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Cooperative Learning: An innovative pedagogy for achieving educational excellence

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Abstract

In present educational arena cooperative learning has emerged as an innovative approach to teaching-learning. This is preferably suggested pedagogy by most of educator at all the levels of education. Cooperation is not only to sit student together and talk to each other, it is much more than sharing information, discussing contents and helping other students. It develops a deep insight and understanding about the subject matter discussed. Many of researches data are available to compared cooperative learning with traditional classroom instruction where they found that students who involve in cooperative learning learn significantly more, increase knowledge retention capacity and develop better critical thinking process. At the same time it also trains the students to assess outcomes linked to accreditation. First part of present article deals with conceptual meaning of cooperative learning and brief discussion about its five essential components. In the next part authors focused on points that elucidate its advantages over traditional methods of teaching. Cooperative learning has wide array of educational implications so that it can be used as alternative pedagogy in conventional classroom for achieving quality education to all learner.

Keywords: Cooperative learning; education; students; teacher; learners

1. Introduction

Education is considered as an effective tool to get ready children for their future. In present educational arena, educationists are not only constricted to intellectual development of child but are concerned for the holistic development of every children of society. Advancement and progress of nation depends on quality of education that will empower those who become tomorrow's workforce. Quality in education is major concern for educationist and this is highly depends upon teaching-learning approaches used in the classroom. Therefore, for preparing students of today to become successful individual of tomorrow teacher needs to ensure that the pedagogy used by them should be effective. Now a days, education became a fundamental right of most of the countries of the world and due emphasis is given to provide quality education to all student in order to achieve educational excellence worldwide. The conventional pedagogical practices commonly followed in school system of developing countries, are mostly 'teacher centred'. Teacher prefers chalk and talk methods to teach overcrowded classroom which is dominated with stress and anxiety (Ormrod, 2010) [39]. There is a very less scope to foster the development of higher cognitive faculties and social skills. Subsequently, prime focus of education i.e, the holistic development of every child seems far to realize. In this situation, cooperative learning can be used as innovative pedagogy to address all these issues. Theoretically the concept of cooperative learning emerges out from the philosophy of social constructivism which believes that knowledge is socially constructed through interaction with other individuals or peer group (Santröck, 2006) [26]. Several definitions of cooperative learning are available in the literature according to the mindset of various authors. Cooperative learning is group learning activity which is designed in such a manner that it shared the information between learners in groups where learner itself is responsible for his or her own learning and is motivated to increase the others learning (Kagan, 1994; Wendy, 2007) [19, 35]. Johnson and Johnson, (1999) [13] states that cooperative learning is the instructional use of small groups in which students works together to maximize their own and each other's learning. Parker, (1994) [25] described the cooperative

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learning as classroom environment where students interact with one another in small groups while working together on academic task to attain the common goal. It is contrasted with competitive and individualistic learning. In cooperative learning situations, every member of team worked with we feeling attitude and he/she is individually responsible for their own progress which also contribute towards progress of group. Further, Vernon and Louise, (1998) [34] observed that in cooperative learning students become more responsible to help each other in completing the assignments and in solving problems. Cooperative learning is generally referred as a generic term to for various methods used for organizing and facilitating classroom teaching (Johnson *et al.*, 2000) [17]. After analysing the above definitions it can be concluded the Cooperative learning is an instructional strategy where, small group of students with diverse level of ability and different

background work together to accomplish common learning goal. It involves the active participation of students' in group learning that accentuate positive interaction among them. Due to this type of participation, cooperation among the group members develops which is most essential component of cooperative learning. The participation of students may be enhanced through rewarding them for their individual and collective efforts. At the same time these types of activities should also be structured and managed by a teacher that is necessary to develop a cooperative relationship among the students. Thus, learning via this strategy is cohesive, personal and social experience that happens best in web of relationships. In fact cooperative learning doesn't mean merely working of students within a group any strategy can be qualify the status of cooperative learning when it must embrace following essential elements.

