

TYPES OF CO-OPERATIVE LEARNING



Yash Pal Singh¹ and Anju Agrawal²

¹Reader in Education , MJP Rohilkhand University, Bareilly (U. P.)

²Reader in Education

Absract:-

Cooperative learning is the learning process in which individuals learn in a small group with the help of each other. Cooperative learning gives importance to cooperation as against our present educational system, which is based on competition. Cooperation rather than competition is the predominant characteristics of human beings. People are bonded together by love and cooperation and it is this quality on which the survival of human kind is based. The present paper discusses the concept and types of cooperative learning.

Key-words: Cooperative Learning, Types

Introduction:

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 toward 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. Of the three interaction patterns, competition is presently the most dominant. Research indicates that a vast majority of students view school as a competitive enterprise where one tries to do better than other students. This competitive expectation is already widespread when students enter school and grow stronger as they progress through school (Johnson & Johnson, 1991). Cooperation among students-who celebrate each other's successes, encourage each other to do homework, and learn to work together regardless of ethnic backgrounds or whether they are male or female, bright or struggling, disabled or not, is still rare.

An alternative to traditional competitive classroom is cooperative learning. Cooperative learning is the learning process in which individuals learn in a small group with the help of each other. Cooperative learning gives importance to cooperation as against our present educational system, which is based on competition. Cooperation as a human characteristic has been seen until fairly recent years as the relative absence of competition. The more competition in a person, necessarily then, by logical and biological argument, there is less cooperation in the person. Notable resistance to the idea of mutual exclusiveness of cooperation and competition came from Margaret Mead, who, at the level of total culture, was able to show that a human society is a functional blend of both cooperation and competition. As with all such blends, the balance between the two varies from one culture to another (some cultures being markedly cooperative and some markedly competitive). This coexistence does not necessarily diminish the cohesion nor reduce continuance of the culture.

Cooperation rather than competition is the predominant characteristics of human beings. People are bonded together by love and cooperation and it is this quality on which the survival of human kind is based. People develop their attitudes and values from social interaction. Although we learn much about the world from various sources, discussing what we know or think with others develops majority of our attitudes and values. This exchange shapes our views and perspectives. It turns cold, lifeless facts into feelings, and then to attitudes and values that guide our behaviour over longer periods of time. These values and attitudes very often are left untaught in our schools. Our classrooms rely solely on formally acquired knowledge, with learners competing for grades and reinforcement; yet, these are our attitudes

and values that are one of the most important outcomes of schooling, because they alone provide the framework for guiding our actions outside the classroom. Keeping in view the drawbacks of the most commonly used traditional methods of presentation cum recitation radical changes are needed and have been advised in our instructional strategies. Cooperative learning is one such strategy.

What is Cooperative learning

According to Johnson *et al.* (1991), cooperative learning is an educational tool in which small groups of students work together to increase individual, as well as, group member learning. Cooperative learning exists when students work together to achieve joint learning goals (Johnson *et al.*, 1992, 1993). Any assignment in any curriculum for any age student can be done cooperatively. There are three ways that cooperative learning may be used. Formal cooperative learning groups may last for one class period to several weeks to complete any course requirement (such as solving problems, reading complex text material, writing an essay or report, conducting a survey or experiment, learning vocabulary, or answering questions at the end of a chapter). The teacher introduces the lesson, assigns students to groups (two to five members), gives students the materials they need to complete the assignment, and assigns students roles. The teacher explains the task, teaches any concepts or procedures the students need in order to complete the assignment, and structures the cooperation among students. Students work on the assignment until all group members have successfully understood and completed it. While the students work together the teacher moves from group to group systematically monitoring their interaction. The teacher intervenes when students do not understand the academic task or when there are problems in working together. After the assignment is completed the teacher evaluates the academic success of each student and has the groups process how well they functioned as a team. In working cooperatively, students realize they (a) are mutually responsible for each other's learning and (b) have a stake in each other's success

Slavin (1996) defines cooperative learning as "instructional programs in which students work in small groups to help one another master academic content..." He adds that most methods of cooperative learning involve students working in groups in which they are responsible not only for their own learning, but that of their fellow group members. Slavin (1990) believes the goal of cooperative learning is to encourage students to assist one another to maximize learning. To accomplish this, students must work together to complete a project or master material as a group. Therefore, cooperative learning fosters a collaborative atmosphere as opposed to a competitive environment. Slavin (1983) explains the two most important aspects of cooperative learning that increase student achievement are group rewards and individual accountability. Slavin (1996) sites Johnson and Johnson, in which they stated that individual mastery of material is one of the goals of cooperative learning. According to literature research conducted by McManus and Gettinger (1996), additional goals of cooperative learning include assuming leadership responsibilities, equal and active participation in the group process, positive interaction, increased learning and improved self-esteem.

