Encouraging Co-operative Learning among Students

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Abstract. Today the learning process in colleges have become passive listening in the class instead of active participation. After completion of the graduation in engineering stream or in management stream, student faces lot of problems when he enters in the competitive world to search for a job where he has to participate in group events as team member or team leader. Therefore in order to equip students with adequate communicative competence the student should be actively engaged in classroom activities for real communication and learning. In this paper we highlight on encouraging cooperative learning process among students which is a system of teaching and learning techniques in which students are active agents in the process of learning instead of passive receivers of the product of any given knowledge. In this study, we made a comparison between cooperative learning and traditional group learning and also showed that cooperative learning process could increase students’ academic learning as well as personal growth. In addition our study validates that cooperative learning was considered must and the best instructional format enhancing learner’s communicative competence and also in a cooperative environment, students become members of a learning team, instead of solitary learners.

Keywords: Cooperative learning, Active agents, Passive listening
Introduction

Cooperative learning is viable yet generally underutilized method of instruction at the college level. There is still a resistance and hesitation in higher education to transform traditional college classes into cooperative learning environments. Despite the academic interest, under the false notions that cooperative learning is an alternative to, rather than an enhancement of professorial lectures, many avoid integrating cooperative learning into their classes. When asked about the teaching methods they most commonly employ, 76% of college professors reported that lecture was their “primary approach” to teaching. Even though many may experiment into the area of cooperative learning it is not common practice. Due to the expert nature of higher education, much evidence suggests that many college professors still stick to the notion of expounding knowledge to their students rather than engaging them in discovering such knowledge through active learning. There should be active participation instead of passive listening in class which distinguishes cooperative learning from traditional lecturing.

Literature Review

Research on cooperative learning demonstrated “overwhelmingly positive” results and confirmed that cooperative modes are cross-curricular (Brown & Ciuffetelli Parker, 2009, p. 508). Cooperative learning requires students to engage in group activities that increase learning and adds other important dimensions (Brown & Ciuffetelli Parker, 2009). The positive outcomes include: academic gains, improved race relations and increased personal and social development (Brown & Ciuffetelli Parker, 2009). (Brady & Tsay, 2010) report that students who fully participated in group activities, exhibited collaborative behaviors, provided constructive feedback and cooperated with their group had a higher likelihood of receiving higher test scores and course grades at the end of the semester. Results from (Brady & Tsay’s, 2010) study support the notion that cooperative learning is an active pedagogy that fosters higher academic
achievement.

Slavin states the following regarding research on cooperative learning which corresponds with (Brady & Tsay’s, 2010) findings (as cited in Brown & Ciuffetelli Parker, 2009).

- Students demonstrate academic achievement
- Cooperative learning methods are usually equally effective for all ability levels.
- Cooperative learning is affective for all ethnic groups
- Student perceptions of one another are enhanced when given the opportunity to work with one another
- Cooperative learning increases self-esteem and self-concept
- Ethnic and physically/mentally handicapped barriers are broken down allowing for positive interactions and friendships to occur

Class Activities to Promote Cooperative Learning

- **Jigsaw** Students are assigned to five heterogeneous or home groups. Each group has the same number of people. Each member of the group becomes an expert on a subtopic which they must represent, investigate, or read about. They then meet with their other group members who are responsible for the subtopic in other groups. They become a new group to discuss their subtopic and then following discussion they rejoin their original groups and share what they have learned. (Naested et al., 2004).

- **Group Investigation** Students are required to gather data, interpret the data through discussion, and synthesize individual contributions into a group project. GI promotes higher-order thinking skills and is effective for high school classrooms (Brown & Ciuffetelli Parker, 2009, p. 513).

- **Think-Pair-Share** The instructor poses a question to the class. The students think about the question individually and then they share with a
partner. Once they have shared with their partner they then share their thoughts with a small group of 4-6 members (Naested et al., 2004).

- **Literature Circles** Students are assigned to small, collaborative reading groups, which provide designated roles for each member. Each student assumes a shared responsibility for their learning, which is guided and supported by the teacher (Aldrich, H., & Shimazoe J, 2010). Roles include; summarizer, discussion leader, word wizard, and illustrator.

**Elements of Cooperative Learning**

In general, there were five major factors that define cooperative learning and to make cooperative learning successful

- Positive interdependence
- Face-to-Face interaction
- Individual accountability
- Teaching of social skills
- Quality of group processing

These five elements form the ‘five pillars’ of cooperative learning (Johnson, D.W., Johnson, R.T., & Smith, K.A., 1991) which use as their basis for utilizing such practices in the college classroom. This five pillars approach seeks to provide a complete model for implementing educational change.

