

CO-OPERATIVE LEARNING : AN EFFICIENT TECHNIQUE TO CONVERT STUDENTS INTO ACTIVE LEARNERS IN CLASSROOMS

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This paper discusses the need of co-operative learning in Indian classrooms in order to promote active participation of all students in the classroom. In order to prepare the students for life and higher education, the gaining and improvement of important mental skills such as the effective usage of the mind, critical thinking, and problem solving are necessary so that they can face the challenges of life actively. In recent years, teaching has been confronted by demands for higher standards and better pupil achievement in several parts of the world. Researchers have suggested a shift from teacher-centred instruction towards more active participatory learning methods as one way to improve the quality of the learning process. The search on co-operative learning is overwhelmingly positive, and the co-operative approaches are appropriate for all curriculum areas. The present paper reflects that co-operative learning makes teaching-learning more satisfying, momentous, enjoyable and effective.

KEYWORDS : Co-operative Learning, Active Learning

INTRODUCTION

Co-operative learning, due to its ancient pedigree and positive outcomes, has been a focus of research in the past century. Co-operative learning is a group learning activity organized in such a way that learning is based on the socially structured change of information among learners in groups in which each learner is held accountable for his or her own learning and is motivated to increase the learning of others. It can also be defined as classroom environment where students interact with one another in small groups while working together on academic tasks to attain the common goal. Thus, co-operative learning is a long standing concept in human affairs and, indeed, is known to be essential to the functioning of human groups, organizations and societies. The heterogeneity of group members, reward structure and task structure are the main characteristics of co-operative learning (Figure 1). Research has quite often shown that effective co-operative learning groups include relatively equal proportions of males and females, student with diverse socio-economic status (SES) and academic skills (Dishon and O'leary 1984; Hilke 1990; Johnson and Johnson 1985; Slavin 1991). According to Slavin (1983), the success of co-operative learning is highly dependent on the underlying incentive of reward structure.

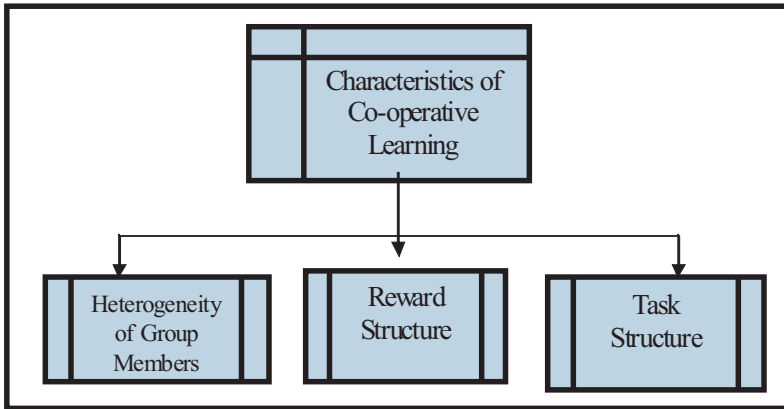


Figure 1. Characteristics of Co-operative Learning

CHARACTERISTICS OF CO-OPERATIVE LEARNING

Although Slavin (1990) proposed a two-element theory of co-operative learning comprising positive interdependence and individual accountability, but the five-component theory of co-operative learning is mostly used. According to this conceptualization, face-to-face interaction, positive interdependence, individual accountability, interpersonal and collaborative skills, and group processing are the five elements essential for increasing the likelihood of success of the co-operative learning endeavour (Figure 2). Group work allows students to be creative and inventive in integrating diverse knowledge and skills, use a variety of media, use procedures such as the scientific method, formulate their own questions and answers, share their learning and accomplishments with others, and transfer and apply diverse information and skills.

