

COGNITIVE STYLES IN RELATION TO PROBLEM SOLVING ABILITY AMONG ADOLESCENTS

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ABSTRACT

Present study was conducted on 200 students of +1 & +2 classes. Sample was selected by using random sampling method from private schools of Ludhiana city. Out of a sample of 200 adolescents, it was divided into 100 boys & 100 Girls. Findings of the study are 1) There exists a significant positive relationship between S (systematic) cognitive style and problem solving ability whereas no significant relationship was found between I (intuitive) cognitive style and problem solving ability of adolescents. 2) There exists a significant positive relationship between S (systematic) cognitive style and problem solving ability whereas no significant relationship was found between I (intuitive) cognitive style and problem solving ability of adolescent boys. 3) There exists a significant positive relationship between both S (systematic) and I (intuitive) cognitive styles and problem solving ability of adolescent girls.

INTRODUCTION

The activity of learning "occurs" in the brain. Brain lies inside the cranial cavity, the skull. The nervous system is the most important organization which controls the activities of animals and human beings. The CNS (Central Nervous System) consists of brain and spinal cord. The CNS is symmetrically arranged in to two lateral halves one being the mirror image of the other. Most people are somewhat flexible in their styles and they try with varying degrees to adapt themselves to the stylistic demand according to the situation, this is because mind plays a flexible role in accomplishing variety of tasks. It is therefore, the parents and the teachers to understand the nature of students mind its functions in different styles of learning. Every individual prefers his own ways for organizing all that he/she sees, remembers and think about. Consistent individual differences in the ways of organizing and processing information and experience are termed as cognitive style.

COGNITIVE STYLE

The habitual pattern or preferred way of doing something (thinking, learning and teaching) that is consistent over long periods of time is the 'style' of individual (Kazadin, 2010). Arthur Beber's Dictionary of Psychology (2001) states that,

'Cognition style is the style or manner in which cognitive tasks are approached or handled'. There are different Cognitive styles Systematic Style, Intuitive Style, Integrated Style, Undifferentiated Style and Split Style.

PROBLEM SOLVING

Problem solving is an individual phenomenon and involves the exercise of cognitive abilities of high order and continuous and persistent struggling on the conscious as well as unconscious levels. From birth onwards, everybody in this world is beset with some problem or the other. The productive work involved in the evaluation of the situation and the strategy workout to reach one's set goals is collectively termed problem solving.

OPERATIONAL DEFINITIONS OF THE TERMS USED

(A) Cognitive style- In the present study the tool used for cognitive style inventory (CSI) was developed by Dr. Parveen Kumar Jha. According to this test CSI is a self report measure of the way of thinking, judging, remembering, storing information, decision making and believing in interpersonal relationship.

1. Systematic Style- An individual who typically

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operates with a systematic style uses a well defined step by step approach when solving a problem; looks for an overall method or pragmatic approach; and then makes an overall plan for solving the problem.

2. Intuitive Style- The individual whose style is intuitive , uses an unpredictable ordering of analytical steps when solving a problem , relies on experience patterns characterized by universalized areas or hunches and explores and abandons alternatives quickly.

(B) Problem Solving- In this present study tool used for assessing problem solving ability, Problem Solving Ability Test was administered on adolescents. According to L.N Dubey, Problem solving is the frame work or pattern within which creative thinking and reasoning take place .It is the ability to think and reason on given levels of complexity. People who have learned effective problem solving techniques are also able to solve problems at higher levels of complexity than more intelligent people who have not such training.

OBJECTIVES OF THE STUDY

The study was conducted by keeping in view the following objectives.

1. To study the relationship between Cognitive Styles and Problem Solving ability among adolescents.
- 1(i) To study relationship between cognitive styles and problem solving ability of adolescent boys.
- 1(ii) To study relationship between cognitive styles and problem solving ability of adolescent girls.

HYPOTHESES OF THE STUDY

The following hypotheses were formulated for the verification in present investigation.

1. There exists no significant relationship between Cognitive Styles and Problem solving ability among adolescents.
- 1(i) There exists no significant relationship between cognitive styles and problem solving ability of adolescent boys.

- 1(ii) There exists no significant relationship between cognitive styles and problem solving ability of adolescent girls..

SELECTION OF RESPONDENTS

In the present study sampling was done by using probability Sampling Method. Keeping in view the limited resources at the disposal of investigator, only 200 students of +1& +2 classes was selected by using random sampling method from private schools of Ludhiana city. Out of sample of 200 adolescents, it was divided into 100 boys & 100 Girls.

