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Effect of Cooperative Learning on Social Acceptability Among Peers

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ABSTRACT

The social composition of a class, in general, represents the social composition of its society. India is a multicultural country which is full of diversities. Hence, Indian classrooms, in general, are heterogeneous in nature with respect to caste, religion, socio-economic backgrounds etc. Since, teaching-learning in a class has context sensitivity; hence, this variety of contexts in a class puts additional challenges in front of a teacher, particularly, in an environment where because of their inherited social culture some students of particular caste/religion do not accept other students of another caste/religion. In this situation, methods like cooperative learning come as an alternative to traditional teaching methods. Cooperative learning is an approach to instruction in which students work in small groups to help one another learn. It does not only enhances academic achievement but also promotes factors like social acceptability, emotional intelligence etc.

Present paper discusses about an experiment in which the effect of cooperative learning on social acceptability of students among peers was examined in a quasi-experimental setting. It was found that cooperative learning significantly enhances social acceptability among peers.

KEYWORDS Cooperative Learning, Social Acceptability, STAD

Introduction

India is a country of diversities. These diversities can be easily seen in languages, caste, religion, socio-economic status, geographical conditions etc. A very popular Indian proverb represents it very clearly:

Kos-Kos pebadlepani! Char Kos pevani!!

(The taste of water changes after every one 'Kos' (2.14 kilometers) and the dialect changes after every four 'Kos'.)

Schools of any society are miniatures of that society and classrooms of a schools are representative of the school. Thus, a social composition of a class represents the social composition of its society. Indian schools are full of students from diverse backgrounds. Hence, Indian classrooms, in general, are heterogeneous in nature with respect to caste, religion, socio-economic backgrounds etc. Students often, because of shyness, prejudices, and many other factors, try to put themselves into 'shells' and open up for a few of their peers. It is a common scene in the classes of Indian schools that toppers are accepted by the whole class, while low-achievers are mostly rejected. This situation, sometimes, turns the low-achievers towards juvenile delinquency. Since, teaching-learning in a class has context sensitivity, hence, this variety of contexts in a class puts additional challenges in front of a teacher, particularly, in an environment where because of their inherited social culture backgrounds some students of particular caste/religion do not accept other students of another caste/religion. This situation creates a need to adopt such teaching methodologies that promote acceptability of students among their classmates, irrespective of their diversities and different backgrounds. The Education Commission (1964-66) also revealed the need of instructional methods that bring the different social classes and groups together and promote the emergence of integrated society. In this situation, methods like cooperative learning come as an alternative to traditional teaching methods. Cooperative learning is an approach to instruction in which students work in small groups to help one another learn.

According to Johnson and Johnson (1987), there are three basic ways students can interact with each other as they learn. They can 'compete' to see who is "best"; they can work 'individualistically' on their own towards a goal without paying attention to other students; or they can work 'cooperatively' with a vested interest in each other's learning as well as their own. Cooperative learning exists when students work together to achieve joint learning goals (Johnson, Johnson, &Holubec, 1992, 1993). It is an approach to instruction in which students work in small groups to help one another learn (Johnson & Johnson, 1987). Students in 'cooperative learning' work together to achieve common successes. Johnson and Johnson (1987) suggest that in order for cooperative learning approach to be successful, one must structure the classroom in such a way that cooperation is not only helpful for academic success, but, in fact, necessary for it. Simply putting students in groups and setting them loose to work on a topic together is not cooperative learning. Rather, they are encouraged to work in groups on academic tasks with a common goal. The members of the groups swim or sink together.

Cooperative learning approach in classroom helps students interact with each other, generate alternative ideas, and make inferences through discussion. It involves discussions, group discoveries, helping each other, and sharing materials and helps students to learn from each other. In cooperative learning, students work in small, mixed abilities, inter-status (social or others) heterogeneous groups. Small groups of three to five students cooperate in achieving identified cognitive learning objectives. Through cooperative learning, students achieve the benefits of social participation and help one another to discover knowledge together.

