Impact Of Cooperative Learning Method On The Attitude Of Secondary School Students Of U.P.

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Abstract

Cooperative learning is a teaching arrangement in which small, heterogeneous groups of students work together to achieve a common goal. Students encourage and support each other, assume responsibility for their own and each other’s learning, employ group related social skills, and evaluate the group’s progress. The basic elements are positive interdependence, equal opportunities, and individual accountability. The development of positive as well as negative attitude also depends upon our circumstances and the experiences. Towards the favorable conditions and circumstances we frame some positive attitude while for the unfavorable conditions and circumstances we adopt some negative attitude. In the present study the investigator taught science to the students of class VIIIth for the 12 weeks duration by the cooperative learning method. For this purpose self-instructional package of cooperative learning modules were used. After the completion of this duration the change in attitudes of the students was assessed by the use of self-constructed Likert type rating scale. The reliability and the validity of the tool were estimated by the parallel form and test-retest methods. The value of reliability was measured 0.9168 and 0.9061 respectively by both the methods. The t test ratio obtained for the control and experimental group scores of attitude is 3.6021, which is found significant. Similarly the t test ratio obtained for the male and female students is found 0.01237 which is highly not significant. Further the t- test ratio obtained for the rural and urban students is 0.001453, which is again found highly not significant.

1. Introduction

Basically our Needs, Desires and Circumstances force us to learn different things in our life. These are different for every living being and therefore they learn according to their own circumstances. Every living being has some inherent characters and these help them in acquiring further information, knowledge, experiences and change themselves according to those. Circumstances play very important role in shaping one’s life and learning the skills of adaptation and survival. Our needs depend upon our Circumstances as well as our desires.

Hard work, intelligence and opportunities are such factors which helps a person in learning different skills and changing his/her unfavorable circumstances to the favorable or even better. There are various people who are intelligent enough, they learn well but because of their circumstances they remain unable to get the opportunities and couldn’t get the right place for which they deserve in their lives. The society also could not get any benefit from those.
The development of positive as well as negative attitude also depends upon our circumstances and the experiences. Towards the favorable conditions and circumstances we frame some positive attitude while for the unfavorable conditions and circumstances we adopt some negative attitude.

Cooperative learning is generally defined as a teaching arrangement in which small, heterogeneous groups of students work together to achieve a common goal. Students encourage and support each other, assume responsibility for their own and each other's learning, employ group related social skills, and evaluate the group's progress. The basic elements are positive interdependence, equal opportunities, and individual accountability. Cooperative learning technique is a method by which learning stimulated by the creation of challenging situations that demand solution and force children for reflective thinking. It gives opportunity of Learning through life.

2. Attitude

An attitude is state of mind or a feeling. An attitude is usually viewed as an enduring disposition to respond consistently in a given manner to various aspects of the world, including persons, events and objects. An attitude is a complex mental state involving beliefs, feelings, values and dispositions to act in certain ways. Attitudes include our ideas with emotional content, our important beliefs, our prejudices, our bias’s, appreciations, predispositions and our states of readiness to act and react.

An attitude denotes to the mental disposition or mental pattern about all the components of our environment. An attitude is the mental readiness of giving specific response towards any object, person or any event. The response depends upon the dimension of favorableness or the unfavorableness of the things. Attitude is an acquired attribute. It takes shape on the basis of our pleasant or unpleasant experiences. It determines the liking or disliking tendency of anyone for the things present around any person. If ones an attitude formed in the person, it becomes quite dominant and it is not so easy to change it.

**Definition**

Jung's definition of attitude is a "readiness of the psyche to act or react in a certain way" (Jung, [1921] 1971:par. 687). Attitudes very often come in pairs, one conscious and the other unconscious. Within this broad definition Jung defines several attitudes.

2.1 Specific Features Of Attitude

In psychology, an attitude is a mental position with regard to a fact or state. Attitudes reflect a tendency to classify objects and events and to react to them with some consistency. Attitudes are not directly observable
but rather are inferred from the objective, evaluative responses a person makes. Attitude is a hypothetical construct that represents an individual's like or dislike for an item. Attitudes are positive, negative or neutral views of an "attitude object": i.e. a person, behaviour or event. People can also be "ambivalent" towards a target, meaning that they simultaneously possess a positive and a negative bias towards the attitude in question.

Attitudes are composed from various forms of judgments. Attitudes develop on the ABC model (affect, behavioural change and cognition). The affective response is a physiological response that expresses an individual's preference for an entity. The behavioural intention is a verbal indication of the intention of an individual. The cognitive response is a cognitive evaluation of the entity to form an attitude. Most attitudes in individuals are a result of observational learning from their environment.