TOOLS USED

In the present investigation following tools were used to collect the data.

1. Cognitive Style Inventory (CSI) By Dr. Parveen Kumar Jha.
2. Problem Solving Ability Test (PSAT) by L.N Dubey.

ANALYSIS AND INTERPRETATION OF DATA

Table 1 Coefficient of Correlation between Cognitive Styles and Problem Solving Ability of Adolescents (N=200)

Cognitive Styles	N	R
S Style	200	0.48**
I Style	200	0.09

** Significant at .01 level

Table 1 shows the coefficient of correlation between S cognitive style and problem solving ability of adolescents as 0.48 which is significant at .01 level of confidence and that of I cognitive style and problem solving ability of adolescents as 0.09 which is not significant at .05 level of confidence which shows that there exists a significant positive relationship between S (systematic) cognitive style and problem solving ability whereas no significant relationship was found between I (intuitive) cognitive style and problem solving ability of adolescents.

Therefore the hypothesis 1 stating that there exists no significant relationship between cognitive styles and problem solving ability of adolescents stands partially rejected.

Table 2 Coefficient of Correlation between Cognitive Styles and Problem Solving Ability of Adolescent boys (N=100)

Cognitive Styles	N	R
S Style	100	0.38**
I Style	100	0.05

** Significant at .01 level

Table 2 shows the coefficient of correlation between S cognitive style and problem solving ability of adolescent boys as 0.38 which is significant at .01 level of confidence and that of I cognitive style and problem solving ability of adolescents as 0.05 which is not significant at .05 level of confidence which shows that there exists a significant positive relationship between S (systematic) cognitive style and problem solving ability whereas no significant relationship was found between I (intuitive) cognitive style and problem solving ability of adolescent boys.

Therefore the hypothesis 1 (i) stating that stating that there exists no significant relationship between cognitive style and problem solving ability of adolescent boys stands partially rejected.

Table 3 Coefficient of Correlation between Cognitive Styles and Problem Solving Ability of Adolescent girls (N=100)

Cognitive Styles	N	R
S Style	100	0.50**
I Style	100	0.31*

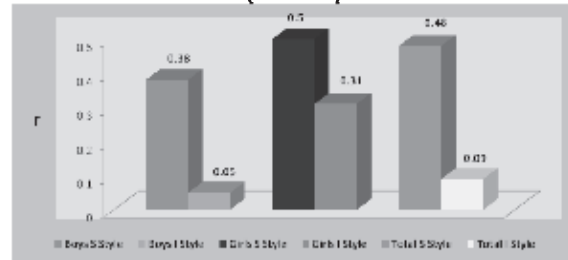
** Significant at .01 level * Significant at .05 level

Table 3 shows the coefficient of correlation between S cognitive style and problem solving ability of adolescent girls as 0.50 which is significant at .01 level of confidence and

that of I cognitive style and problem solving ability of adolescents as 0.31 which is significant at .05 level of confidence which shows that there exists a significant positive relationship between both S (systematic) and I (intuitive) cognitive styles and problem solving ability of adolescent girls.

Therefore the hypothesis 1(ii) stating that there exists no significant relationship between cognitive styles and problem solving ability of adolescent girls stands rejected.

Fig 1. Coefficient of Correlation between Cognitive Styles and Problem Solving Ability of Boys, Girls and Total Adolescents (N=200)



CONCLUSIONS OF THE STUDY

1. There exists a significant positive relationship between S (systematic) cognitive style and problem solving ability whereas no significant relationship was found between I (intuitive) cognitive style and problem solving ability of adolescents.

Therefore the hypothesis 1 stating that there exists no significant relationship between cognitive styles and problem solving ability of adolescents stands partially rejected.

2. There exists a significant positive relationship between S (systematic) cognitive style and problem solving ability whereas no significant relationship was found between I (intuitive) cognitive style and problem solving ability of adolescent boys.

Therefore the hypothesis 1(i) stating that stating that there exists no significant relationship between cognitive style and problem solving ability of adolescent boys stands partially rejected.

3. There exists a significant positive relationship between both S (systematic) and I (intuitive) cognitive styles and problem solving ability of adolescent girls.

Therefore the hypothesis 1(ii) stating that there exists no significant relationship between cognitive styles and problem solving ability of adolescent girls stands rejected. Garrett (1989) explores that the concept of cognitive style as a feature of individuality and its importance as component of problem-solving.

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