However, all groups, in which students are sitting together, are not cooperative groups. To become cooperative a group should have some basic elements. Researchers have identified five essential elements of cooperative learning as positive interdependence, individual accountability, face-to-face interaction, use of interpersonal and small-group skills, and group processing skills (Johnson & Johnson, 1987). Effective implementation of cooperative learning involves heterogeneous grouping, stating instructional objectives, explaining strategies for achieving group goals, monitoring progress and providing help when necessary and evaluating students' achievements. Various methods of cooperative learning, for example, Student Teams Achievement Divisions (STAD), Teams-Games-Tournaments (TGT), Team Accelerated Instruction or Team Assist-

ed Individualization (TAI), Jigsaw, Jigsaw II, Learning Together, Group Investigation etc., have been developed and researched by many educationists, in different parts of the world. These methods are different from one another in many aspects; however, they have the idea in common that 'students work in groups to attain a common goal'.

STAD, developed by Slavin (1983), is one of the extensively researched and widely used cooperative learning methods. In this method, students are assigned to three-to-five members learning teams. Teams are made as heterogeneous as possible. This is done because each team represents the composition of entire class, i.e., with respect to performance level, sex, ethnicity, racial backgrounds or caste. Cooperative learning activity begins by the presentation/introduction of the new material via lecture or discussion by the teacher and providing the worksheet to the master. The worksheet contains problems, questions or such things from which students can review and grasp the main points of the lecture/discussion. Then, the team members study the worksheet provided to them. They may work in pairs or as a group. During this stage they quiz each other, discuss the content, clarify difficult or confusing points or use any other means they wish to master the material. It is made clear to the students that their task is simply not to complete/fill the worksheet but to master it. At least one team member is provided the answer sheet to worksheet and assigned the role of checking written or oral responses of others. Sufficient time is allowed to students to complete the worksheets. They are clearly told that they should continue studying until they have understood the content. After sufficient practice on the worksheet, students are given quizzes individually over the material they have been studying. Students are not allowed to help their team members during this activity. They are left at their own. The quizzes/tests are scored soon and formed into a team score.

Cooperative Learning does not only enhances academic achievement but also promotes factors like social acceptability, emotional intelligence etc.Cooper et al. (1980) found that students who were initially prejudiced against one another evidenced greater interpersonal attraction in an experimental cooperative setting than did students in competitive and individualistic. In a study, Johnson and Johnson (1981) concluded that cooperative learning experiences benefit intergroup relations and increase the acceptance of mainstreamed academically handicapped students. According to Johnson and Johnson (1987), cooperative learning helps students to have a healthier attitude toward the acceptance of differences with their classmates. On the basis of review of various experimental studies, Johnson and Johnson (1999) revealed that working cooperatively creates far more positive relationships among diverse and heterogeneous students than does learning competitively or individualistically. Even when individuals initially dislike each other, cooperative experiences have been found to promote liking.

Most of the findings, regardless of the method of cooperative learning used, have been highly positive with regard to the promotion of interpersonal liking, attraction, trust, and sense of being accepted by peers. However, the researcher could not locate a single study that examined the effectiveness of cooperative learning methods on interpersonal relations and social acceptability in Indian conditions. So, a lack of studies in Indian context creates a need to work in this direction. And, for this, a study, to examine the effectiveness of one of the cooperative learning methods – STAD - , with the following objective was carried out:

Objective: To study the effectiveness of STAD method of cooperative learning on social acceptability among peers of secondary level science students.

To test the framed research hypothesis, a null hypothesis was framed as follows:

Social acceptability among peers of secondary level science students will not differ significantly after teaching through cooperative learning method (STAD) and traditional teaching method.

