



CREATIVE PROBLEM SOLVING ABILITY AMONG THE SECONDARY SCHOOL STUDENTS

Manisha Telang, Ph.D.

Assistant Professor, Arihant Institute of Teacher Training, Pune

Paper Received On: 18 MAR 2023

Peer Reviewed On: 31 MAR 2023

Published On: 1 APRIL 2023

Abstract

In today's scenario of gadgets using applications and search of new ideas, the creative problem solving ability (CPSA) of a student acquires a new dimension for his future prospects. CPS is a proven method for approaching a problem or a challenge in an imaginative and innovative way. It is a key idea generation technique. The aim of this study is to analyse the CPSA of the students studying in the secondary school in Nagpur Division. The sample of study comprised of 1600 students drawn from ninth standard schools of Nagpur division. Descriptive survey method was used for data acquisition. A standardised tool "Creative Problem Solving Ability Test" was adopted by the researcher for this study. The results of this study revealed that the male and female secondary students from rural and urban locality differ in their CPSA. The Female students are found to be higher in their CPSA than the male students.



Scholarly Research Journal's is licensed Based on a work at www.srjis.com

Introduction

People often associate creativity with words such as new, unusual ideas out of the ordinary imagination, unique, exciting, whacky, open, fuzzy or something radically different. Creativity is a very precious and unique quality in an individual that enables him to solve complicated problems in different walks of life. Problem solving develops open mindedness and open minds communicate better than closed minds. The task of problem solving requires prediction, analysis of facts and principles to develop cause-effect relationship in physical phenomena of the environment. Generally, our daily life activities are followed in routine and we do not face any problem to perform our routine duties. But it is not always so; sometimes we are confronted with a problem situation where we have to think and find out solution to reach the goal. Problem situation occurs when there is an obstacle to reach the goal. The obstacle may be physical, social or economic which may hinder the progress of the individual towards the goal

Roger defined creative problem solving process as “the emergence in action of a novel relational product, growing out of the uniqueness of the individual on one hand, and the material, events, people or circumstance of his life on the other”. Guilford has advocated four distinctive aspects of creative abilities as Originality-the ability to produce uncommon responses, Fluency-the ability to produce large ideas, Flexibility-the ability to produce a variety of ideas or approaches and Elaboration-the ability to define or perceive in a way different from the usual .

The major educational question concerns with the possibility of developing whatever creative abilities the students may have. The teacher can provide certain learning situations which will develop originality, flexibility and fluency. This ability can only be developed by solving various types of problems.

Gill (1990) in her study has found that intelligent and introvert students possess better PSA. Dutt Sunil (1989) has found that anxiety did not influence the PSA of the student and that the cognitive style and intelligence contribute significantly to the total variance in PSA.

Objectives

- To study the creative problem solving ability of secondary school students in Nagpur Division.
- To compare the creative problem solving ability of rural and urban secondary school students in Nagpur Division.
- To compare the creative problem solving ability on the basis of gender.

Hypotheses

- There is no significant difference between the creative problem solving ability of rural and urban secondary school students in Nagpur Division.
- There is no significant difference between the creative problem solving ability on the basis of gender.

Need for the study

Creative problem solving is a tool that helps people redefine the problems they face, come up with breakthrough ideas and then take action on these new ideas. To prepare students to solve problems is one of the roles of education. The students who have developed a knack of formulating different or creative solution to a problem thrive better. Also their success and happiness depend on their skill and education. Therefore this study plays an important role in the field of education.

Tools Used for Data Collection

Creative Problem Solving Ability Test by B. K. Passi and UshaKumar,1976 published by National Psychological Corporation, Agra is used in the present study. Two concepts are given in the test namely “originality and elaboration’. Maximum time limit to respond to all seven items given in the PUTCPS is 30 minutes. This test consists of seven items only.

1. Show how you could stop a cat a dog from fighting
2. If you are a zoo keeper and wanted to find weight of an elephant, show how would you weigh it
3. Design a special bed for people who have difficulty in going to sleep
4. Design and equip a space rocket for astronauts can live
5. Draw a picture showing how you could improve the human body
6. Design a special bicycle for a postman
7. If you were a policemen, how would you deal with bad man

Scoring procedure

The scoring of the test was done based on nonverbal or in drawing responses given by the students. The scores on the dimensions of Originality and Elaboration were added so as to represent a measure of creative problem solving ability.

Originality was assessed on the basis of commonness of responses for which a three-point scale from zero to two was developed. Wrong responses were scored zero, the right and more common responses were scored one and exceptionally good and original responses were scored two. Level of commonness is decided by the frequency of occurrence of a particular response in a particular group. Greater the frequency of occurrence in the relevant groups, more is the commonness and lower is the score on Originality, and vice versa. Elaboration is the ability to give minute details and work out plans and refinements, implement and sell solutions. In the CPS scoring, elaboration is assessed by giving credit to each pertinent detail or idea and is added to the original stimulus figure.

Sample and sampling technique

Descriptive survey method was applied for the study. The investigator selected 1600 school students studying secondary school in Nagpur Division. The investigator used the simple random sampling technique for this study.

Limitations

The study will be limited to the secondary school students of Nagpur Division studying in Ninth standard.

Analysis

The analysis of scores obtained was carried out and the results are shown for the total sample are as follows.

Table 1: Mean and Standard Deviation of creative problem solving ability Total Scores of Secondary School Students in Nagpur Division (SSSND)

Group	N	Variable	Mean	Standard Deviation
SSSND	1600	CPS(Total)	4.1	2.5

From the above table it is seen that the mean and the standard deviation obtained for total C.P.S are 4.10 and 2.5 respectively. The distribution is shown graphically as below.

