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Research Paper

A Comparative Study of the Effect of Peer Assisted Learning and Teacher Assisted Learning on the Scholastic Achievement of Secondary Classes

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Introduction

The existence of the family, organization, school or any group is dependent upon cooperation. Darwin's notion of the 'survival of the fittest' does not hold good for social interactions. In social situations cooperation' is a biological necessity.

No two individuals could communicate or interact without cooperating to form a common language and agreed upon norms for behaviour. Stores would not exist, exchange of goods and services would not take place, entertainment would not be possible, occupations would not be available, education would be unheard of, nothing but complete anarchy would exist without cooperation. Even in fighting wars and conducting competitive activities there are vast underpinnings of cooperative agreements concerning the way in which the competition or conflict will be conducted and the ways in which antagonists can express their hostility toward each other there can be no competition without underlying competition. Competition is a very, very small part of interacting with other individuals in our society and probably not a very important type of interaction.

Educationist and psychologists, for a long time, have been trying to make it easy and effective process. As a consequence of this, the process of learning has been subjected to extensive studies and experimentations. Voluminous research has been accumulated in this area in various countries. As a result of these researches, a host of factor influencing learning has emerged which was classified as learner variables, group characteristics, physical characteristics and environment characteristics. This focus on the collective knowledge and

thinking of the group changes the roles of students and teachers and the way they interact in the classroom. The purpose of this study to elaborate what classroom collaboration means so that this grass-roots movement can continue to grow and flourish.

A supportive atmosphere of mutual respect is essential for the learning partnership envisaged by student centered learning. Cooperative groups provide an appropriate social content, and enhance the small development of the supportive environment needed for intellectual risk-taking.

In order to address these misconceptions about learning, the investigator want to develop a method, **Peer Assisted Learning**, which involves students in their own learning during lecture and focuses their attention on underlying concepts? Lectures are interspersed with conceptual questions, called Concept tests, designed to expose common difficulties in understanding the material. The students are given one to two minutes to think about the question and formulate their own answers; they then spend two to three minutes discussing their answers in groups of **three to four**, attempting to reach consensus on the correct answer. This process forces the students to think through the arguments being developed, and enables them (as well as the instructor) to assess their understanding of the concepts even before they leave the classroom. Peer Assisted Learning is easy to implement in almost any subject and class.

Objectives

The study was conducted to achieve the following objectives:

1. To develop peer assisted learning activities and incorporate them into the teaching program of secondary school science classes.
2. To study the effect of Peer Assisted Learning and Teacher Assisted Learning on the scholastic achievement of secondary schools situated in rural and urban areas.

Hypotheses

- H₀ 1: There is no significant difference in the mean scholastic achievement score of groups taught by Peer Assisted Learning (PAL) and Teacher Assisted Learning (TAL) strategies in secondary schools situated in rural areas.

H₀ 2: There is no significant difference in the mean scholastic achievement score of groups taught by Peer Assisted Learning (PAL) and Teacher Assisted Learning (TAL) strategies in secondary schools situated in urban areas.

Methodology

The study has been conducted by adopting experimental design so it will not be possible to conduct the study in a particular district/state therefore the researcher (teacher-educator) has planed to conduct it in Sangaria Tehsil of district Hanumangarh. The population of the present study will comprises the students of class X in the secondary schools of Sangaria Tehsil of district Hanumangarh. The study will cover students in government and private schools. The researcher has been employed purposive sampling method.

Table 1 Sampling framework

| School | RURAL | | URBAN | |
|--------|-------|-----|-------|-----|
| Group | TAL | PAL | TAL | PAL |
| Class | X | X | X | X |
| Total | 25 | 25 | 25 | 25 |
| | 50 | | 50 | |
| | 100 | | | |

In this experimental study the instruments required to assess the particular feature are listed below:

1. **Scholastic Achievement Test:** This test has been used to measure scholastic achievement of students. This test has been developed and standardized by investigator.
2. **Peer Assisted Learning Program:** The researcher has been develop the Peer Assisted Learning (Peer Tutoring) Program for teaching science to Xth class.

In order to calculate the reliability and validity of the achievement test correlation (r) has been employed. 't' test has been used to find out whether two groups differ significantly in

mean performance to be able to say with confidence that there is a difference between the means of population from which sample were drawn.

Results

In order to arrive at some definite conclusions in this regard comparisons were made between the PAL group and TAL group science students on Scholastic Achievement Test (SAT) for two types of categories, the first one was PAL(Urban)-TAL(Urban) and second one was PAL(Rural)-TAL(Rural). The scores obtained by PAL and TAL groups on SAT were tabulated separately into frequency distributions. Mean scores and standard deviations for each group were calculated. To test the hypotheses of no difference two-tailed t-test with 0.05 level of confidence for significance was applied. Mean scores, SD and t-values with their levels of significance are presented in the following table:

Table 2

| Group | N | Mean | SD | df | D | SEM | t-ratio | Remarks |
|----------------|----|-------|------|----|------|------|---------|------------------------|
| PAL (RURAL) | 25 | 33.58 | 3.44 | 48 | 3.14 | 0.87 | 3.61 | Significant at 0.05 |
| TAL (RURAL) | 25 | 30.43 | 2.19 | | | | | |

Table 3

| Group | N | Mean | SD | df | D | SEM | t-ratio | Remarks |
|----------------|----|-------|------|----|------|------|---------|------------------------|
| PAL (URBAN) | 25 | 33.23 | 2.07 | 48 | 2.19 | 0.61 | 3.60 | Significant at 0.05 |
| TAL (URBAN) | 25 | 31.04 | 2.19 | | | | | |

Table 2 shows that the Mean and SD of PAL (Rural) group were 33.58 and 3.44 respectively, and 30.43 and 2.19 respectively for TAL (Rural) group. The difference of mean was 3.14 and S_{EM} was 0.87. The calculated t-value was 3.61, which is greater than the critical value of t-ratio at 48 df on the level of significance 0.05. Hence on scholastic achievement test there is found to be significant difference between the mean scores of PAL (Rural) and TAL (Rural) group.

Hence on SAT the two groups differ significantly and hypothesis no.1 has been rejected. This may mean that the mean scholastic achievement score of rural students taught by Peer Assisted Learning is higher than the rural students taught by Teacher Assisted Learning strategies.

Table 3 shows that the Mean and SD of PAL (Urban) were 33.23 and 2.07 respectively, and 31.04 and 2.19 for TAL (Urban) respectively. The difference of mean was 2.19 and S_{EM} was 0.61. The calculated t-value was 3.60, which is greater than the critical value of t-ratio at 48 df on the level of significance 0.05. Hence on scholastic achievement test there is found to be significant difference between the mean scores of PAL (Urban) and TAL (Urban) on SAT.

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