![Fig 1: ‘Five Pillars’ of Cooperative Learning](attachment:image.png)

**Positive Interdependence**
Positive interdependence was creating the sense that “we sink or swim together”. It was a sense of working together for a common goal and caring about each other’s learning. Within cooperative learning situations, students have two responsibilities: 1) learn the assigned material, and 2) ensure that all members of the group learn the assigned material. The technical term for that dual responsibility was positive interdependence. When positive interdependence was clearly understood, it establishes that: (1) Each group member’s efforts were required and essential for group success. (2) Each group member had a unique contribution to make to the joint effort because of his or her resources and/or role and task responsibilities.

**Face-to-Face interaction**

Face-to-face verbal interaction referred to the physical set up of the group. Students needed to be clustered together in a tight group, facing each other, in order to have the kind of interchange necessary to accomplish the task. Groups should begin small, when students were just beginning to work together and develop their skills. The quality of interaction would depend on a number of factors such as: the grade and frequency in which the students cooperated among themselves in their academic tasks, giving feedback between each other in their learning activities, sharing learning experiences and life experiences, and supporting and engaging among themselves in their feelings and educational expectations. The implementation of an appropriate interaction process constitutes a major component that helped to improve the student outcome in many academic and behavioral problems, and helped to establish a greater academic environment in the classroom.

**Individual Accountability**

Individual accountability is the element, which provides for each student believing that it is important for him/her to learn the material. Each team member feels in charge of their own and their teammates’ learning and makes an
active contribution to the group. Thus there was no ‘hitchhiking’ or ‘freeloading’ for anyone in a team—everyone contributes. The teacher must have a way of determining what each individual had learned, as well as what the group had accomplished. There were a number of ways of accomplishing individual accountability; random selection of student papers if each student was doing work within the group, random oral quizzes of students, or written quizzes or examinations at the end of the work.

Teaching of the Social Skills

It is very important for students to have sufficient social skills, involving an explicit teaching of appropriate leadership, communication, trust and conflict resolution skills so that they could cooperate effectively. Social skills should be explicitly taught to the students so that students could work among themselves, not only in terms of cooperation but also without hostility and without the teacher’s authority. With this each student gets motivated internally by need for freedom, love, and fun and also students must be taught these skills and be motivated to use them. If group members lack the interpersonal and small-group skills to cooperate effectively, cooperative learning would not be productive.

Quality of group processing

The teaching of cooperative skills is essential. Placing socially unskilled students in a group and telling them to cooperate did not guarantee that they have the ability to do so effectively. Students must learn the task and maintenance skills for the groups to run smoothly. Students might not instinctively know those social skills; therefore, they must be taught explicitly how to cooperate with others. The interpersonal and small group skills could be taught through a number of means; first of all, setting a social skills goal along with the academic goal lets students know it’s important to the teacher. Secondly, it could be established through role playing, modeling, and discussing the components of particular social skills. The teacher’s role in this teaching method
was not that of someone who measures the capacities of the students in terms of a final product but in terms of the process. That was, someone who acted a friend, as a coordinator, as a director who guided his/her actors how to perform, and as an advisor in the academic tasks and in the psychosocial and cognitive development of the students.

The Effectiveness of Cooperative Learning in the College Setting

Cooperative learning is one of the most effective ways for students to maximize their own learning and the academic accomplishments of their classmates (New Horizons, 2008; Johnson & Johnson, 1994; Slavin, 1996; Williams, 2007). Highly structured cooperative learning allows students to develop their own understanding of key concepts all the while encouraging and assisting others. The major benefits of cooperative learning at the college level fall into two categories: Academic Benefits and Social-Emotional Benefits.

Academic Benefits

Concentrating on academic achievement at the academic level provides the unique opportunity to examine the effects of cooperative learning on a group of students who are largely self-motivated and self-directed learners. These students have learned to work and succeed in variety of instructional setting throughout their schooling careers. Academic achievement using cooperative learning in the college classroom suggest that cooperative learning promotes significant cognitive results even for the most esteemed of student populations. One recent study of nearly 500 undergraduate engineering students from six diverse institutions indicated that cooperative learning produced “statistically significant and substantially greater gains in student learning than those associated with more traditional instructional methods.” Even with differences in pre-course characteristics and learning advantages, levels of understanding and retention still increased in the cooperative learning settings (Terenzini et al., 2001). In a lecture-based college class, estimates show that the teacher speaks
about 80% of the time. Thus, in a class with 30 students each student has less than 30 seconds to speak every hour (Lie, 2008). Research has shown that students learn by doing, thinking critically about concepts and then applying their knowledge to diverse situations. In a cooperative learning setting, students must not only coherent their understanding to their teammates but also have the luxury of immediate feedback from their peers (New Horizons, 2008).