Graph 1

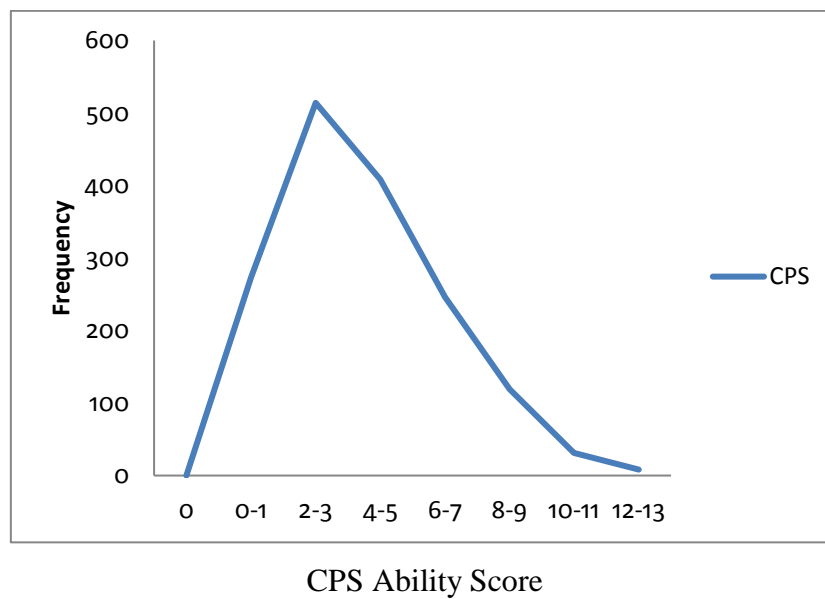


Table 2: C.P.S.A of Boys and Girls Students

Gender	N	Mean	Standard Deviation	t-value
Boys	800	3.71	2.22	3.01
Girls	800	4.08	2.73	

The above table shows that for boys and girls mean score obtained are 3.71 and 4.08 respectively and standard deviation are 2.22 and 2.73 respectively. The t-value obtained is 3.01 which is greater than table value at both 0.05 and 0.01 level of significance. Hence the

hypothesis is rejected and there is significant difference between Creative Problem Solving ability on the basis of gender.

Table 3 : C.P.S.A. of Total Urban and Rural Students

Area	N	Mean	Standard Deviation	t-value
Rural	800	4.06	2.44	
Urban	800	3.73	2.55	2.68

The above table shows that the mean of scores of C.P.S. ability of rural and urban students are found to be 4.06 and 3.73 respectively. Their standard deviations are found to be 2.44 and 2.55 respectively. The t-value obtained is 2.68 which is greater than the table value at 0.01 level of significance. So the hypotheses is rejected and there is significant difference between C.P.S. ability of rural and urban secondary school students in Nagpur division.

Results and discussion

The secondary school students under the study possess low level creative problem solving ability. The male and female secondary school students and the students from rural and urban locality differ in their Creative Problem Solving Ability. The female students are found higher in their problem solving ability than male students. Surprisingly the rural area students are found to possess higher Creative Problem Solving Ability than the urban area students.

Conclusion

The investigator has found that the creative problem solving ability of students under the study is low. The investigator feels that one reason for this may be that the education being imparted to the students does not encourage them to think about problems in different angle than those which are taught to them. The established methods were largely used to solve the problems prescribed under the study and common answers were given. The investigator feels that the rural students face more problems than the urban students. Hence the rural students have more ability of solving problems creatively than urban students. The girls have more creative problem solving ability than boys.

Bibliography

- Best, J.W. (1989) "Research in Education" Prentice Hall India Pvt. Ltd., New Delhi.*
Bhatnagar, Suresh & Saxena, Anamika. (2004) "Advanced educational psychology" Surya Publication, near Govt.Inter College, Meerut.
Buch, M. B. (1974) "A survey of research in Education" Centre of Advanced study in Education, Baroda.
Chauhan, S. S. (1987) "Advanced Educational Psychology"(6th ed) Vikas Publication House Pvt. Ltd, New Delhi.

- Chauhan, S. S. (2007) "Advance Educational Psychology"(7th ed) Vikas Publishing House Pvt. Ltd, New Delhi.
- Dennis, R. Brophy. (1998) "Understanding, measuring and enhancing individual creative problem solving efforts" *Creativity research Journal*, Vol II, Pg 123-150.
- Dutt Sunil (1989) "The effect of problem solving strategies on the problem solving ability in science of high school students in relation to anxiety level, cognitive style and intelligence" Ph.D, Edu, Punjab University.
- Ghodsy Ahghar (2012), " Effect of Problem-solving Skills Education on Auto-Regulation Learning of High School Students in Tehran", *International Conference on Education & Educational Psychology (ICEEPSY)*, Volume 69, Pages 688–694
- Gilford, J.P. (1986) *Creative talents, their nature, use and development*. Buffalo, NY. Bearly Limited.
- Gill, Tejinderjit Kaur (1990) "The effect of training strategies on creative problem solving skills and cerebral dominance in relation to intelligence, personality and cognitive style" Ph.D, Edu, Punjab University.
- Garrete, H. E (1981) "Statistics in Psychology and Education"(10th ed) Vikas Fetter & Simons Ltd., Bombay
- Ghodsy Ahghar (2012), " Effect of Problem-solving Skills Education on Auto-Regulation Learning of High School Students in Tehran", *International Conference on Education & Educational Psychology (ICEEPSY)*, Volume 69, Pages 688–694
- Joseph Babitha Ann (2015) "Exploring the influence of Creative Problem Solving Ability on Academic Performance" *International Journal of Emerging Trends in Electrical and Electronics*, Vol 11, Issue 5, Pages 73-79
- Kakkar, S. B. (2006) "Educational Psychology" Head, Department of Educational Psychology, Patiala.