



Impact of Cooperative Learning method on the Creative Behavior of students of secondary schools of U.P.

Mridula Singh

Lecturer, Institute of Education & Research
Mangalayatan University, Aligarh. (U.P.)

Abstract

Cooperative learning method is an instructional technique, in which positive interdependence among learners is involved. Cooperation refers primarily to small groups of students working together to achieve a common goal. In the present study the investigator used a self instructional package of cooperative learning of subject science. The researcher taught through cooperative learning technique to the students of class VIIIth through this technique up to twelve weeks. After that it was examined that is there any change in the creative behavior of the students. The 500 students of class VIIIth of different cities of U.P. constitute the sample of the study. For the purpose of data collection a self constructed tool of creativity and verbal and nonverbal test of creativity of Baquer Mehdi is used. The result shows that there was a significant difference in the creative behavior of the students. Further there was not a significant difference on the creative behavior of boys / girls and rural / urban students.

Introduction

We all are surrounded by a physical, biological (including human beings) and an abstract world. All these affect us, provide various stimuli to us and force us to give certain responses. We learn from our previous experiences, always modify our responses, behavior and develop certain attitude towards our surroundings, people, objects and events. Our experiences set specific mental patterns and impressions in us. We learn more and more by taking advantage of our previous experiences. So learning is the combination of maturation & experiences.



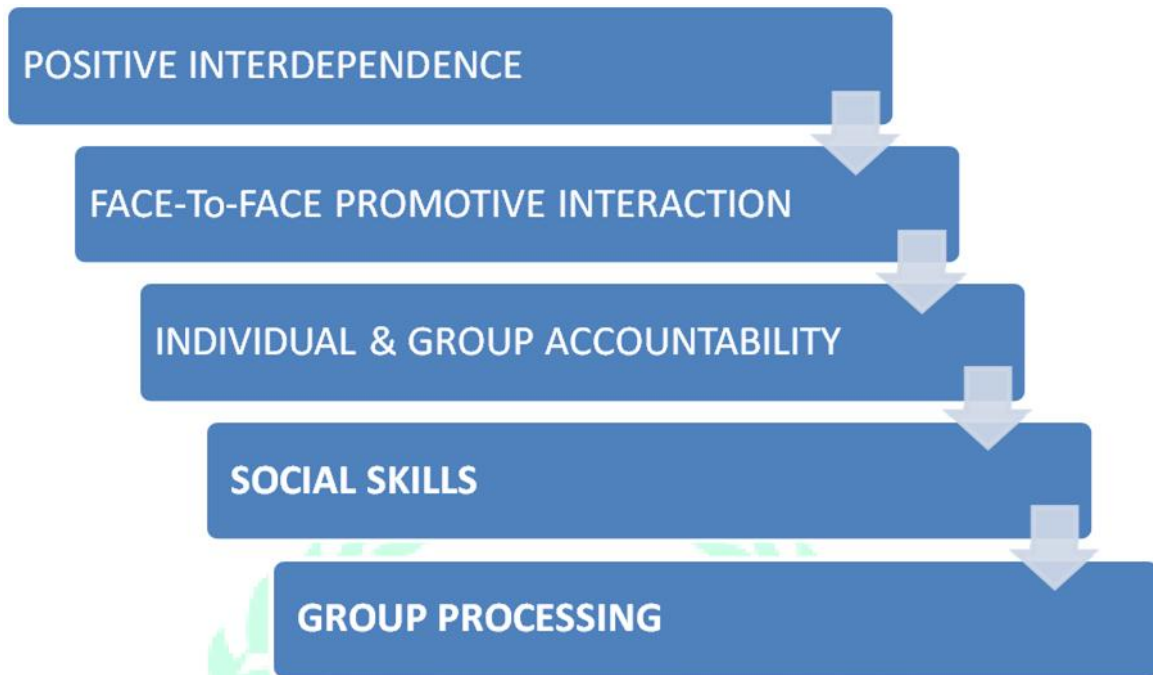
In the process of learning role of circumstances and the environment is very important for everyone. People are always affected by the other people, objects and incidents occurring around them. Man is a social creature and got affected by the happenings of the society. S/he learns a lot from society. Children also learn a lot from their peer group. When a child spends time and play with the other children of same age group, S/he learns various things from them more rapidly and in a more meaningful way. Every individual has his/her own learning style. Educationists always search for such child centered teaching-learning methods which can take care of individual differences and based on the psychological principles. Cooperative learning is a method which is based on the concept of development of all through collective efforts.