Types of Cooperative Learning

According to Kagan (1992), there are over fifty forms of cooperative learning. Each has its appropriate application depending on the nature of the student population and the type of educational outcome to be fostered. Ultimately, each teacher must decide which of the cooperative-learning techniques to use and the relative amount of total in-class and out-of-class time devoted to cooperative learning. Listed here is a sampling of the forms of cooperative learning that have received the most empirical attention.

1. Student Teams-Achievement Division (STAD)

In STAD (Slavin, 1978), students are assigned to four-or-five-member learning teams. Each team is made as heterogeneous as possible to represent the composition of the entire class (boys/girls, less-able/more-able, etc.). In this cooperative-learning technique, students receive information via lectures, films, readings, and so on, and then receive a worksheet to complete in teams. The teams, formed by the teacher are typically heterogeneous, based on prior achievement, race, sex, language background, and other factors determined by instructor. The worksheets may contain case studies, problems to solve, or other tasks. At least one team member is given the answers to all questions or problems on the worksheet and this member is assigned the task of checking the written or oral responses of others.

Once all members have agreed that they have completed the task and mastered the skills assessed by worksheet, the instructor is called over. In addition to verbally quizzing individual team members on how the worksheet problems

were solved, the instructor may give one or all members of the team a quiz that must be completed individually by team members (individual accountability). The quizzes are scored immediately and individual scores are formed into team scores (for example, by averaging all, top half, or bottom half). The contribution of individual students is determined by how much each student's quiz score exceeds his or her past quiz average—or a preset score based on each student's learning history. This way, while the entire group receives a score based on each individual member's performance, individual learners also receive an improvement score based on the extent to which their individual score exceeds past performance or a pre-established standard that recognizes their learning history. The team is excused if individual mastery of the content is assured. This is one of the most teacher-centered of the cooperative-learning techniques as the instructor often determines the members of individual teams and their roles within the teams, the nature of the learning materials, and most other elements of the instructional sequence.

Research shows that, during Student Teams-Achievement Divisions, learners gain a sense of camaraderie and helpfulness toward fellow team-members, pursue self-directed learning and rehearsal strategies modeled by the teacher, and become self-motivated through having some control over their own learning.

2. Teams-Games-Tournaments (TGT)

A cooperative learning activity closely related to STAD is the use of Teams-Games-Tournaments (DeVries and Edwards, 1974). TGT uses the same general format as STAD (four-to-five-member groups studying worksheets). However, instead of individually administered quizzes at the end of a study period, students play academic games to show their mastery of the topic studied.

Students play games (e.g., 20 Questions) as weekly tournaments in which teams that are matched by ability based on previous performance compete against one another until one emerges the winner. The teams are made as heterogeneous and as evenly matched as possible so that none has a preponderance of high or low achievers. This assures that the learners always see the competition as fair and that all learners have an opportunity to contribute to a winning team. Because games and tournaments naturally interest class members, the teams take on competitive names, such as The Warriors against The Miracle Workers, The Scholars against The Pragmatists, and so on, to enhance the excitement. Teams are often changed (monthly) to create different heterogeneous groupings from which new cooperative relationships can emerge.

As in STAD, the teacher can assign team points based on the number of questions answered correctly, and accumulated over a period of about four tournaments (weeks). Then, before exchanging team members, the winner is announced for that month, along with the number of points accumulated by each member of the winning team (for example, number of total questions answered correctly in the past four tournaments). Both team and individual member statistics are kept to see if a team and individual members can exceed the scores accumulated during any preceding month. An official scorekeeper keeps a history of team and individual scores and records them on a handout or wall chart. Thus, TGT uses much the same format as STAD, except that academic games are substituted for individually administered quizzes, adding more intensity and competition to increase interest, participation, and excitement.