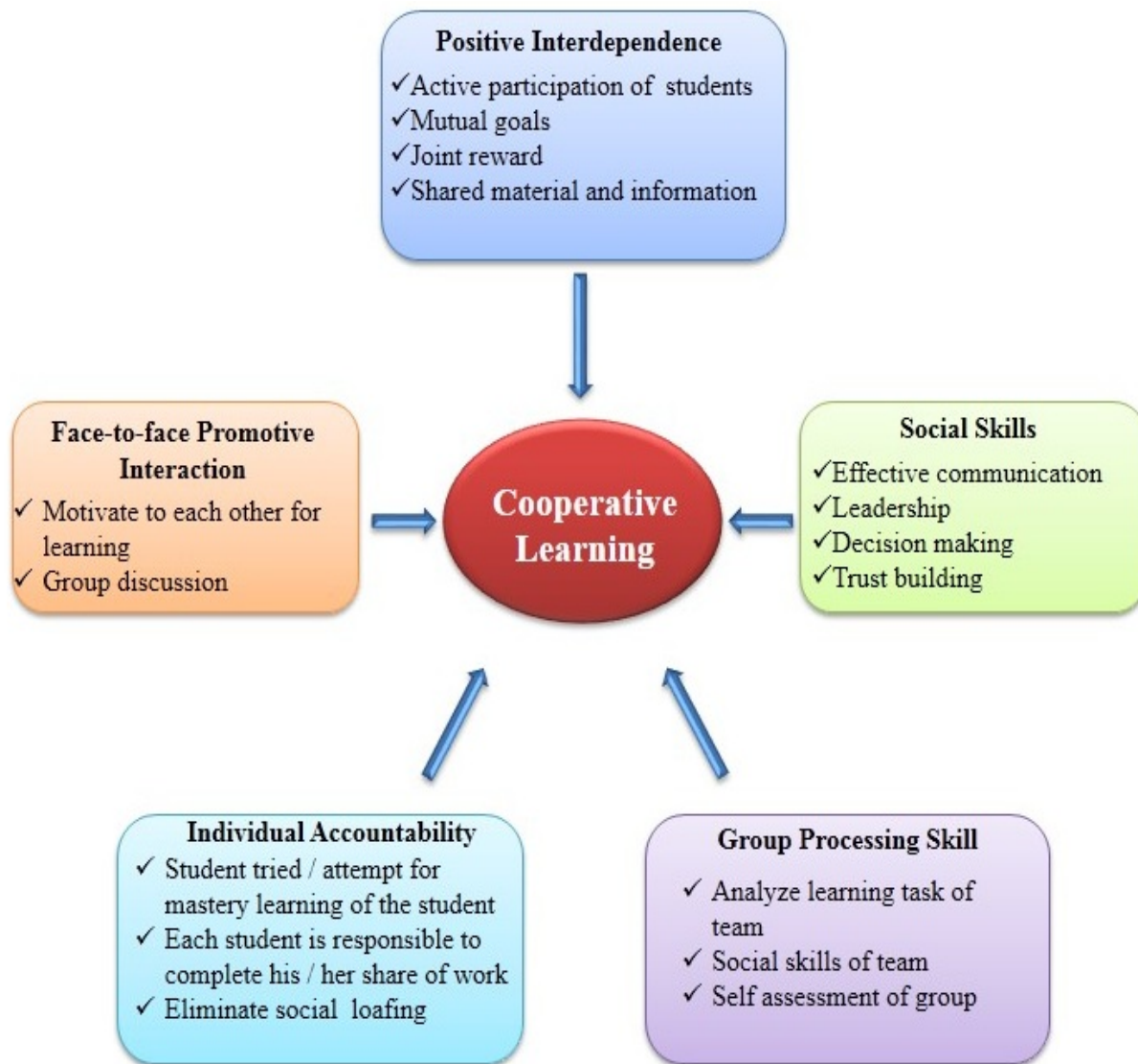


Fig 1: Essential elements of cooperative learning

Essential Components of Cooperative Learning

According to Salvin, (1995) group reward or some kind of recognition and accountability held by individual are two essential conditions for cooperative learning. The basic elements of cooperative learning as describe by (Kagan, 1994) [19] are:-

1. Positive Interdependence occurs when obtained scores of individuals or teams are positively correlated.
2. Individual Accountability crop up when each and every students in a group are held accountable for doing a share of the work and for mastery of the content to be learned.

3. Equal Participation takes place when each member of the group is afforded equal shares of responsibility and input.
4. Simultaneous Interaction occurs when class room learning is designed to allow interactions among students during the teaching-learning process.