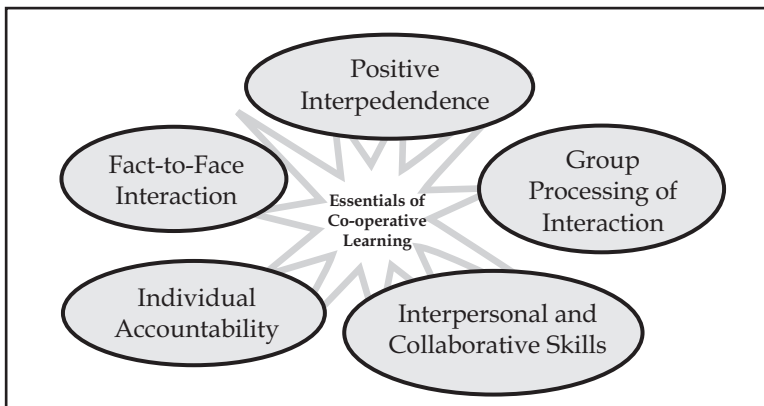


Figure 2. Five Essentials of Co-operative Learning

Co-operative learning and small group learning are differentiated by stating that co-operative group learning is unique as it employs the five components which are described above while in a small group learning, there is no interdependence, students work in their own, social skills are not systematically taught, teacher does not directly observe behaviour, no feedback and discussion of how well students worked together.

Basis for Advocacy to Employ Co-operative Learning in Indian Classrooms

The quest of more favourable and active teaching-learning technique is equally important for learners as well as for the teachers, education planners, managers and administrators. While co-operative learning as an instructional methodology is an option for teachers, it is currently the least frequently used (Johnson & Johnson, 1991). The majority of the instructions in schools consist of lectures, seatwork, or competition in which students are isolated from one another and forbidden to interact. Most of classroom time is spent in “teacher talk” and less time is used by the students for reasoning about or expressing an opinion. Group work has been used temporarily in our classrooms to provide practice in acquiring both competence and skills in interpersonal relations.

How students perceive each other and interact with one another is a neglected aspect of instruction. Most of training time is devoted to help the teachers in arranging appropriate interactions between students and materials (i.e., textbooks, curriculum programs) and some time is spent on how teachers should interact with students, but how students should interact with one another is relatively ignored. It should not be. There are three basic ways in which students can interact with each other as they learn. They can compete to see who is the “best,” they can work individually 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.

Co-operative learning is strongly advocated in the classrooms. The researchers have argued about the superiority and effectiveness of co-operative learning over competitive and individualistic learning on different grounds. Reports on studies, comparing the achievement of high, middle and low achieving students in competitive, individualistic and co-operative learning situations show that co-operative learning experiences tend to produce higher results. This is true for all ages, subject areas and for tasks involving concept attainment, verbal problem solving, categorization, retention and memory, motor performance, guessing, judging and predicting. For rote decoding and correcting tasks, co-operation seems to be equally as effective as competitive and individualistic learning procedures. Researchers have pointed out that numerous research studies in K-12 classroom, in very

diverse school settings and across a wide range of content areas, have revealed that students completing co-operative learning group tasks tend to have higher academic test scores, higher self-esteem, greater numbers of positive social skills, fewer stereotypes of individuals of other races or ethnic groups, and greater comprehension of the content and skills they are studying. Co-operative learning techniques promote student learning and academic achievement, increase student retention, enhance student satisfaction with their learning experience, help students to develop skills in oral communication, develop students' social skills. Gupta & Pasrija (2012) explored the dominance of co-operative learning methods over conventional method of teaching in terms of achievement and retention.

HOW TO GENERATE ACTIVE LEARNING

Co-operative Learning is a capable and successful technique that can be a mode of generating active learning in our classrooms and can be incorporated into the teacher-training program in India. "Hands-on laboratory work is the classic co-operative learning activity. A group of students working together on an experiment or activity, following instructions with a variety of duties and tasks requiring students to cooperate, is the prototype of co-operative learning" (Mergendoller & Packer 1989). One may have some doubts in his mind that co-operative learning increases students' attention span in the classroom, raises their motivation level, and makes all students active in the learning process or not. The simplest answer to all these doubts is that co-operative learning really works. Teachers are told that co-operative learning is one of the better researched instructional strategies, and the results of research indicate that it produces cognitive, affective, and interpersonal benefits (Johnson & Johnson 1991; Slavin 1990).

Over the past decade, co-operative learning has emerged as the leading effective approach to classroom instruction. One important reason for its advocacy is that numerous research studies in K-12 classrooms, in very diverse school settings and across a wide range of content areas, revealed that students completing co-operative learning group tasks tend to have higher academic test scores, higher self-esteem, greater numbers of positive social skills, fewer stereotypes of individuals of other races or ethnic groups, and greater comprehension of the content and skills they are studying (Stahl & Sickle, 1992).