3. Jigsaw

With this technique (Aronson, 1978), the teacher assigns a different mini topic to each member of a team. The students research their assigned mini topics, then meet in expert groups with members of other teams assigned the same mini topic to discuss and refine their understanding of the subject. Team members then return to their original groups to teach the mini topics to the entire team.

4. Jigsaw II

In the cooperative learning activity called Jigsaw II (Slavin, 1986), students are assigned to four-to-six-member teams to work on an academic task that is broken into several subtasks, depending on the number of groups. Students are assigned to five-member teams and then a unique responsibility is assigned to each team member. Each student within each team is assigned a section of the text to read. Then, each team member is given a special task with which to approach the reading.

When all team members have their specific assignments, all team members having the same assignment "break out" from their original group (e.g., finding and defining new vocabulary words) to meet as "expert groups" to discuss their assignment and to share their conclusions and results. Once in an "expert group," members may assist each other by comparing notes (e.g., definitions) and identifying points overlooked by other group members. When all the

expert groups have had the opportunity to share, discuss, and modify their conclusions, they return to their respective "home groups". Each member then takes turns teaching their teammates about their respective responsibility.

Jigsaw II heightens interest among group members because the only way other team members can learn about the topics to which they were not assigned is to listen to the teammate who received that assignment. After each "expert" makes his or her presentation to the team, attempting to teach the group what they learned from their expert group, individual quizzes are given to assess how much they have learned. As in STAD, teacher can assign both an overall group score as well as individual improvement score based on past performance. These scores become the basis for team and individual rewards for the highest scorers.

5. Team-Assisted Individualization (TAI)

One of the newest cooperative learning activities is Team-Assisted Individualization (Slavin, Leavey, & Madden, 1982) which combines some of the characteristics of individualized and cooperative learning. Although originally designed for elementary and middle school mathematics classes, TAI can be used with any subject matter and grade level for which some individualized learning materials are available (for example, programmed or self-paced texts). In TAI, teacher starts with each student working through the individualized materials at a point designated by a placement test or previous learning history. Thus, students may work at different levels depending on the heterogeneity of abilities in the classroom.

Each student is given a specified amount of content to work through (e.g., pages, problem sets, questions and answers) at his or her own pace. Also, each learner is assigned to a team selected to represent all ability levels and, therefore, individuals enter the individualized materials at different levels of complexity. Heterogeneity within the teams is important, because teacher then asks each team member to have his or her work checked by another teammate. "Checkers" are expected to have completed portions of the materials that are more advanced than others. As many group members as possible assume the role of checker. When necessary, the checkers are given answer sheets.

Student monitors give quizzes over each unit and score and record the results on a master scorecard. Team scores are based on the average number of units completed each week by team members and their scores on the unit quizzes. Those teams are rewarded that complete a preset number of units with a minimum average quiz score (e.g., with certificates, time outs, learning center privileges). One student monitor, who is rotated frequently, is assigned to each team to manage the routine checking, distribution of the individualized materials, and administering and recording the quizzes.

Because TAI uses individualized materials, it is especially useful for teaching heterogeneous classes that afford few opportunities for whole-class instruction and little time to instruct numerous small groups who may have diverse learning needs.

6. Constructive Controversy (structured controversy)

In this method (Johnson and Johnson, 1979), pairs within a four-person team are assigned different sides of an issue. Each pair researches one side of the topic (or a summary is provided by the teacher). The two pairs discuss the topic, not to win a debate but to adduce as much information on the topic as possible. Pairs then switch sides and develop arguments for the opposite side of the same issue.

7. Group Investigation

In this method (Sharan and Sharan, 1976), students are given great freedom in determining how to organize their teams, conduct the research, and present their ideas to the total class. Often the class presentation is a brief play, a video or slide show, a demonstration, or some other type of performance. Even with this student-centered form of cooperative learning, however, the instructor grades the individual's contribution to the team project to prevent the dominator/freeloader phenomenon.