Cooperative learning is a strategy that develops healthy interaction skills, promotes success of the individual student and group members, and forms personal and professional relationships (Johnson & Johnson, 1999a).

Cooperative learning method is an instructional technique, in which positive interdependence among learners is involved. Cooperation refers primarily to small groups of students working together to achieve a common goal.

Definition: Cooperative learning is a form of active learning where students work together to perform specific tasks in a small group.

Elements of Cooperative Learning can be represented as-



Concept of Creativity

According to Webster's Dictionary, the definition of creativity is artistic or intellectual inventiveness. Creativity is marked by the ability or power to create or bring into existence, to invest with a new form, to produce through imaginative skill, to make or bring into existence something new. When you create something, you are actually bringing it into being, making it from nothing.

Creativity refers to the phenomenon whereby a person creates something new (a product, a solution, a work of art etc.) that has some kind of value. What counts as "new" may be in reference to the individual creator, or to the society or domain within which the novelty occurs. What counts as "valuable" is similarly defined in a variety of ways.

Torrance defined creativity as follows-

“A process of becoming sensitive to problem gaps in knowledge, missing elements and so on; identifying the difficulty; searching for solution, making guesses or formulating hypotheses about the deficiencies, testing and retesting these hypotheses and possibly modifying and retesting; and finally communicating the results.”

Psychologists describe four main aspects of creativity- fluency, flexibility, originality & elaboration.



1. Fluency - it represents to the open and unrestricted expression of the views.
2. Flexibility – it shows to the variety of solutions of a problem or to the divergent thinking.
3. Originality – it describe to the new, innovative and unique ideas.
4. Elaboration - the capacity of giving meaningful and well organized extended views.

In a cooperative learning classroom the activities can be organized in a way that children try to do the tasks in an innovative way. They get the opportunity to think divergently. The power of association and ideational fluency can increase in them.

When children work in a group the work with cooperation, accepts the ideas of others as well as they are free to express their views, opportunities are given to do several experiments and to attain meaningful conclusions. It definitely increases the power of imagination and creative thinking of the children.

Cooperative learning classroom can increase the spontaneous flexibility in the children. Further an ability to make logical evaluations and effective decisions can increase. Such problems and tasks can be given to the children, which will help in the manifestation of original thoughts and diversity in actions.

Cooperative learning classroom provides opportunities to the children for wild, creative thinking, to get new experiences, to modify the previous experiences, to apply various concepts in different ways, to find the solutions of various problems which will be useful for the future.

Research Methodology

Research Hypothesis-

The self- instructional package is effective in the context of its impact on creative behaviour of secondary school students

The substantive research hypothesis has been further rendered into null form for its amenability to statistical testing-

1. There is no significant difference between the development of creative behaviour among secondary school students by learning through traditional instructional method and a new self- structured cooperative learning instructional method.
2. There is no significant difference between the development of creative behaviour among male and female students of secondary schools by learning through traditional instructional method and a new self- structured cooperative learning instructional method.
3. There is no significant difference between the development of creative behaviour among rural and urban students of secondary schools by learning through traditional instructional method and a new self- structured cooperative learning instructional method.

RATIONALE OF THE HYPOTHESIS AND IMPLICATIONS

Instructional packages of cooperative learning contribute to the development of creative behavior among children. It becomes a child centered strategy and teacher's role gets changed to that of a facilitator. In a group children interact effectively with their peers, they learn adjustments and belief in each other and influenced by the ideas of other members of their group. One's success becomes other's success also.

The present study is directed at describing and analyzing such behavior of children by implementing a self- instructional cooperative learning method.

OBJECTIVES OF THE STUDY

The objectives of this study are-

1. To study the effectiveness of self- instructional package of cooperative learning in terms of creative behaviour in secondary school students of U.P.
2. To study the impact of self- instructional package of cooperative learning in terms of creative behavior in male and female secondary school students of U.P.
3. To study the impact of self- instructional package of cooperative learning in terms of creative behavior in rural and urban secondary school students of U.P.

