

The Influence of Cooperative Learning on Academic Performance

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Abstract: Cooperative learning may be an important component for academic success. The purpose of this study is to determine the influence of cooperative learning on academic performance of students in a secondary school in social studies class. Two hypotheses were tested in this study. The data supports both of the hypotheses. The findings revealed that cooperative learning strategy is more effective than other learning strategy. According to the findings, posttest scores were significantly higher than pretest scores and lower achieving students found cooperative learning to be more beneficial than higher achieving students. Based on the findings, cooperative learning strategy should be introduced in our secondary schools in Iran.

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Introduction

Cooperative learning is a relationship in a group of students that requires positive interdependence, individual accountability, interpersonal skills, face-to-face positive interaction, and processing (Lundgren, 1994). Many studies have documented the social benefits of cooperative learning (Johnson et al., 1985; 1978; Onwuegbuzie, 2001; Salvin, 1996). Cooperative learning is a new approach in educational practice. The central idea underlying Cooperative learning is involvement, which basically means that learners form a kind of mutual help group, and work interdependently to achieve a common goal of learning. "Cooperative learning" is one of the three major learning patterns (self-directed learning, cooperative learning and inquisitive learning), which are recommended by the present elementary educational reforms (Deutch, 2001; Yang, 2008).

Cooperative learning is as an instructional strategy in which students working together use their skills for the success of each member of the group. (Johnson & Johnson, 1985). The goals of cooperative learning are to enhance students' learning and to develop students' social skills like decision-making, conflict management, and communication (Bonwell & Eison, 1991). Similarly, studies have shown that cooperative learning has strong positive effects on race relations, self-esteem, and a willingness to cooperate in other settings (Salvin, 1983). Cooperative learning is a teaching strategy in which learners engages in communal learning in group context to ensure that group members engage in joint learning and achieve group outcomes at the end of the cooperative learning (Adams et al., 1990; Becker et al.; Jacobs et al., 2004; Slavin, 1991).

Literature review

Cooperative learning has been defined as a "small group of learners working together as a team to solve a problem, complete a task, or accomplish a common goal (Artz & Newman, 1990, p. 448). Most researchers have found that cooperative learning improves academic performance in areas such as, comprehension, use of critical thinking, time on task and test scores (Armstrong-Melser, 1999; Bandura, 1977; Johnson et al., 1978; Slavin, 1991). This studies also claim that working collaboratively increases learning (McManus & Gettinger, 1996; Singhanayok & Hooper, 1998). However, there are a limited number of studies which do not find an educational advantage to using cooperative learning over individual study (Tateyama-Sniezek, 1990). Cooperative learning tends to be more carefully structured and delineated than most other forms of small-group learning. Cooper and Mueck (1990) describe it as "a structured, systematic instructional strategy in which small groups work together toward a common goal". Several researchers have reviewed studies and literature that support the positive impact cooperative learning has on student achievement (Slavin, 1994; Gabriele & Montecinos, 2001; Kewley, 1998; Onwuegbuzie, 2001; Persons, 1998; Phipps, Phipps, Kask, & Higgins, 2001; Rama, 2003; Slavin, 1996). Johnson et al., (1978) found that students working cooperatively completed tasks more accurately and quickly than individuals working alone. Cooperative learning appears to benefit lower-achieving students, as well as, higher-achieving and gifted students. Dentler (1994) finds that cooperative-learning approaches empower students, bolstering their self-esteem and confidence. Johnson et al.,

(1978) found that cooperative learning promoted increased motivation, feelings of personal importance and control, acceptance of heterogeneity and conflict in groups, and better attitudes toward the teacher. According to Johnson et al. (1991, 1992) there are five essential elements necessary for cooperative groups to be effective:

- Positive interdependence: students need to understand that they are linked to the other members of their group such that they can only succeed if their group partners succeed, and vice versa.

- Individual accountability: each group member must be responsible for their own contribution to the group.

- Face to face, primitive interaction: group members must be cooperative and supportive of each other. Encouragement, support and assistance when needed from group members is more likely to lead to accomplishing individual and group goals than discouragement, or lack of interaction

- Small group collaborative skills: key social skills necessary for students to work together on a goal include clear and unambiguous communication, acceptance of everyone in the group, conflict resolution, and trustworthy behavior.

- Group Processing: effective groups have a positive experience from their group work. This means that, as a group, they can evaluate, revise, and celebrate success (Johnson, et al., 1991, 1992).

Methods

This study examined the academic benefits of cooperative learning as an educational tool. Two hypotheses were tested in this study.

H1: The use of cooperative learning in a social studies course will increase learning as measured by a pretest and a posttest.

H2: Lower achieving grade students will assign more educational benefits to cooperative learning than higher achieving students.

Lower achieving students are defined as those who previously received a C- or lower in the social studies class. Higher achieving students are defined as those who previously received a C or higher in the social studies class. Students in a social studies course were selected for the study. Two instruments were used namely pre-test and post-test achievement to collect data. The questions were based upon information that could be located in the textbook, teacher resources and media materials. The 10 statement survey was designed to determine if the students believe they gained more by working cooperatively than individually. Each response was given a point value. The point values are as follows: disagree = -2, somewhat disagree = -1, neutral = 0, somewhat agree = 1 and agree = 2.

Findings

Results for the study were organized into two tables. The hypothesis 1 displayed in Table 1, shows the mean pretest and posttest scores. The result indicated that the use of cooperative learning in social studies course will increase learning as measured by a pretest and a posttest. According to the results in Table 1, the hypothesis 1 has been supported because posttest scores are 38% higher than pretest scores. With a mean pretest score of 23% and a mean posttest score of 61%, Table 1 demonstrates a 38% increase in assessment scores after cooperative learning was applied in the social studies class. According to the results, lower achieving students consistently responded more positively to statements about learning with the group process than did higher achieving students.

Table 1: Pretest and posttest score in social studies

Assessments	n	Mean score (%)
Pretest Score	22	8.5 (23%)
Posttest Score	22	23.5 (61%)
Difference		+15.0 (+38%)

The hypothesis 2, displayed in Table 2, shows the differences in low achieving and high achieving students responded to survey questions.

Table 2: differences in low and high achieving

Students	n	Average score
Lower Achieving	11	13.5
Higher Achieving	13	4.3
Difference		+9.2

The data in Table 2 supports hypothesis 2 because lower achieving students responded more favorably to statements regarding the benefits of cooperative learning than did higher achieving students. Hypothesis one and two are supported by the findings presented in the tables. With a mean pretest score of 23% and a mean posttest score of 61%, Table 1 demonstrates a 38% increase in assessment scores after cooperative learning was applied in the classroom. According to the survey results, lower achieving students consistently responded more positively to statements about learning with the group process than did higher achieving students. Furthermore, lower performing students responded less favorably to statements that imply there are drawbacks to cooperative learning, or

express a preference for traditional instruction. On average, lower achieving students responded 9.2 more in favor of cooperative learning than higher achieving students.

Conclusions

The purpose of this study was to determine the influence of cooperative learning on academic performance. Cooperative learning is an important component for academic success. The data supports both of the hypotheses. Posttest scores were significantly higher than pretest scores. Lower achieving students found cooperative learning to be more beneficial than higher achieving students. Posttest scores were significantly higher than pretest scores. Both hypotheses were supported by the results of this study. Student learning increased when cooperative learning was used. In summarize using cooperative learning in social studies course will increase learning. Hence cooperative learning is as effective as traditional instruction in educational system. Considering all of the information gathered in this study, a diverse educational program that incorporates cooperative learning would be recommended.

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