8. Learning Together (LT)

Learning Together (Johnson and Johnson, 1975) methods were developed around the idea of having teams of four to five students turn in one assignment as a group project. The group then receives the praise and/or reward.

Johnson and Johnson’s method advocates a team-building approach and provides time for lots of discussion and reflection on how team members are interacting and functioning as a group.

9. Cooperative Structures (CS)

Spencer Kagan’s (Kagan, 1985) methods for cooperative learning share many commonalities with Slavin’s and Johnson and Johnson’s. However, he stated that in 1985 he moved from seeing a cooperative learning lesson as one that implemented a structure to see the lesson as composed of structures. Thus, the cooperative learning structures became the building blocks of a lesson. He describes his cooperative learning structures as a content-free way of providing learning activities for students. Kagan states, “We place content into a structure to create a learning activity.” In this way, a teacher may change the content and have a completely different learning activity, or he/she might simply change the structure and also have a completely different learning activity. Kagan’s content-free approach has provided a very user-friendly way for teachers to implement the tenets of cooperative learning. For example, in order for students to learn their spelling words for the week, a teacher might use the structure Numbered Heads Together (students number off, teacher asks question, students put their heads together, and teacher calls a number), or she might use the structure or a simple Oral Response (all students say a response aloud after a cue from the teacher). Structures are included for content tasks that promote: Teambuilding, Class building, Mastery, Thinking Skills, Information Sharing, and Communication Skills.

Instructors may mix and match these and the several dozen other types of cooperative learning methods (Kagan, 1992; Johnson *et al.*, 1991). It is possible to modify the techniques for different student populations and academic disciplines. However, all cooperative-learning techniques must have the following features for most effective implementation: (1) a clear specification of the instructional goal or objective, (2) group work designed to promote some attitude, to teach something, or to give practice in performing a task, and (3) some form of individual student assessment to determine

There are a number of "researcher-developers" who have developed cooperative learning procedures, conducted programmes of research and evaluation of their method, and then involved themselves in teacher-training programs that are commonly credited as the creators of modern-day cooperative learning. The following ten have received the most attention (Table 1.1): Complex Instruction (CI) (Cohen, 1994), Constructive Controversy (CC) (Johnson and Johnson, 1979), Cooperative Integrated Reading and Composition (CIRC) (Stevens, Madden, Slavin, and Farnish, 1987), Cooperative Structures (CS) (Kagan, 1985), Group Investigation (GI) (Sharan and Sharan, 1976, 1992), Jigsaw (Aronson, *et al.*, 1978), Learning Together (LT) (Johnson and Johnson, 1975/1999), Student Teams Achievement Divisions (STAD) (Slavin, 1978), Teams-Games-Tournaments (TGT) (DeVries and Edwards, 1974), and Team Assisted Individualization (TAI) (Slavin, Leavey, and Madden, 1982).

Table 1.1: Modern Methods of Cooperative Learning

Researcher-Developer	Date	Method
Johnson & Johnson	Mid 1960s	Learning Together
DeVries & Edwards	Early 1970s	Teams-Games-Tournaments (TGT)
Sharan & Sharan	Mid 1970s	Group Investigation
Johnson & Johnson	Mid 1970s	Constructive Controversy
Aronson & Associates	Late 1970s	Jigsaw Procedure
Slavin & Associates	Late 1970s	Student Teams Achievement Divisions (STAD)
Cohen	Early 1980s	Complex Instruction
Slavin & Associates	Early 1980s	Team Assisted Instruction (TAI)
Kagan	Mid 1980s	Cooperative Learning Structures
Stevens, Slavin, & Associates	Late 1980s	Cooperative Integrated Reading & Composition (CIRC)

The combination of theory, research, and practice makes cooperative learning a powerful learning procedure. Knowing that cooperative learning can have powerful effects when properly implemented does not mean, however, that all operationalizations of cooperative learning will be effective or equally effective in maximizing

achievement. While many different cooperative learning methods are being advocated and used, educators have to decide as to which specific cooperative learning methods will be most effective in their situation.