LEVEL OF DISCOURSE & SAMPLE

All secondary schools of U.P. will be the target population of this study. But for convenience, only five cities namely Aligarh, Rampur, Moradabad, Agra and Lucknow (U.P.) were selected.

So purposively selected eleven (11) schools constitute the sample frame of this research. Out of which suitable number of students were drawn randomly from each cluster of class VIIIth students. So a total 500 students (100 groups of 5 students each) of class VIIIth constitute the sample of this study. Further 20 groups (5 students each) of boys and girls and 100 (50 + 50) each rural and urban students were used to observe the differences in the development of creative behaviours.

DESIGN OF THE STUDY

The study is of a quasi- experimental design. The following tools are used for data collection-

1. Students were taught for twelve weeks (12) duration through cooperative learning method with the use of various group activities and experiments, they did together. The Self- instructional package or modules of cooperative learning of subject science of class VIIIth was being used.
2. A self prepared creativity test containing verbal and nonverbal activities was employed to observe the creative behaviour of the secondary school students.
3. The standardized verbal and nonverbal creativity tests of Baquer Mehdi are used.

VARIABLES

The variables involved in this study have been labeled as follows:

INDEPENDENT VARIABLE: Self- instructional package of cooperative learning.

DEPENDENT VARIABLES: Creative behaviour of students who have taken the packages of cooperative learning.

DELIMITATION

This study is confined to secondary schools of Aligarh, Agra, Rampur, Moradabad and Lucknow cities of U.P. and a cluster sample of 500 students from class VIIIth were taken as a sample of this study.

DATA COLLECTION

Data was collected with the help of-

- ❖ A self- made tool for the assessment of Creative Behaviour
- ❖ The standardized verbal and nonverbal creativity tests of Baquer Mehdi are used.

DATA PRESENTATION AND ANALYSIS

A control group, experimental group design is used for the study. First of all a self constructed combined verbal and nonverbal creativity test was administered on the students of class VIIIth. This test included some statements and some activities which children had to perform collectively. The students had to give answer of those statements, they had to complete parts of pictures and they had to write a story collectively, to prepare a poster and to prepare some useful things from the waste material. The investigator herself and the teachers of those schools to which the students belong to were judged the verbal answers of the children and the creative items they made collectively in the groups. The result of this test shows that those students who were working in a group from last 12 weeks did very well. Completed all the tasks well in time and their performance was excellent. The T-scores of the marks obtained of the students were calculated by using the formula

$$T = 10 Z + 50$$

Validation of first hypothesis

Scores of control and experimental groups on self constructed combined verbal and non verbal creativity test are given below:

S.NO.	DATA	CONTROL GROUP	EXPERIMENTAL GROUP
1.	Sum of scores	5029	8328
2.	Mean	50.29	83.28
3.	Standard Deviation	9.911436	4.993

Correlation between scores of control and experimental group = 0.28726

The value of df is, $df = (N_1 - 1) + (N_2 - 1) = (500-1) + (500-1) = 499 + 499 = 998$

Result of t test between control and experimental group

$$t \text{ test} = 7.82$$

At 998 df the value of t is 1.98 at .05 level. It shows that the creative behavior of the experimental group is found more effective than the control group.

The self constructed creativity test was not standardized therefore standard verbal and nonverbal creativity tests of Baquer Mehdi are used to get the authentic results. The data is given below:

S.NO.	DATA	CONTROL GROUP	EXPERIMENTAL GROUP
1.	Sum of scores	14373	18443
2.	Mean	143.73	184.43
3.	Standard Deviation	22.4219	16.34060

Correlation between scores of control and experimental group = 0.3031

Value of t test = 15.1851852

At 998 df the value of t is 1.98 at .05 level. The value of t is found highly significant. It shows that the creative behavior of the experimental group is found more effective than the control group.

Validation of Second Hypothesis

To test the hypothesis 20 groups, 5 students each of boys and girls were taken and self constructed combined verbal and non verbal test of creativity is used.