In the development of attitude in a person his/her perceptions, emotions, motivational, environmental and functional aspects took part. Attitude is a subjective attribute. It can be general like for a group and specific like for a person or object both. Attitude is closely related with the various aspects of personality. When an attitude become a goal then it turn into the value pattern in a person. Attitude is expressed in the form of a belief by a person in his/her life.

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### 2.2 Dimensions Of Attitude

**Intensity**

Intensity of an attitude is a measure of the extent to which it motivates an individual’s behavior.

**Direction**

Attitudes have two directions:
- Positive or favorable
- Negative or unfavorable
Extensity
Some attitudes seem to have broad and pervading influences in a man’s life, while some other attitudes seem to be unique or at most related to only a small segment of his behavior.

Duration
An attitude endures as long as it promotes the goal objectives of an individual.

![Dimensions of Attitude]

Fig 1: Dimensions of Attitude

Cooperative learning classroom can easily develop positive attitude among children towards education, towards peers, the whole environment and the society.

3. Research Methodology

3.1 Objectives Of The Study
The objectives of this study are:
- To study the effectiveness of self-instructional package of cooperative learning in terms of attitude in secondary school students of U.P.
- To study the impact of self-instructional package of cooperative learning in terms of attitude in male and female secondary school students of U.P.
- To study the impact of self-instructional package of cooperative learning in terms of attitude in rural and urban secondary school students of U.P.

3.2 Research Hypothesis
The self-instructional package is effective in the context of its impact on attitude of secondary school students.
The substantive research hypothesis has been further rendered into null form for its amenability to statistical testing.

- There is no significant difference between the development of attitude among secondary school students by learning through traditional instructional method and a new self-structured cooperative learning instructional method.

- There is no significant difference between the development of attitude among male and female students of secondary schools by learning through traditional instructional method and a new self-structured cooperative learning instructional method.

- There is no significant difference between the development of attitude 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 positive attitude 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.

**3.3 Level Of Discourse & Sample**

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

Purposively selected eleven (11) schools constitute the sample frame of this research. Out of which suitable number of students were drawn randomly through lottery system from each cluster of class VIIIth students. So a total 500 students of class VIIIth constitute the sample of this study. Out of these 500 students, 350 are the boys and 150 are the girl students. Further, out of these 500 students, 110 students are of rural area and 390 students belong to the urban area. These students were selected on the basis of availability and convenience of the researcher.

**3.4 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 constructed Likert type rating scale was used for the assessment of attitude of the students

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

*Independent Variable:* Self- instructional package of cooperative learning.

*Dependent Variables:* Attitude of students who have taken the Self – Instructional package of cooperative learning.

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

4. Data Collection
Data was collected with the help of a self constructed Likert type rating scale is used for the assessment of attitude of the students of secondary schools of U.P.

The reliability of this self constructed Likert type rating scale was calculated through a pilot study. The tryout of the scale was done on the 100 (50+50) students of two schools of Rampur city. The reliability of scale was find out by the parallel form and test – retest method. Two parallel forms of 50 statements each were prepared by the investigator to assess the attitude of the students of class VIIIth towards their peers.

The correlation between odd and even halves of the test was found to be 0.84642229 which provided the split half reliability of half the test. The reliability of the whole test can be computed by Spearman Brown formula as given below (Guilford, 1954)

\[
R_{11} = \frac{2r}{1+r}
\]

\[
R_{11} = 2 \times 0.84642229 / 1+0.84642229
\]

\[
= 1.6928458 / 1.84642229
\]

\[
= 0.91682483
\]

Further Guttman (1945) formula was used to calculate the reliability of the tool.

\[
R_{11} = 2 \left[1 – \frac{SD^2a + SD^2b}{SD^2t}\right]
\]

Where \( r_{11} \) = reliability coefficient of the whole test  
\( SD_a \) = standard deviation of the items of first half or the form A
SDb = standard deviation of the items of second half or the form B
SDt = standard deviation of the total items of the whole test

On computing \[ r_{11} = 2 \left[ 1 - \frac{(9.285244)^2 + (8.103397)^2}{(16.66411)^2} \right] \]
\[ = 2 \left[ 1 - \frac{151.8783}{277.6925} \right] \]
\[ = 2 \left[ 1 - 0.54692967 \right] \]
\[ = 2 * 0.45307033 \]
\[ r_{11} = 0.90614066 \]

All this calculation proves that according to the Spearman Brown formula reliability of the half test is 0.8464 and the reliability of the whole test is 0.91682483. Similarly the result obtained by the use of Guttman formula proves that the reliability of the whole test is 0.90614066. On the basis of this data it can be said that the tool is reliable enough to use in the study.

