



STUDY OF THE EFFECTIVENESS OF CO-OPERATIVE LEARNING METHOD OF TEACHING MATHEMATICS AT SECONDARY LEVEL



ABSTRACT:

Education, in today's knowledge society requires a inclusive approach. The explosion of knowledge and information technology has increased the learner's search for knowledge. This has resulted in need of sharing the information or ideas with co-learners, peers so as to gain more knowledge through face to face interactions. Hence, in a classroom, the learner is expected to be active participant and not passive listener.

KEYWORDS: *knowledge society , information technology.*

INTRODUCTION :

The learner must also attempt to understand the perspectives of his or her co-learners, peer, colleagues and develop warm relations with them. All these factors focus on the advent of Collaborative Learning strategies, which will help the learners to enhance their abilities and interpersonal development. Cooperative Learning is one of the most important aspect of the Collaborative Approach. The various techniques of Cooperative Learning include: Simple Jigsaw, Three-step Interview, Roundtable, Focused Listing, Structured Problem Solving, One-Minute Papers, Paired Annotations, Value Line, Uncommon Commonalities,

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Team Expectations, Double Entry Journal, Guided Peer Questioning, Think-Pair-Share, Numbered Heads Together, etc. Though conventional methods are widely used in the Mathematics classroom, this paper focuses on the need to test the effectiveness of the Cooperative Learning method so as to make the learning process of Mathematics at secondary level more broad.

RESEARCH QUESTION :

Is the Cooperative teaching method of learning Mathematics really useful to Secondary level students ?

OBJECTIVES:

1. To study the effectiveness of Traditional method of teaching Mathematics at Secondary level.
2. To study the effectiveness of Cooperative Learning method of teaching Mathematics at Secondary level.
3. To compare the effectiveness of Traditional and Co-operative learning method of teaching Mathematics at Secondary level.

Hypothesis : H_0 - There is no significant difference in achievement of students taught Mathematics content using Traditional methods and Co-operative learning.

Methodology: In order to study the given objectives, the researcher has selected the following method, tools and sample.

Method: In view of the research problem, the Experimental method was selected to carry out the research work. The Pre-test- Post-test design was chosen to conduct the study.

Tools: The Pre-test (Mathematics Aptitude Test) and the Post-test (Achieve test) were used as tools to measure and compare the effectiveness of the two teaching methods.

The mean scores of both the groups were compared using t-test so as to find the effectiveness of the teaching methods.

Study Sample: For this research, the sample consisted of 68 students of 9th std all divisions from Lokseva High School, Solapur. The Mathematics Aptitude Test of 25 marks was administered and the first 50 students in merit list were selected for the study. These students were further divided systematically into two groups. The Experimental group and the Controlled group, thus consisted of 25 students each.

Research Procedure: In view of the research problem, the Experimental method was selected to carry out the research work. The Pre-test- Post-test design was chosen to conduct the study. After forming the groups of 25 students after considering the scores of Pre-test the Both groups were taught the Unit Surface area and Volume prescribed for IX th standard Mathematics Part-II. The Experimental group was taught by using Co-operative learning method and the control group was taught by using Traditional method. A post test of 20 marks was conducted and the difference in Mean scores of both the groups were compared using t-test for statistical significance and the results were interpreted.

MAJOR FINDINGS:

1. The experimental group ($M_1 = 17.60$ S.D. = 2.33) obtained a higher mean than the control group ($M_2 = 15.08$ S.D = 3.65).
2. The Cooperative learning method proved to be more effective than the Traditional method for teaching Mathematics-II at IXth std.
[t- value = 3.355 > t- alpha= 2.00 df = 48 level of significance = 0.05]
3. Students are more interactive in Co-operative learning classroom as compared to Traditional methods. They participate actively in class and exchange information related to the content among their peer in groups. Also it was observed that the students showed more concern about the understanding of their peer.

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