Later, Johnson and Johnson, (2009) ^[16] proposed the five essential elements for cooperative learning strategies that are comprehensively and globally accepted in educational world. These elements are positive interdependence, individual accountability, face to face promotive interaction, appropriate use of social skills, and group processing skills, must be carefully implemented and maintained in teaching that motivates students working in teams to accomplish a common goal. These elements are briefly discussed below:

The first element is positive interdependence in which students believe that they “sink or swim together.” Team members perceive that they are interdependent to each other to achieve the goal. They realize that if they become fail in accomplish their part, everyone in the group suffers consequences. Members become personally committed to achieve their mutual goals.

The second element is individual accountability which deal with the fact that individual contribution for achieving the goal is equally important for every member of the group and every member is similarly responsible for completing their assigned task.

As in individual accountability the whole task is parcel out in small entity but in face to face promotive interaction group members share resources and discuss their views, support; praise each other's efforts to learn and encouraging one another learning.

The fourth element of cooperative learning is teaching students the appropriate use of collaborative skills. Here, students learn and practice the interpersonal and small group skills like trust-building, leadership, decision-making, communication and conflict management skills which are mandatory for successful functioning of the group.

The fifth element is group processing in which group members set group goals, periodically assess and discuss how well they are achieving their goals and maintaining effective working relationships for future.

Therefore, Cooperative learning is not simply a synonym for students working in groups. A learning exercise only qualifies as cooperative learning to the extent that the five listed elements are present (Johnson *et al.*, 1998). The success of cooperative learning is based on these five interrelated essential elements as described in Figure - 1.

Advancement over Traditional Methods

In the present ICT world, people constantly communicate globally via twitter, facebook, blogs, whatsapp etc., share ideas and information but unfortunately in traditional classrooms communication is generally one sided dominated by teacher, sometimes between teacher and student but very less scope is for student- student talk. Students' voices are generally silent. It is therefore comes as no surprise that a growing number of Ministries of education, universities and teachers' colleges, who wish to introduce educational reforms, including cooperative learning as a major component of their education policy (Gillies, 2003, 2011; Sharan, 2010) ^[10]. There are many reasons that advocate the supremacy of cooperative learning approaches over traditional teaching approaches. Most important reason is

that, it promotes learning communities that can improve academic achievement for different kinds of students. Many of researches conducted in differ part of world clearly support this fact. Extensive research has compared cooperative learning with traditional classroom instruction using the same teachers, curriculum, and assessments. Most of the findings shows students who engage in cooperative learning learn significantly more, retain it longer, and develop better critical thinking Skills than their counterparts in traditional lecture classes. Research finding of Badawi, (2005) ^[3] and Liao (2005) ^[20] shows that this strategy has positive effect on achievement in English. Researches indicated that there has been a statistically significant relationship between mathematics achievement and cooperative learning (Iqbal, 2004; Abdullah and Mohammed, 2010; Muhammad, 2010; Nayak, 2011) ^[12, 1, 21, 22]. It has been shown to have positive effect on achievement in science (Bowen, 2000; Pandey and Kishore, 2003) ^[5]. Beyond that, cooperation enhances learning in several ways like students benefited from cooperative learning more than traditional lecture classes, so they are more likely to attend classes and finish the course. Cooperative learning helps students develop the skills necessary to work on projects too difficult and complex for any one person to do in a reasonable amount of time (Barkley *et al.*, 2005) ^[38]. Cooperative learning created many learning opportunities that do not typically occur in traditional classrooms. The fundamental perception that distinguishes cooperative learning from traditional teaching methods is the view that individual differences in classrooms are expected to enrich learning rather than be controlled through individual instruction or differentiation. There are many other reasons described below which show advancement of cooperative learning over traditional teaching methods.

1. Active learning of students

The idea that students learn more by doing something active than by simply watching and listening has long been known to both cognitive psychologists and effective teachers and cooperative learning is by its nature an active method (Bransford *et al.*, 2000) ^[4]. Methods used for cooperative learning involves peer interaction where ample opportunities are present for student to discuss freely and share their view to others. Cooperative learning promotes student involvement and engagement in learning activities. The benefit of cooperative learning is that it enhances student's self-esteem, which in turn, motivates students to participate in learning activities (Panitz, 1999) ^[24]. Research often shows that for true learning to occur, students must take responsibility for their own learning and not depend solely on the teacher. Since every member of group has proper assigned role and she/he is individually responsible to complete his /her share of work. The use of cooperative learning supports this outcome and provides all students with public opportunities to make their thoughts visible to others by allowing them to talk about and consider their own as ideas as well as those of others (Chin and Brown 2000; Jones and Carter 1998; Kagan 1994; Wood 1992) ^[8, 18, 19, 36]. Cooperative learning is grounded in the belief that learning is most effective when students are actively involved in sharing ideas and work cooperatively to complete academic task. It represents a shift in educational paradigm from teacher-centered approach to a more student-centered learning in small group.