5. Data Presentation And Analysis

A control group, experimental group design is used for the study. A self constructed Likert type rating scale was administered on the students of class VIIIth. After the completion of learning through cooperative learning technique, the change in the attitude of the children was assessed. The researcher tried to observe that is there any positive change in the attitude of students who have taken the Self – Instructional package of cooperative learning up to 12 weeks.

The T-scores of the marks obtained of the students were calculated by using the formula

\[ T = 10Z + 50 \]

5.1 Validation Of First Hypothesis

Scores of control and experimental groups on self constructed Likert type rating scale are given below:

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>DATA</th>
<th>CONTROL GROUP</th>
<th>EXPERIMENTAL GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sum of scores</td>
<td>175083</td>
<td>193587</td>
</tr>
<tr>
<td>2.</td>
<td>Mean</td>
<td>350.166</td>
<td>387.174</td>
</tr>
</tbody>
</table>

Correlation between scores of control and experimental group = 0.008213542

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

\[ t \text{ test} = 3.6021 \]
At 998 df the value of t is 1.98 at .05 level. It shows that the attitude of the experimental group is found more effective than the control group. similarly 

\[ F - \text{ratio} = 5.14373 \]

The between groups d.f. = K 1 = 2 -1 =1 
And within groups d.f. = N-1 = 200 − 2 = 198

According to the standard norms of F on 198 and 1 d.f., value of F ratio is 3.89. The value of F ratio obtained by the data is high enough, which proves that there is a significant difference between the attitudes of the students of control group and experimental group. The value of t and F both are found significant. It shows that there is a significant difference between the attitude of the students who have been taught through cooperative learning method for the twelve week duration and those who were taught by the traditional method.

5.2 Validation Of Second Hypothesis
To test the hypothesis 100 students each of boys and girls were taken and self constructed attitude test is used. The scores are arranged in the table:

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>DATA</th>
<th>Scores of Boys</th>
<th>Scores of Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sum of scores</td>
<td>37619</td>
<td>37242</td>
</tr>
<tr>
<td>2.</td>
<td>Mean</td>
<td>376.19</td>
<td>372.42</td>
</tr>
<tr>
<td>3.</td>
<td>Standard Deviation</td>
<td>12.23894678</td>
<td>8.556620687</td>
</tr>
</tbody>
</table>

Correlation between scores of both the groups = -0.02286 

Value of t test = 0.01237 

The value of df for this hypothesis is, df = (N₁ − 1) + (N₂ − 1) = (100-1) + (100-1) = 198 

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. Similarly 

Value of F ratio is = 0.000439 

The between groups d.f. = K 1 = 2 -1 =1 
And within groups d.f. = N-1 = 200 − 2 = 198

According to the standard norms of F on 198 and 1 d.f., value of F ratio is 3.89. The value of F ratio obtained by the data is very low, which proves that there is no significant difference between the attitudes of the boys and girls.
The value of t and F both are found highly not significant. It shows that there is no significant difference between the attitude of the boys and girls after the implementation of self – instructional package of cooperative learning. The tendency of cooperation increased in both the genders approximately equally.

### 5.3 Validation Of Third Hypothesis

To test the hypothesis 100 rural and 100 urban students each of class VIIIth were taken and self constructed Likert type rating scale is used. The scores are arranged in the table:

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>DATA</th>
<th>Scores of Rural Students</th>
<th>Scores of Urban Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sum of scores</td>
<td>37208</td>
<td>37738</td>
</tr>
<tr>
<td>2.</td>
<td>Mean</td>
<td>372.08</td>
<td>377.38</td>
</tr>
</tbody>
</table>

Correlation between scores of both the groups is $= -0.00936$

Value of $t$ test $= 0.001453$

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

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. Similarly

Value of $F$ test $= 0.014011$

The between groups d.f. $= K - 1 = 2 - 1 = 1$

And within groups d.f. $= N-1 = 200 – 2 = 198$

According to the standard norms of $F$ on 198 and 1 d.f., value of $F$ ratio is 3.89. The value of $F$ ratio obtained by the data is very low, which proves that there is no significant difference between the attitudes of the rural and urban students.

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

### 6. 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. This method is helpful in developing various attributes among the students.

Cooperative learning technique is able to develop moral values in the children. As we all know that Values are powerful determinants of human accomplishment, progress, and fulfilment. If we want to develop a good society of tolerant, progressive, adjusting people with positive attitude CL is very effective method to develop such qualities in our children. Further CL method provides children an atmosphere of freedom,
permissiveness and to work according to their own interests. The education can become multidirectional by the use of CL. It helps in the organized sublimation of the children in the school.

7. References


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