REFERENCES:

1. Aronson, A. (2000). *The Jigsaw Classroom*. Retrieved from the World Wide Web on April 24, 2002: <http://www.jigsaw.org>
2. Aronson, E., Blaney, N., Stephan, C., Sikes, J., & Snapp, M. (1978). *The Jigsaw classroom*. 275, Beverly Drive, Beverly Hills, CA: Sage Publications.
3. Cohen, E.G. (1994). Restructuring the classroom: Conditions for productive small groups. *Review of Educational Research*, 64(1), 1-35.
4. Cohen, E.G., (1994a). **Designing groupwork: Strategies for the heterogeneous classroom** (2nd Ed.). New York: Teachers College Press.
5. DeVries, D., & Edwards, K. (1974). Student teams and learning games: Their effects on cross-race and cross-sex interaction. *Journal of Educational Psychology*, 66, 741-749.
6. Johnson, D. W., & Johnson, R. (1975/1999). *Learning together and alone: Cooperative, competitive, and individualistic learning*. Boston: Allyn & Bacon. First edition, 1975.
7. Johnson, D. W., & Johnson, R. (1979). Conflict in the classroom: Controversy and learning. *Review of Educational Research*, 49, 51-70.
8. Johnson, D.W., & Johnson, F. (1991). *Joining together: Group theory and group skills* (4th ed.). Englewood Cliffs, NJ: Prentice Hall
9. Johnson, D.W., & Johnson, R.T. (1992): Positive interdependence: Key to effective cooperation. In R. Hertz-Lazarowitz & N. Miller (Eds.), *Interaction in cooperative groups: The theoretical anatomy of group learning* (pp. 174-199). New York: Cambridge University Press.
10. Johnson, D.W., Johnson, R., Ortiz, A., & Stanne, M. (1991). Impact of positive goal and resource interdependence on achievement, interaction, and attitudes. *Journal of General Psychology*, 118(4), 341-347.
11. Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1993). *Circles of learning* (4th ed.). Edina, MI: Interaction Book Company.
12. Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1993). *Cooperation in the Classroom* (6th ed.). Edina, MN: Interaction Book Company.
13. Johnson, D. W., Johnson, R. T., and Smith, K. A. (1991). *Active Learning: Cooperation in the College Classroom*. Edina, Minn.: Interaction Book.
14. Kagan, S. (1985). *Cooperative Learning Resources for Teachers*. Riverside, CA: University of California at Riverside.
15. Kagan, S. (1992). *Cooperative Learning* (8th Ed.). San Juan Capistrano, CA: Kagan Cooperative Learning.
16. McManus, S.M., & Gettinger, M. (1996). Teacher and student evaluations of cooperative learning and observed interactive behaviors. *The Journal of Educational Research*, 90(1), 13-22.
17. Sharan, S., & Sharan, Y. (1976). *Small group teaching*. Englewood Cliffs, NJ: Educational Technology Publications.
18. Sharan, S., & Sharan, Y. (1992). *Group investigation: Expanding cooperative learning*. New York: Teacher's College Press.
19. Slavin, R. (1978). Student teams and achievement divisions. *Journal of Research and Development in Education*, 12, 39-49.
20. Slavin, R.E. (1983). Student Team Learning in Math. In *Cooperative Learning in Mathematics: A Handbook for Teachers*. Edited by Neil Davidson. Menlo Park, CA: Addison-Wesley Publishing Company.
21. Slavin, R. (1986). *Using student team learning* (3rd Edition). Baltimore: Johns Hopkins University.
22. Slavin, R. (1990). *Cooperative learning: Theory, research and practice*. Englewood Cliffs, NJ: Prentice-Hall.
23. Slavin, R.E. (1996) Cooperative learning in middle and secondary schools. *The Clearing House*, 69 (4), 200.
24. Slavin, R.E., Leavey, M., & Madden, N.A. (1982). Combining cooperative learning and individualized instruction effects on student mathematics achievement, attitudes and behaviours. *Elementary School Journal*, 84, 409-22.

25. Stevens, R. J., Madden, N. A., Slavin, R. E., & Farnish, A. M. (1987). Cooperative integrated reading and composition: Two field experiments. *Reading Research Quarterly*, 22(4), 433-454.



Yash Pal Singh

Reader in Education , MJP Rohilkhand University, Bareilly (U. P.)



Anju Agarwal

Reader in Education , MJP Rohilkhand University, Bareilly (U. P.)