Compared to traditional instructions, co-operative learning strategies improve students' achievements both on teacher-made and standardized tests (Slavin 1990). Slavin (1990) recognized these improvements to increased student motivation, greater time on-task, and especially active student involvement. Students working together are engaged in the learning process

instead of being passive listeners in the classroom. Slavin (1990) also found that students' self-esteem increased by working together. They felt more in control of their academic success and they began to link their success to their effort, an important factor in motivation. Low achievers tend to attribute their success or failure to luck or other forces outside their control, and co-operative learning helps them to change this pattern. Now they can believe in themselves and be more confident. co-operative learning can produce massive improvements in interpersonal relations. When groups were mixed by race, gender, and ability, the strategy resulted in improved attitude toward different ethnic groups and increased inter-ethnic friendships. Indian teachers would benefit from implementing this technique in their multi-ethnic classrooms. Also, through strategically selected learning activities, teachers can help students to analyse, synthesise, solve problems, and even learn to learn.

Mergendoller & Packer (1989) found that co-operative learning was very useful in a middle school made up of students with severe social problems where any effective learning seemed impossible. They explained that co-operative learning is beneficial to this age group because students at the height of adolescent fervour are required to sit quietly in rows for many hours a day. co-operative learning offers the chance to combine academics and socialization elements that are equally important in the eyes of student's. Co-operative learning is a way for students to take turns with different roles such as facilitator, reporter, recorder etc. In a co-operative group, every student has a specific task; everyone must remain engaged in some sort of activity; every student has sense of responsibility to make his/her team best. The co-operative learning is found to be advantageous on academic achievement in English, Mathematics and Science subjects (Thangarajathi & Viola, 2007; Ning & Hornby, 2010; Topping, Thurston, Tolmie, Christie, Murray, & Karagiannidou, 2011; Kumari & D'Souza, 2011).

CO-OPERATIVE LEARNING MODELS

Slavin (1995) has discussed some of the most researched and widely used co-operative learning models, which have been presented in Figure 3. The idea which lies beneath all co-operative learning models is that students work together to learn and are responsible for one another's learning as well as their own (Slavin, 1990). Co-operative learning Models such as STAD (Student Teams - Achievement Division), TAI (Team Assisted Individualization) & Jigsaw II are very effective team teaching techniques and they can be introduced to the teacher training programmes in the form of workshops through role-playing.