Methodology

The nature of the present investigation was quasi-experimental in nature and the two-group pretest-posttest design was used to carry out the experimentation. The sample of the study was drawn using convenient sampling technique and it consisted of two intact classes of IX grade, each having 20 students, from a Hindi medium boys' secondary school of Karwi city of Chitrakoot (UP), India. Dahley (1994) suggests that the ideal cooperative learning classroom has about 15 to 20 students. One class was taught by STAD method of cooperative learning and the other by traditional method. The treatments were assigned randomly to the groups and both the groups were taught the same content for 45 instructional days. The experimental class consisted of heterogeneous groups of four students of mixed ability in each group. Social acceptability of the students among peers was measured by Test for Social Acceptability among Peers (TSAAP), developed and standardized by Chopra (1996). This test was used as the pre- and posttests.

Results and Discussion

The objective of this study was to find out the effectiveness of the STAD method of cooperative learning on social acceptability of students among peers. According to the principles of sociometry, a class with less variability in terms of social acceptability of its students by their peers is considered as a harmonic one. So, to analyze the effectiveness of the cooperative learning methods on social acceptability among peers, difference in variances on TSAAP scores among the groups, and within a group, before and after the experimentation, was examined with the help of F-ratio (Guilford &Fruchter, 1981). Means, standard deviations, and variances on pretest and posttest scores for the groups are shown in Table 1.

Table 1 Means, Standard Deviations, and Variances for TSAAP Scores

Group	Pretest			Posttest		
	Mean	SD	Variance	Mean	SD	Variance
STAD (N=20)	9.6	7.31	53.41	9.6	2.30	5.31
TTM (N=20)	9.6	6.97	48.57	9.6	7.16	51.20

Mean, standard deviation, and variance on the pretest scores of the students of STAD group was 9.6, 7.31, and 53.41, respectively, while the value of mean, standard deviation, and variance on the posttest scores of the students of STAD group was 9.6, 2.30, and 5.31, respectively.

Mean, standard deviation, and variance on the pretest scores of the students of TTM group was 9.6, 6.97, and 48.57, respectively, while the value of mean, standard deviation, and variance on the posttest scores of the students of TTM group was 9.6, 7.16, and 51.20, respectively.

To know whether the variances of the groups differed significantly prior to experimentation, F-ratio was calculated between the variances on pretest scores of the groups and to know, whether the variances of the groups differ significantly after the experimentation, F-ratio was calculated between the variances on posttest scores of the groups. Results of the analysis are presented in Table 2.

Table 2 Values of F-ratio Between the Variances of the Groups

Pair of Groups	F-ratio	
	On Pretest Scores	On Posttest Scores
STAD and TTM	1.10	9.64*

*p<.01

A look at Table 2 reveals that the value of F-ratio for the pairs STAD and TTM on pretest scores, is 1.10 which is notstatistically significant at the .05 level for 19/19 degrees of freedom. This makes clear that the variances of the scores of these groups did not differ significantly prior to experimentation and it can be concluded that the social acceptability among peers of the two groups were similar prior to experimentation.

Table 2 shows that the value of F-ratio between the posttest variances of STAD and TTM is 9.64, which is statistically significant at the .01 level for 19/19 degrees of freedom. This indicates that the variances of STAD group and TTM group differ significantly after the experimentation. Since, the variance of TTM group is higher than that of STAD group, on posttest scores (see Table 2), it can be said that scores of social acceptability among peers of STAD group show significantly less variability than that of TTM group after the experimentation.

Further, to determine the significance of difference in variances of a particular group before and after the experimentation, F-ratio was calculated between the pretest and posttest variances for each group. These values of F-ratio are given in Table 3.

Table 3 Values of F-ratio Between Pretest and Posttest Variances

Group	SD		F-ratio
	Pretest	Posttest	
STAD	53.41	5.31	10.06*
TTM	48.57	51.20	1.05

*p<.01

From Table 3, it is clear that the value of F-ratio for STAD group is 10.06, which is statistically significant at the .01 level for 19/19 degrees of freedom. This tells that the pretest and posttest variances of STAD group differ significantly. Since, the value of pretest variance is higher than posttest variance, it can be concluded that STAD method of cooperative learning reduces the variability in social acceptability among peers.