2. Development of higher cognitive faculties

Cooperative learning improves students' thinking and helps them construct their own understanding of content by strengthening and extending their knowledge of the topic. The sharing of ideas allows students to explore, refine, and question new ideas (Chi *et al.*, 1994; Chin and Brown 2000; Jones and Carter 1998; Wood 1992) ^[7, 8, 18, 36]. It provides more opportunities for critical thinking skills and students show a significant improvement in those thinking skills. Research evidence shows that compared to traditional teacher-centred methods cooperative learning has potential to produce higher learning outcomes (Slavin 1995; Sharan and Sharan, 1992; Sharan, 1999; Agashe, 2000) ^[28, 27, 2]. It creates excellent opportunities for students to engage in problem solving with the help of their group members (Zakaria and Iksan, 2007) ^[37]. Felder and Brent (2001) ^[9], reported that comparatively to students who taught traditionally (i.e., with instructor-centered lectures, individual assignments and competitive grading) with that of cooperatively/collaboratively taught students tend to exhibit better high-level reasoning and critical thinking skills, deeper understanding of learned material.

3. Prepare skilful citizen

In addition to intellectual growth, cooperative learning enhances students' social and personal development. Practicing of group processing skill is one of essential element of cooperative learning methods that enable the group members to work together in classrooms that further prove helpful them to deal effectively with the complexity and diversity of the world. Students' lives are full of interactions with friends, family members and strangers and their futures will find them in jobs that require cooperation. The skills that are essential for productive group work in the classroom are relevant for today and the future (classroom compass, SCIMAST project1994). Social skills used in cooperative learning are essential in today's world. The most important lesson for students in any discipline today is the knowledge and skill of how to get along and work with others (Bredehoft, 1991) ^[6]. Cooperation has become more and more crucial for our economy, global peace, and even basic family relations. To be successful, people must learn to communicate and work toward common goals within diverse social structures (Johnson & Johnson, 1989) ^[15]. According to Slavin, (1980) ^[32], cooperative learning in school prepares students for an increasingly collaborative work force.

4. Address social issues

Students who cooperate with each other also tend to understand and like each other more. This is particularly true for members of different ethnic groups. Relationships between students with learning disabilities and other students in the class improve dramatically as well (teachervision.com). Heterogeneous group of students differ in their academic achievement, gender, culture and family background work cooperatively to realize common learning goal. Researchers also found that cooperative learning promotes better relationships among students with special needs and varying races and ethnicities (Johnson and Johnson 1999) ^[13]. For others, cooperative learning helps us achieve a socially just, more equitable society by giving students the tools to solve problems together and resolve conflicts (Sharan, 2010) ^[29].

5. Create harmonious and pleasant class room environment

When cooperative learning strategies are employed in classroom it create harmonious and pleasant classroom environment. Cooperative learning can increase motivation because one of its essential component is face to face promotive interaction, where all team members motivate each other in positive manner. When the students are working in such cooperative way than, the learning process become interesting and enjoyable (Panitz, 1999) ^[24]. Felder and Brent, (2001) ^[9] reported that cooperatively taught students tend to exhibit higher less disruptive behaviour in class, lower levels of anxiety and stress, greater intrinsic motivation to learn and achieve, greater ability to view situations from others' perspectives, more positive and supportive relationships with peers, more positive attitudes toward subject areas, and higher self-esteem with compare to students taught traditionally i.e., with instructor-centered lectures, individual assignments, and competitive grading. Thus cooperative learning is an approach to group work that minimizes the occurrence of the unpleasant situations and maximizes the learning and satisfaction that result from working on high performance team Felder and Brent, (2001) ^[9].