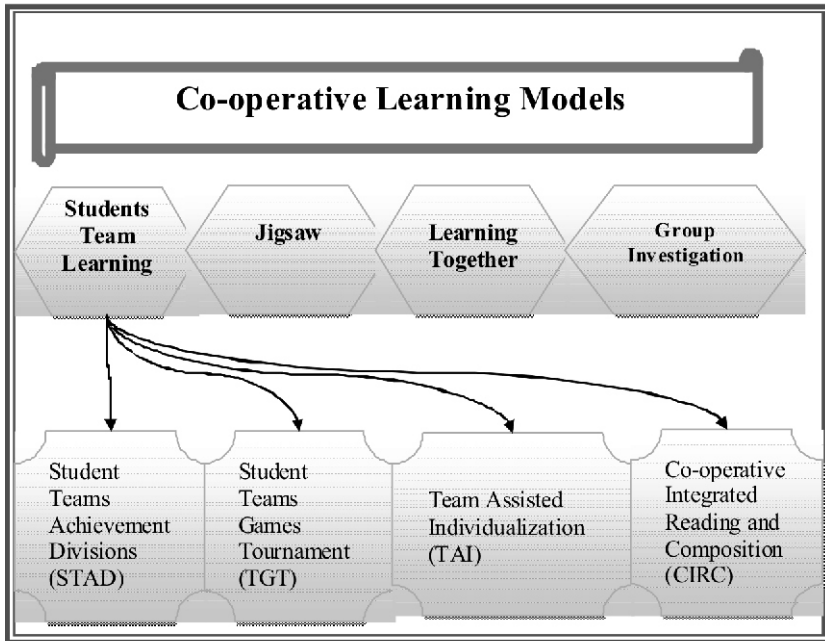


Figure 3. Co-operative Learning Models

In STAD, the teacher presents the content or skill in a large group activity in a regular manner with opening, development and guided practice. Then as opposed to individual study, students are provided with learning materials i.e. worksheets developed for STAD that they use in groups to master the content. As students are provided with worksheets that they use in groups to master the content, the teacher circulates around the room to monitor group progress and interaction. When students are ready, they are administered formative test. The teacher scores this test and, uses this information to compute improvement points. These are added up for each team, and teams earning a specific number of improvement points are recognized (e.g., award, free time, or certificate of achievement. Chen (2004) investigated the positive effect of Student Teams- Achievement Division (STAD) in teaching English as a foreign language; Tarim & Akdeniz (2007) found positive effects of STAD on Mathematics achievement and retention whereas Majoka, Dad and Mahmood (2010) reported STAD as active co-operative learning for teaching Mathematics. On the other hand Zakaria, Chin and Daud (2010) and Gupta and Pasrija (2011) revealed the encouraging effects of co-operative Learning (STAD) on students' Mathematics achievement, retention and attitude towards Mathematics.

In TAI, four or five member mixed ability learning teams work together to

complete their worksheets, checkouts, formative tests and homework. This mode of co-operative learning is specifically designed to teach mathematics to students in grade 3-6. In TAI students enter an individualized sequence according to a placement test and then proceed at their own pace. Teammates check each other's work using answer sheets and help one another with any problems. Final unit tests are taken without teammate help and are scored by student monitors. Each week, teachers total the number of units completed by all learn members and give certificates or other team rewards to teams that exceed in criterion score based on the final test passed, with extra points for perfect papers and completed homework. As students are responsible for checking each other's work and managing the flow of materials, the teacher can spend most of the class time presenting lessons to small groups of students drawn from various teams who are working at the same level in the mathematics sequence. Individual accountability, equal opportunities for success and motivational dynamics are the main features of this method (Slavin, 1995). Oishi, Slavin, and Madden (1983) found positive effects of TAI on cross-racial nominations on two sociometric scales. In a similar study, Oishi (1983) found significantly positive effects of TAI on cross-racial ratings of smart and on reductions in ratings of not nice. Slavin, Leavy, and Madden (1984) used teacher ratings of students' classroom behaviour and found significant higher ratings for TAI students. Tarim & Akdeniz (2007) too found positive effects of TAI on Mathematics achievement and retention. Gupta & Pasrija (2011) also found supremacy of co-operative learning method (TAI) over traditional method of teaching.

TGT, originally developed by David DeVries and Keith Edwards, was the first of Johns Hopkins co-operative learning models. It involves the same use of heterogeneous teams, instructional format, and work sheets as in STAD, for the learning of information but replaces the tests with weekly tournaments, in which students play academic games with members of other teams to contribute points to their team scores. Although study teams stay together for six weeks, tournaments table composition changes weekly. TGT has many of the same dynamics as STAD, but adds a dimension of excitement contributed by the use of games. Teammates help one another to prepare for the games by studying worksheets and explaining problems to one another, but when students are playing the games their teammates cannot help them, ensuring individual accountability. Slavin suggests that TGT can be used two to three days a week in science to learn concepts, with laboratory activities taking place on the other two days. It is also possible to alternate TGT and STAD on a weekly basis. Students appear to enjoy the challenges of the tournaments because they compete with others of comparable ability; the competition is fair (Slavin, 1980). Minakshi (1998) suggested that Team-Games-Tournaments contribute

towards raising the achievement of students in Hindi Grammar. Furthermore, Wyk, M. M van (2010) determined the considerable positive effects of the co-operative learning approach of Teams-Games-Tournaments (TGT) on the content knowledge achievement, retention, and attitudes of Economic education students toward the teaching method.

The other recommended teaching model is Jigsaw II. In addition to learning basic facts, skills, and concepts, co-operative learning models can also be used to help the students to learn organized bodies of knowledge. Jigsaw II, developed by Robert Slavin (1990), assigns students to groups and asks each student to become an expert on one aspect or part of an organized body of knowledge. These experts then are responsible for teaching other team members, all of whom are then held accountable for all the information covered by each member. Elmar and Julia (2007) found that third graders used the jigsaw method with satisfactory learning results whereas Rob and Bishop (2009) revealed that the jigsaw activities yielded mixed results with regard to the key characteristics of successful co-operative learning.

Learning together model of co-operative learning (developed by Johnson & Johnson 1987) involves students working in four-or-five member heterogeneous groups on assignments. The groups complete a single assignment and receive praise and rewards based on the group product as this method emphasizes team building activities before students begin working together and regular discussions within groups about how well they are working together. Ghaith (2003) reported the upbeat effects of learning together model of co-operative learning on English achievement, academic self-esteem and feelings of school alienation while Keramati (2009) and Kaul (2010) found that learning together technique of co-operative learning method is more effective than traditional teaching methods.

