

Impact of Cooperative Teaching Method on Academic Achievement Elementary School, in Gorgan, Iran

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ABSTRACT: The present paper examined the effects of cooperative teaching method on students' academic achievement in two school subject courses, namely Geography, and History & Civic Education. The research method undertaken here was of the experimental design with pretest and posttest procedures. The sample population under study included all of the primary school boys in the city of Gorgan, Golestan province, Iran, during the school year 2011-2012. A total of forty participants (students) were randomly divided into control and experimental groups. Here the teaching method followed in the experimental group was the Cooperative Learning, and in the control group was the Traditional Approach. The instrument used for measuring, was researcher made progress assessment tests which were approved for their validity and reliability. ANCOVA test was used to analyze the data. The results showed that, compared with traditional approach, Cooperative Learning method increased students' academic achievement in both Geography, and History & Civic Education subject's courses.

Key words: Academic Achievement, Cooperative Teaching Method

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INTRODUCTION

Researchers and education experts have confirmed that students' learning can be enhanced, thus improvement in their academic performance by intuition of the concept that "we're all in the same boat", is one of the basic principles of Cooperative Learning (Johnson and Johnson, 1989).

Cooperative learning techniques were developed and expanded in 1960s and 1970s as a response to traditional methods, because traditional models of classroom learning were, hitherto, teacher-centered and competition-centered. Some educators believe that when cooperative learning methods are applied a small number of students may not achieve high levels of learning (Richards and Rodgers, 2001).

Foley (2001) has referred to six characteristics on the topic of cooperative learning, namely: 1) Voluntary and proactive participation in cooperative activities. 2) Participation of all members in decision-making. 3) Sharing at least one common goal. 4) Responsibility of all members in decision-making. 5) Use of resources to achieve common goals of the group, with the main resource being the time. 6) If necessary, the decision is made in accordance with common goals. Cooperative Learning is a kind of interaction between groups of students that requires five important factors: positive interdependence, individual accountability, social skills, primitive face to face interaction and group processes (Jones and Jones, 2008).

According to research projects already carried out, Cooperative Learning methods, will result in higher level thinking (Slavin, 1987), increased self-esteem (Dimas, 1994), critical thinking skills (Govak, 2009), and acquirement of higher level cognitive skills

(Michaelsen, 1992). In this way, students become active learners who want to contribute by explaining their ideas to the teacher (Davison and O'Leary, 1990).

In cooperative learning, students work together on a workgroup which will result in acquirement of information and development of new insights and perspectives (Mercer, 1996). When students engage in cooperative learning groups to interact, they learn to exchange information and communicate in a socially acceptable manner (Gillies, 2004).

According to Slavin (1996), based on cooperative learning, the teacher applies cognitive strategies such as asking questions and summarizing, and gradually transfers the responsibility for doing things to students. The teacher should prepare the grounds and provide for organized high level learning environment. In this method, the teacher facilitates learning. He speaks less than he does in teacher-centered classrooms; issues fewer orders and applies fewer disciplinary controls over students (Richards and Rodgers, 2001).

Salend (1989) in a study, by direct observation, investigated, the impact of cooperative learning strategies and came to the conclusion that this method resulted in increasing of self-efficacy and academic performance and improved collaboration between groups of students experiencing emotional distress. Shachar and Fischer (2004) reported an increase in the academic achievement of students with low or average academic performance after their participation in cooperative learning method.

Artut (2009) studied the effects of Cooperative Learning on kindergarten children's ability to do arithmetic and sums and came to the conclusion that there was a significant and meaningful improvement among children in the experimental group. Artut

findings (2009) showed that the distribution of tasks in Cooperative Learning groups, talking and discussing problems with friends, and finding an opportunity to speak, results in interaction with classmates. Aziz and Hossein (2010) reported that cooperative teaching method had a significant impact on the academic achievement of students in the subject of mathematics.

Indeed many experts and scholars have defined the Cooperative Learning method as a key factor and solution to the existing educational problems. This study sought to examine the impact of Cooperative Learning on academic achievement of fifth grade elementary school students.

MATERIAL AND METHODS

The sample population of students under study included the fifth grade elementary school boys in Gorgan, in academic year 2011-2012. Using 40 randomly selected participants who were randomly assigned to experimental and control groups. Research tools included teacher-made achievement tests. To assess the validity of the achievement test, content validity was used. Using Cronbach's alpha reliability test in the Geography, and History and Civic Education subjects, 0.86 and 0.79 coefficients were obtained respectively.