6. Ensure success for all

Under cooperative learning strategy during peer interaction all students are benefitted from constant coaching, encouragement and constructive feedback from their team members. Weak students working individually are likely to give up but when they working cooperatively, they keep going. High achievers students during explaining and clarifying content to weaker students (low achievers) often find gaps in their own understanding and fill these gaps side by side. Students working alone may tend to delay completing assignments or skip them altogether, but when they know that others are counting on them, they are motivated to do the work in a timely manner Felder and Brent, (2001) ^[9]. In 67 studies of the achievement effects of cooperative learning 61% found significantly greater achievement in cooperative than in traditionally taught control groups. Positive effects were found in all major subjects, all grade levels, in urban, rural, and suburban schools, and for high, average, and low achievers (Slavin, 1991) ^[33]. Cooperative efforts among groups of students result in a higher degree of accomplishment for all (Slavin, 1984) ^[30]. By helping one another the students build a supportive community that raises the performance level of each member and ensure the success for all.

Educational Implication of Cooperative Learning

When students work together toward a common goal, they widen their academic achievement, interethnic relationships, acceptance of mainstreamed academically handicapped students, self-esteem, liking of self and others, and attitudes toward school and teachers. Relationships between students with learning disabilities and other students in the class improve dramatically as well. Together with this students also involve in their cognitive elaboration, an extension of their thinking, which enhances their own understanding. The benefits of cooperative learning involves three main components which include improvement of pupils' academic learning, to develop social and interpersonal skills and positive effects on their beliefs, attitudes and values related

to school. One of important educational implication of cooperative learning is related to its Constructivist perspectives which advocate the social construction of knowledge and making meaning out of personal experiences. Another major educational implication of cooperative learning is that it promises for realization of multiple educational goals. CL attracts many educators because of its potential for simultaneously achieving multiple educational goals. In present traditional methods students are instructed and encouraged to perform excellence in scholastic front only, non- scholastic areas are generally ignored, particularly in secondary education. But now a day's teachers are increasingly concerned about students' social and personal development that traditional teaching methods can't systematically address. Similar expectations exist among employers and business leaders. The chief purpose of CL in schools is to make each student a better individual learner via social interaction with others (peer group and teachers) and active participation in working on an assigned task (Agashe, 2000)^[2]. Thus helpful in holistic development of students, this is prime prerequisite for achieving educational excellence. Besides all these implications other utmost implication of cooperative learning is that it can be employ to address social inequalities in education. Numerous research studies on cooperative learning shows that it is helpful in preventing and treating a wide variety of social problems such as those of diversity (racism, sexism, inclusion of the handicapped), antisocial behaviour (delinquency, drug abuse, bullying, violence, incivility), lack of pro-social values and egocentrism, alienation and loneliness, psychological pathology, low self-esteem, and many more. For preventing and alleviating many of the social problems related to children, adolescents, and young adults, cooperative learning is the instructional method of choice (Johnson *et al*, 2000)^[17].

Conclusion

In recent years cooperative learning has emerged as the leading new approach to classroom teaching. The successful practical implementation of this innovative learning strategy is validated by various researches that also proved its great theoretical authenticity. Consequently, in cooperative learning there is a relation build up between theory, research, and practice which make it a unique procedure of learning. It has five essential components that must be incorporate to design any cooperative learning strategy. For the effective cooperative learning, teachers must be aware and need to understand how to structure these five components i.e.; positive interdependence, individual accountability, and proper use of social skills, promotive interaction and group processing into learning situations. Employing these elements in teaching learning approaches significantly changes the traditional classroom into innovative cooperative classroom by creating the feeling of social interdependence in which the accomplishment of an individual goal is affected by others' actions. The cooperation approach in learners tends to result in greater efforts to achieve their goal, develop positive and healthier relationships with their peer group that results in higher learning outcomes of all members of group. It is based on constructivist perspectives and facilitates the attainment of multiple educational goal and cable to solve various social problems and assure socially equitable access of education to all students of the class. Even though cooperative learning may not able to resolve all

the issues and problems faced by educationist, it may serve as an alternative and advance method of teaching learning. Thus, we can conclude that cooperative learning is most suitable alternative innovative approach to traditional classroom that create maximum learning opportunities to students to learn actively and develop their own understanding altogether with their peer group in harmonious and stress free classroom. Here everyone enjoy the achievement and everyone has equal opportunity to taste the success, hence pave an innovative way for achieving educational excellence.

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