developed by T. Yogaraj and Dr. R. Selvaraju.
3. The problem solving skill tool was developed by T. Yogaraj and Dr. R. Selvaraju.

STATISTICAL TECHNIQUES USED

Mean, SD, "t"-test and Pearson Product Moment Correlation were used for analysis of data.

Ho : 1. There is no significant difference between male and female B.Ed trainees in their metacognition.

TABLE 1
DIFFERENCE BETWEEN MALE AND FEMALE B.ED TRAINEES IN THEIR METACOGNITION

Metacognition	Gender	N	Mean	SD	Calculated 't' value	Remarks
Knowledge of cognition	Male	240	40.98	7.030	1.030	NS
	Female	675	40.44	6.566		
Regulation of cognition	Male	240	47.35	8.442	0.528	NS
	Female	675	47.03	7.559		
Metacognition	Male	240	88.33	14.343	0.817	NS
	Female	675	87.47	13.110		

(At 5% level of significance the table value of 't' is 1.96)

The above table shows that there is no significant difference between male and female B.Ed trainees in their metacognition.
Ho : 2. There is no significant difference between male and female B.Ed trainees in their learning styles.

TABLE 2
DIFFERENCE BETWEEN MALE AND FEMALE B.ED TRAINEES IN THEIR LEARNING STYLES

Learning styles	Gender	N	Mean	SD	Calculated 't' value	Remarks
Visual	Male	240	26.66	5.971	0.848	NS
	Female	675	26.29	5.257		
Auditory	Male	240	17.50	4.288	2.532	S
	Female	675	18.34	4.711		
Kinesthetic	Male	240	13.01	3.067	1.007	NS
	Female	675	12.78	3.069		
Learning styles	Male	240	57.17	10.259	0.314	NS
	Female	675	57.41	9.366		

(At 5% level of significance the table value of 't' is 1.96)

The above table shows that there is no significant difference between male and female B.Ed trainees in their visual learning style, kinesthetic learning style and learning style. But there is significant difference between male and female B.Ed trainees in their auditory learning styles.

Ho. 3. There is no significant difference between male and female B.Ed trainees in their problem solving skill.

TABLE 3
DIFFERENCE BETWEEN MALE AND FEMALE B.ED TRAINEES IN THEIR PROBLEM SOLVING SKILL

Problem solving skill	Gender	N	Mean	SD	Calculated 't' value	Remarks
Sensing	Male	240	12.61	3.799	0.247	NS
	Female	675	12.54	3.498		
Intuitive	Male	240	11.13	3.592	0.423	NS
	Female	675	11.24	3.140		
Feeling	Male	240	12.58	3.385	0.866	NS
	Female	675	12.80	3.154		
Thinking	Male	240	12.24	3.928	1.254	NS
	Female	675	12.60	3.218		
Problem solving skill	Male	240	48.55	12.491	0.684	NS
	Female	675	49.17	10.077		

(At 5% level of significance the table value of 't' is 1.96)

The above table shows that there is no significant difference between male and female B.Ed trainees in their problem solving skill.

Ho. 4. There is no significant influence of metacognition, learning styles and problem solving skill of B.Ed trainees.

Table 4
Influence of metacognition, learning styleS and problem solving skill of B.Ed trainees

Variables	Metacognition	Learning style	Problem solving skill	Multiple Correlation	Calculated 'F' Value	Remarks
Metacognition	1.000	0.134	0.085	35.150	8.741	S
Learning styles	0.134	1.000	0.451			
Problem solving skill	0.085	0.451	1.000			

(At 5% level of significance, for (2,912) df, the table value of 'F' is 2.62)

The above table shows that there is significant influence of metacognition, learning styles and problem solving skill of B.Ed trainees.

FINDINGS

- ❖ There is no significant difference between male and female B.Ed trainees in their metacognition and its dimensions.
- ❖ There is no significant difference between male and female B.Ed trainees in their visual learning style, kinesthetic learning style and learning style. But there is significant difference between male and female B.Ed trainees in their auditory learning styles.
- ❖ There is no significant difference between male and female B.Ed trainees in their problem solving skill.
- ❖ There is significant influence of metacognition, learning styles and problem solving skill of B.Ed trainees.

CONCLUSION

It could be understood from the findings a significant relationship was existed between metacognition, learning styles and problem solving skill of B.Ed trainees. 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 schools capitalize the student's talents and create a metacognitive environment which fosters the development of good thinkers, who are successful in problem-solvers in their life.

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