Before starting to teach pretest was conducted for both groups. Then the cooperative teaching methods known as Student Teams Achievement Divisions (STAD) was used. In accordance with this

method, students were divided into five-member groups. After grouping the students in the experimental group, teaching materials about the importance of cooperation in everyday life; how the students can collaborate; and how to perform activities and tasks were presented. Data analysis of covariance was used.

RESULTS

Levine's test was used to evaluate the equality of variances in the dependent variable and the results are shown in Table 1. Given the values of $f_{1, 38}$ and a significance level greater than 5%, the nil hypothesis is accepted based on the equal error variances. The slope of the linear relation or the homogeneity of the results tables to examine the relationship between group effects were used and test the results is shown in Table 2.

If there is no meaningful and significant interaction between pretest and factorial variables in predicting the dependent variable, assuming a linear relationship is acceptable. With regards to the f values and significance of levels greater than 5% the assumption of significant interaction effects is rejected. As a result of these conditions, the assumption of homogeneity of slopes or linear relation can be adopted to deal with analysis of covariance. To prove whether the mean difference between the control and experimental groups is statistically significant or not, the analysis is carried out by using covariance in Table 3.

Table 1. Levine's Test Results

Dependent Variable	F	df ₁	df ₂	Sig.
Geography Course Posttest Test	0.146	1	38	0.705
History & Civic Education Course Posttest Test	0.262	1	38	0.336

Table 2. Assumption of Homogeneity of Slopes (Linear Relation)

Source of Variance	Type III Sum of Squares	df	Mean Square	F	Sig.
Geography Course Grades in Posttest Test	5.12	1	5.12	0.936	0.34
History & Civic Education Course Grades in Posttest Test	0.262	1	0.262	0.027	0.87

Table 3. Results of Covariance Analysis on Average Grades of Pretest and Final Test in the Two Groups of Experiment and Control

Variable	Source of Variance	Type III Sum of Squares	df	Mean Square	F	Sig.
Geography Course Grades	Pretest	3.21	1	3.21	0.58	0.44
	Group (Control-Expr)	48.46	1	48.46	8.84	0.005
	Error	202.34	37			
History & Civic Education Course Grades	Pretest	11.45	1	11.45	1.21	0.278
	Group (Control-Expr)	218.05	1	218.05	23.11	0.000
	Error	349.07	37			

Results indicate that the mean difference between pre-test and final test in geography, and history & civic education courses of both control and experimental groups are significant. In conclusion it can be said that Cooperative Learning has enhanced progress in geography course.

DISCUSSION

This study sought to examine the impact of Cooperative Learning on academic achievement of fifth grade elementary school students. Our findings replicate and confirm the result of previous studies which showed that Cooperative Learning increases academic achievement of students in geography and history lessons.

Various theoretical and experimental records show that traditional learning and competitive methods diminish emotional ties, strengthen jealousy, hatred and hostility among students. At the same time they do not develop personal skills such as ability to discuss and negotiate to the desired level, but they also increase anxiety in the classroom, encourage learning by rote, and increase dislike of school, enhance passive mode among students and undermine self-esteem.

The results of the study showed that after the learning method based on cooperation was conducted, despite the short length of the period of implementation of this method, the influence of traditional methods on teachers and students, and limitations of the centralized educational system, the researcher was able to establish in classroom groups based on the cooperation. This result conveys the message that by removal of restrictions, the effectiveness of this method in schools will be extremely high.

In explaining these findings, we can say that the students who participated in the Cooperative Learning method engaged in individual and group study activities. They also discussed in their respective groups the questions that were given to them and each group tried to give the best answer. They also learned more through interaction in cooperative learning than they did in traditional individual and competitive learning processes since they asked more questions, shared ideas, explained the differences and developed new understanding of the relevant subjects. Secondly, the method enabled students to learn at higher levels.

Research on the effect of different learning methods on student achievement in different subjects is shown. Finding of Salend (1989), Shachar & Fischer (2004), Artut (2009) and Aziz and Hossein (2010) were in line with the results of this study and show consistency and coordination.

CONCLUSION

Based on the research findings, the following are recommended:

1. Educational facilities be built on the scales and in ways that enable small groups of students to learn more and deeper.

2. In-service courses are administered for teachers so that new teaching methods and especially the Cooperative Learning Method can develop and take place.

3. School textbooks be rewritten based on Cooperative Learning Method.

4. Suitable environment for collaborative work be created in class and suitable desks and benches for group work be permanently provided in class.

5. Students' group and individual grades be properly recorded in special performance books and files.

6. Cooperative learning techniques be implemented in other educational institutions including universities, teacher training colleges, and bodies such as school educational programmers' boards.

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