



A STUDY OF COGNITIVE STYLE OF JUNIOR COLLEGE STUDENTS OF SCIENCE STREAM WITH RESPECT TO GENDER AND LOCALITY

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Abstract

Present research aims to compare the cognitive style of Junior College Students studying in science stream with respect to gender and locality. The sample of the study was selected by Stratified Random Sampling method which includes 400 junior college students of Jalna District studying in science stream from rural and urban areas. Tool used for the research was standardized Cognitive style inventory by Dr. Praveen Kumar Jha. Research finding reveals that junior college science stream students' possess systematic cognitive style with respect to gender and locality. Male students' possess average level of systematic style whereas in female the level is high. The level of intuitive style among male students is low whereas in female it is average. Result also reveals that the level of systematic and intuitive style is average among rural and urban science stream students. Further finding reveals that there is significant difference in the systematic and intuitive cognitive style among male and female junior college students of science stream. Also it was found that there is no significant difference in the systematic and intuitive cognitive style respectively among rural and urban junior college students of science stream.

Keywords: *Cognitive Style, Systematic style, Intuitive style*



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Introduction : The future of men and society and nation still depends to a large extent on continuity in the development of its human and material resources for science and technological advancements. The responsibility is on the shoulders of young generation but they can contribute to and lead to development when their own personalities as well as potentials are nourished through proper education. The stage of adolescence is very important from the point of view of education for shaping the personality of an individual. The success of any educational program is

dependent on how well the teacher is able to deliver his thoughts and concepts and how well child is able to receive it. Today, it is well known fact that education is not only cramming up and acquiring bookish knowledge but refers to the development of the learner as a whole. So the primary responsibility of the teachers is to determine the student's progress in each area. As Trout (1991) contended that academic achievement of a learner is the knowledge, attitude and skills developed by him in the subjects in which he is imparted training.

Science and technological advancement need proper training in science study. Science learning requires special skills like thinking, judging etc. The state of science education for adolescents is at an important crossroads. The field of cognitive science has much to contribute to science education. Learning about science requires the coordination of a complex set of cognitive, affective, skills. Cognition is a collection of mental processes that includes awareness, perception, reasoning and judgment. The study of cognitive processes has its roots in the Gestalt of Max Wertheimer, Wolfgang Kohler, Kurt Koffka and in the studies of cognitive development in children by Jean Piaget. According to Wright and others (13) cognitive style is an umbrella term covering the many ways in which an individual perceives, organizes, classifies and/ or labels various environmental factors.

Cognitive style is individual preferred and habitual approach to organizing and representing information, which subsequently affects the way in which one perceives and responds to events and ideas. Cognitive styles represent dimensions of individual differences in cognitive sphere, where individual remains relatively on a constant position. Cognitive style is the control process or style which is self-generated, transient, situationally determined conscious activity that a learner uses to organise and to regulate, receive and transmit information and ultimate behavior. There are different cognitive strategies for processing information which in turn influence student's academic achievement

Dimensions of cognitive style : Theories of cognitive style were developed as a result of early studies conducted by Witkin, et al(1962).these studies resulted in theories that generally assumed a single dimension of cognitive style with two extremes. The two extremes were described in general terms by Keen (1973), Mikenney & Keen(1974) and Botkin (1974) as systematic style and intuitive style

Systematic style- it is associated with logical, rational behaviour that uses a step by step sequential approach to thinking, learning, problem-solving and decision making.

Intuitive style-it is associated with a spontaneous holistic and visual approach.

It is important for teachers to be aware of their students' styles; such insight could inspire teachers to adapt their instruction to help students. In the long term, those who teach in education programs can create and teach curricula that focus on developing cognitive styles so that future generations will have more career options available to them and not suffer the current damaging impact on self-efficacy and motivation, and hence on achievement. This study would also help to provide some information for curriculum designers and classroom teachers in order to utilize relevant approaches to enhance meaningful learning of science by students. Thus, the knowledge of students' cognitive style and higher mental ability in science is very useful in both academic and career counseling.

Objectives Of The Study:

1. To study the Cognitive Style of junior college students of science stream with respect to gender and locality.
2. To study the level of different Cognitive Style of junior college students of science stream with respect to gender and locality.
3. To compare different cognitive style among male and female junior college students of science stream.
4. To compare different cognitive style among urban and rural junior college students of science stream.

Hypotheses Of The Study:

1. The junior college science student's possess systematic cognitive style.
2. The level of different Cognitive Style of junior college students of science stream is average.
3. There is no significant difference between the different cognitive styles of male and female junior college students of science stream.
4. There is no significant difference between the different cognitive styles of urban and rural junior college students of science stream.

Methodology:

Method: Survey method of research was employed to study the cognitive style among junior college science stream Students of Jalna District.

Sample: A sample comprises of 400 junior college students from rural and urban areas studying

in science stream of of Jalna District. The sample was selected by Stratified Random Sampling method.

Tools: Tool used for the research was ‘Cognitive style inventory by Dr. Praveen Kumar Jha.

Statistical Analysis: Mean, SD, and t-test were used to analyze the data.

Analysis And Interpretation Of Result :

Hypotheses 1: The junior college science student’s possess systematic cognitive style.

Table 1.1- Showing the cognitive style of science students with respect to gender.

Cognitive Style	Gender			
	Male		Female	
	N	%	N	%
Systematic	94	62.67	108	72
Intuitive	56	37.33	42	28
Total (300)	150	100	150	100

Table 1.2- Showing the cognitive style of science students with respect to locality.