The scores are arranged in the table:

S.NO.	DATA	Scores of Boys	Scores of Girls
1.	Sum of scores	1628	1662
2.	Mean	81.4	83.1
3.	Standard Deviation	8.5741	6.5926

Correlation between scores of control and experimental group = 0.83724

Value of t test = 0.486385773

198 The value of df for this hypothesis is, $df = (N_1 - 1) + (N_2 - 1) = (100-1) + (100-1) =$

At 198 df the value of t is 1.97 at .05 level. The value of t found is very less than the standard value.

Value of F ratio is = 0.26092

The value of t and F both are found highly not significant. It shows that there is no significant difference between the creative behavior of the boys and girls.

Validation of Third Hypothesis

To test the hypothesis 50 rural and urban students each of class VIIIth were taken and self constructed combined verbal and non verbal test of creativity is used.

The scores are arranged in the table:

S.NO.	DATA	Scores of Rural Students	Scores of Urban Students
1.	Sum of scores	3704	3845
2.	Mean	74.08	76.9
3.	Standard Deviation	7.3646	6.60936

Correlation between scores of control and experimental group = 0.352352

Value of t test = 0.046634455

Value of F test = 0.4515

The value of t and F both found highly not significant. It shows that there is no significant difference between the creative behavior of the rural and urban students of class VIIIth.

Discussion

The findings of this study show that the cooperative learning technique is very useful for the development and various interpersonal, social skills and to get the academic excellence. It is useful for the all round development of the children of all age groups. This method is helpful in developing various attributes among the students. The tendencies of social adjustment, emotional balance and leadership qualities can be develop in the children easily through cooperative learning. The spirit of development of each and every one through collective efforts can inculcate in the hearts and souls of the children.

BIBLIOGRAPHY

Adams, D., Carlson, H. & Hamm, M. (1990). *Cooperative Learning & Educational Media: collaborating with Technology and Each Other*. Educational Technology Publications.

Anastasi, A.(2000) "Psychological Testing" New York: The Mc Millan Company

Best, John W & Kahn (2005) "Research In Education" Prentice Hall.

Best, J.W., & Kahn, J.V. (2006).*Research in Education*. New Delhi: Prentice Hall of India.

Chauhan, S.S. (2007). "Advanced Educational Psychology", Vikas Publishing House Pvt. Ltd. Noida.

Garrett, H. E. and Woodworth, R. S. (1981).*Statistics in Psychology and Education*. Bombay: Vakils, Feffer and Simons Ltd.

Gupta, S.P. (1997) "Modern Measurement and Evaluation" Sharda Pustak Bhavan, Allahabad.

Gupta S.P., Alka Gupta (2008) "Statistical Methods in Behavioural Sciences" Sharda Pustak Bhavan, Allahabad.

Jhonson, David W. & Roger. T. Jhonson. (1990) "Learning Together and Alone" Prentice Hall.

Kagan, Spencer. COOPERATIVE LEARNING. San Juan Capistrano, CA: Kagan Cooperative Learning, 1992.

Kagan, Spencer. "The Structural Approach to Cooperative Learning." EDUCATIONAL LEADERSHIP 47 (December-January 1989-90): 12-15. EJ 400 491.

Pandey, Dr.K.P.(2007). "Naveen shikha manovigyan", Vishvavidyalaya prakashan, Varanasi.

Pandey, Dr. K.P. (2005) "Shakshik Anusandhan" Vishvavidyalaya prakashan, Varanasi

Singh, A.K.(2005). "Research methods in psychology, sociology and education" Motilal banarasidas prakashan, Delhi.

Singh, A.K. (2008) "Educational Psychology" Bharti Bhavan, Patna

Slavin, Robert E. STUDENT TEAM LEARNING: A PRACTICAL GUIDE TO COOPERATIVE LEARNING. Washington, DC: National Education Association, 1991. ED 339 518.

Slavin, Robert E. "Synthesis of Research on Cooperative Learning." EDUCATIONAL LEADERSHIP 48 (February 1991): 71-82. EJ 421

Sharan, Shlomo. (1990) "Cooperative Learning: Theory & Research" Westport CT.

Sharan, Shlomo. (1994) "Handbook of cooperative learning methods" Westport CT.

Torrance, E.P. (1998) "Guiding Creative Talent" Eagle Wood Gliffs, N. J .Prentice

Hall

www.wikipedia.com

www.google.co.in

www..ceeindia.org

www.education.nic.in

www.pearsoned.co.uk

psychology.wikia.com