Table 3 shows that the value of F-ratio for TTM group is 1.05, which is not statistically significant at the .05 level for 19/19 degrees of freedom. This indicates that the pretest and posttest variances of TTM group do not differ significantly. Hence, it can be concluded that traditional teaching method does not affect the variability in social acceptability among peers.

On the basis of above interpretation, it can be concluded that variability in social acceptability of secondary level science students is significantly reduced by teaching through the STAD method of cooperative learning, whereas, traditional teaching method does not affect it significantly. Hence, the null hypothesis that 'social acceptability among peers of secondary level science students will not differ significantly after teaching through cooperative learning method (STAD) and traditional teaching method' is rejected.

The findings of the present study in this regard, may be explained on the basis of classroom structures created during cooperative learning instruction. In cooperative learning situations students work and learn together, in heterogeneous groups. Heterogeneity of the groups is maintained on different grounds. The members in a group are not permanent; instead groups are constituted again and again, after a reasonable gap of time. During cooperative learning, students discuss and interact with each other in their groups. Because of rotation in membership affiliation in a group, students get chance to interact and sharing of views, with most of their classmates. While in traditional classroom, students generally do not get such opportunities to interact with each other during instruction; informal communication of a student is limited to a very few number of students. An ice-layer generates between the student and group of students, other than her/his informal group, and she/he accepts students only from her/his informal group and avoid others for various group activities. In cooperative learning, a student gets opportunity to interact and share views with different students. Through this communication or interaction a student realizes that most of the classmate share the same sensibility as her/his close friends do.

In cooperative situations, individuals' works contribute not only to their own well-being, but also to the well-being of all other collaborators. In a group, if students are different, it means more diverse resources are available for the joint effort and therefore, the difference is valued. The diverse contributions of members result in the realization that, in the long run, everyone is of equal value and equally deserving, irrespective of their diversity. This may, ultimately, help in promoting social acceptability of all the students among peers in the class.

Conclusion

To conclude, it may be said that the STAD method of cooperative learningis more effective than traditional teaching method in promoting social acceptability of students among peers. Though, the experimental conditions of this investigation put limitations in generalizing the findings but it opens ways for further researches in variety of Indian situation and suggests that the cooperative learning methods can be used in addition/combination with traditional methods to enhance social acceptability among peers.

References

1. Cooper, L., Johnson, D. W., Johnson, R., &Wilderson, F. (1980). The effects of cooperative, competitive, and individualistic experiences on interpersonal attraction among heterogeneous peers. Journal of Social Psychology, 111, 243-252.
2. Dahley, A. M. (1994). Cooperative learning classroom research. Retrieved April 12, 2006, from http://alumni.media.mit.edu/~andyd/mindset/design/clc_rsch.html
3. Education and National Development, Report of the Education Commission (1964-66). New Delhi: NCERT, 1970.
4. Guilford, J. P., &Fruchter, B. (1981). Fundamental statistics in psychology and education (6th ed.). Singapore: McGraw-Hill.
5. Johnson, D. W., & Johnson, R. T. (1981). Effect of cooperative and individualistic learning experiences on interethnic interaction. Journal of Educational Psychology, 73(3), 454-459.
6. Johnson, D. W. & Johnson, R. T. (1987). Learning together and alone: Cooperative,
7. competitive and individualistic learning. Englewood Cliffs, NJ: Prentice Hall.
8. Johnson, D. W., & Johnson, R. T. (1999). Learning together and alone: cooperative, competitive, and individualistic learning (5th ed.). Boston: Allyn and Bacon.
9. Johnson, D. W., & Johnson, R. T., &Holubec, E. (1992). Advanced cooperative learning. Edina, MN: Interaction Book.
10. Johnson, D. W., & Johnson, R. T., &Holubec, E. (1993). Cooperative in the classroom (6th ed.) Edina, MN : MN. Interaction Book Company.
11. Slavin, R. E. (1983). Cooperative learning. New York: Longman.