Cognitive Style	Locality			
	Rural		Urban	
	N	%	N	%
Systematic	102	68	100	66.67
Intuitive	48	32	50	33.33
Total (300)	150	100	150	100

It is inferred from table1.1that 62.67% male and 72% female students possess systematic style whereas 37.33% male and 28% female possess intuitive style. The results indicate junior college science stream students’ possess’ systematic cognitive style with respect to gender.

It is inferred from table1.2 that 68% rural and 66.67% urban students possess systematic style whereas 32% rural and 33.33% urban possess intuitive style. The results indicate junior college science stream students possess systematic cognitive style with respect to locality

Hypotheses 2: The level of different Cognitive Style of junior college students of science stream is average.

Table 2.1:- Showing the level of different Cognitive Style science stream students with respect to gender

Cognitive style	Gender	Mean	Interpretation
Systematic style	Male	54.97	Average
	Female	68.14	High
Intuitive style	Male	50.22	Low
	Female	60.46	Average

Table 2.2:- Showing the level of different Cognitive Style science stream students with respect to locality

Cognitive style	Locality	Mean	Interpretation
Systematic style	Rural	63.42	Average
	Urban	59.69	Average
Intuitive style	Rural	57.20	Average
	Urban	53.48	Average

It is inferred from table 2.1 that the mean values for systematic style in male and female science stream students is 54.97 and 68.14 respectively. Results indicate male students' possess average level of systematic style whereas in female the level is high. The mean value for intuitive style in male and female science stream students is 50.22 and 60.46 respectively. It shows that the level of intuitive style among male students is low whereas in female it is average.

It is inferred from table no 2.2 that mean value for systematic style among rural and urban science stream students is 63.42 and 59.69 as well as for intuitive style it is 57.20 and 53.48 .result indicates that the level of systematic and intuitive style is average with respect to locality.

Hypotheses 3: There is no significant difference between the different cognitive styles of male and female junior college students of science stream.

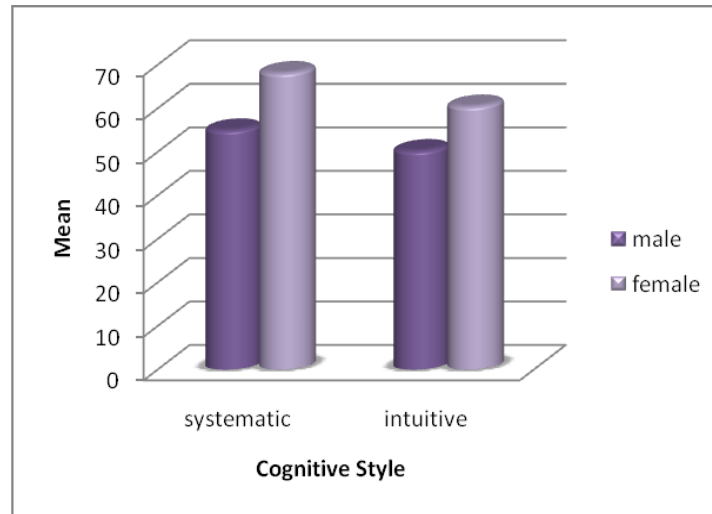
Table 3:- Showing significant difference between the different cognitive styles of male and female junior college students of science stream

Cognitive style	Gender	Mean	S.D	t - value	Interpretation
Systematic	M	54.97	21.76	5.81	Significant
	F	68.14	17.22		

	M	50.22	16.88		Significant
Intuitive	F	60.46	17.76	5.11	
<i>F-Female, M- Male</i>		df = 298 at 0.05 level of significance = 1.98			

Table 3 reveals that the obtained 't' value 5.81 & 5.11 is greater than the tabled 't' value (1.96) at 0.05 level which indicates that there is significant difference in the systematic and intuitive cognitive style among male and female junior college students of science stream.

Graph 1:- Showing significant difference between the different cognitive styles of male and female junior college students of science stream



Hypotheses 4: There is no significant difference between the different cognitive styles of urban and rural junior college students of science stream.

Table 4:- Showing significant difference between the different cognitive styles of urban and rural junior college students of science stream.

Cognitive Style	Locality	Mean	S.D	t value	Interpretation
Systematic	R	63.42	22.63	1.56	Insignificant
	U	59.69	18.38		
Intuitive	R	57.20	18.96	1.79	Insignificant
	U	53.48	16.94		
<i>F-Female, M- Male</i>		df = 298 at 0.05 level of significance = 1.98			

Table 4 reveals that the obtained 't' value 1.56 & 1.79 is less than the tabled 't' value (1.96) at 0.05 level which indicates that there is no significant difference in the systematic and

intuitive cognitive style respectively among rural and urban junior college students of science stream.

Findings:

Research finding reveals that junior college science stream students' possess systematic cognitive style with respect to gender and locality. Male students' possess average level of systematic style whereas in female the level is high. The level of intuitive style among male students is low whereas in female it is average. Result also reveals that the level of systematic and intuitive style is average among rural and urban science stream students. Further finding reveals that there is significant difference in the systematic and intuitive cognitive style among male and female junior college students of science stream. Also it was found that there is no significant difference in the systematic and intuitive cognitive style respectively among rural and urban junior college students of science stream.

Conclusion:

Cognitive styles has influences on personality, efficacy and achievement have always been the spots of interest since earlier times. Many researches had been performed in the field of cognitive styles in order to explore its different components, their functioning, and most importantly their impact on various human traits. Science learning requires proper utilization of cognitive process. Hence, It is important to consider cognitive styles as the central goal of their instruction and should create an environment that nurtures the capabilities of students and develop learner's potentials to the fullest. Also it is necessary to probe into the cognitive styles of students and find out the adequacy of the reasoning patterns that their students employ in their problem solving activities. Cognitive style must be taken into account when choosing a method of teaching, evaluation and academic guidance.

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