Group investigation (developed by Sharan, 1992 at the University of Tel-Aviv) is structured to emphasize higher order thinking skills such as analysis and evaluation in a general classroom. In its organization plan, students work in small groups using co-operative inquiry, group discussion and co-operative planning projects. In this method, students form their own two to six member groups. After choosing sub-topics from a unit being studied by the entire class, the groups further break their sub-topics into individual tasks and carry out activities necessary to prepare group reports. Each group then makes a presentation or display to communicate its findings to the entire class. One of the benefits of using co-operative learning is increased student communication skills. Because group discussions provide extended opportunities for students to talk and listen to each other, they are a powerful tool in developing students' communication skills. Shachar and Sharan (1994) reported the higher achievement scores for the students taught with the Group Investigation

method than in those taught with the Whole-Class method.

RELEVANCE OF CO-OPERATIVE LEARNING IN INDIAN CONTEXT

Education is the stepping stone for a high flying career. For effective education, effective teaching learning techniques are required for our students. But usually, the instruction in our classrooms is a one-way process in which the teacher directly presents information and skills dictated by a textbook. Students generally remain passive throughout a lesson. Group work is not encouraged, and students are required to memorize a large quantity of factual knowledge. In Indian schools, the rooms are usually arranged in a traditional fashion in which long rows of students' desks face the main instructional area and the teacher's desk. The lesson usually begins with a review of the previous lesson. The teacher would then go over the pupil's homework, listen the memorized material, and then accept or reject pupil's solutions to problems previously presented. The teacher would then introduce new material, develop lesson, give guided practice and assign homework, which usually consists of materials to be read, write, memorize or do some exercises from the book. Although teachers pose many questions for evaluation purpose, almost all of the questions asked are at knowledge and comprehension levels which begin with "what" and "when." The questions of higher level i.e. analysis and synthesis level, which would promote critical thinking in children, are rarely asked.

Overall, students are not encouraged to contribute to class discussions by voicing their opinions and supporting their answers, method of teaching is a didactic one and acquisitions of factual knowledge and memorization are over emphasized. All this could make schooling look tedious, suffused with anxiety and boredom, destructive of curiosity and imagination, produce cramming machines; in short anti-educational (Thomas 1990). The challenge in education today is to effectively teach students of diverse ability and differing rates of learning. Our classrooms are filled with multi-age, racially mixed students of different abilities and intelligence. All the students of class may not actively engage in class activities but the purpose of active & whole learning can be accomplished through co-operative learning and cross-age tutoring. In co-operative learning, all contribute to the group effort because students receive group rewards as well as individual grades. High achievers deepen their understanding and low achievers gain a sense of accomplishment through contributions to the group problem. The low achievers or dull students build up the feeling of group accountability, which makes them active to learn. In this way, grouping eliminates monotonous and repetitive programmes and incorporates a fresh feeling of doing something, sense of liability, communication skills and etiquettes among the students.

As the Indian education system is in a state of transitioning to one that is democratic, humanitarian, and humanistic and as a result, teaching in schools is moving from a content-centred and teacher-centred philosophy to a more child-centred paradigm, Indian teachers should become more equipped with innovative teaching-learning techniques to make the students active in the learning process and to help them develop creativity, social skills, imagination and take initiative in learning.

CONCLUSION

The Indian school system, and especially its teacher training, is reforming itself, the teaching-learning conditions in the classroom must undergo a major reform. This reform should include a slow move from a didactic approach to a more interactive teaching method. In other words, instruction in the classrooms must change from a content-centred approach to a student-centred teaching strategy. For this reform to be effective, the school curriculum must replace emphasis on acquisition of factual knowledge to emphasis on process-oriented curriculum that will teach students how to learn, organize, study, judge, and solve problems. Such reforms should include concepts as co-operative learning and metacognitive strategies in their pre-service programs. One way to do this is to provide students with choices as they learn new content. Those strategies could improve the whole instructional process in Indian classrooms to encourage students' interest, curiosity, creativity and imaginations, to make them vigorous, dynamic and active learners, and as a result, make learning more meaningful, significant and pleasant.

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