Social-Emotional Benefits

The skills employers most seek in their new employees are “communication skills, interpersonal skills and initiative”. Employers most desired were:

- Sociability - demonstrates understanding, friendliness, adaptability, empathy.
- Self-Management - assesses self accurately, sets personal goals, monitors progress, and exhibits self-control.
- Ability to participate as member of a team - contributes to group effort.
- Ability to exercise leadership - communicates ideas to justify position, persuades and convinces others, responsibly challenges existing procedures and policies.
- Ability to work with diversity - works well with men and women from diverse backgrounds.

Knowing content academic is not enough to make today’s college graduate competitive in the workplace, they must be taught and have the opportunity to practice the social and personal competencies necessary to survive in the workplace. Compared to other forms to instruction cooperative learning helps students become better communicators and listeners, cooperative members of a team and effective leaders (Strom & Strom, 2003; Lie, 2008; Goodwin, 1999). Using cooperative learning the college setting helps break the stereotype that students working together are “cheating.” Instead, it enables students with the mindset that one must exercise their collaborative skills and work with others to achieve a
common goal. In addition to promoting social skills, cooperative learning also enhances personal competencies of self-reflection and accurate self-assessment. By working closely with others students, learners can evaluate their own strengths and weaknesses, utilizing the diversity of the group to accomplish their mutual goal. By considering how well the group worked together, the effectiveness of social skills used as well as the creation of goals for further growth, cooperative learning encourages students to become reflective practitioners and strive for continuous improvement.

Cooperative Learning and Traditional Group Learning

Some teachers might argue that they had used cooperative learning in their class, but the effects were not as positive as the literature demonstrated. The secret lied in the distinguishing features between cooperative learning and group learning is, cooperative learning stuck to the following five elements, i.e. (1) positive interdependence, (2) individual accountability, (3) quality group processing, (4) explicit teaching of small group skills, and (5) teaching of social skills where as, group learning simply put students to sit and work in groups without further assistance or careful structure to make group work become teamwork. In practice, the differences between cooperative learning and traditional group learning (Johnson & Johnson, 1989) were illustrated in the following table.

<table>
<thead>
<tr>
<th>Cooperative Learning</th>
<th>Traditional Group Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive interdependence with structured Goals</td>
<td>No positive interdependence</td>
</tr>
<tr>
<td>A clear accountability for individual's share of the group's work through role assignment and regular rotation of the assigned role</td>
<td>No accountability for individual share of the group's work through role assignment and regular rotation of the assigned role</td>
</tr>
<tr>
<td>Heterogeneous ability grouping</td>
<td>Homogeneous ability grouping</td>
</tr>
</tbody>
</table>
Sharing of leadership roles | Few being appointed or put in charge of the group
---|---
Sharing of the appointed learning task(s) | Each learner seldom responsible for others’ learning
Aiming to maximize each member’s learning | Focusing on accomplishing the Assignments
Maintaining good working relationship, process-oriented | Frequent neglect of good working relationship, product-oriented
Teaching of collaborative skills | Assuming that students already have the required skills
Teacher observation of students interaction | Little, if any at all, teacher observation
Structuring of the procedures and time for the processing | Rare structuring of procedures and time for the processing

Table 1: Cooperative Learning and Traditional Group Learning

**Learning Pyramid**

According to this Learning Pyramid, retention rates increased (Andrini & Kagan, 1990) with the amount of student involvement. The rates were the highest with teamwork which included (a) discussion groups: 50%, (b) practice by doing: 75%, and (c) teaching others/immediate use of learning: 90%. As a sharp contrast, the retention rate of the traditional ways of individual and passive learning like lecturing (5%), reading (10%), and demonstration (30%) lasted no more than 30 percent. In contrast, the retention rate of the long existing method of lecturing was as low as only five percent.

![Average Retention Rate](image)

**Fig 2: Learning Pyramid**
With such low retention rate under five percent, the long existing method of lecturing was indeed in need of more effective teaching methods that involved higher student participation like cooperative learning. From the illustration of the learning pyramid, we could see that the implementation of cooperative learning was not just an alternative to the teacher-centered lecturing method but also cooperative learning will enhance student performance and success.

Limitations of Cooperative Learning

Though cooperative learning had been widely accepted and recommended for teaching and learning, as discussed above. It is not a complete remedy that could solve all the educational problems. As there were, limitations in all other teaching methods, similarly there are limitations in cooperative learning. Most of the limitations of cooperative learning came from not being able to implement the cooperative structure carefully. If the teachers just put the students into groups to learn and didn’t structure the positive interdependence and individual accountability, then it would not be unusual to find groups where one person did most (or all) of the work and the others signed off as if they had learned it or had done the work or it might be easy to have a “bossy” student who didn’t allow the others to take part; or other group dynamic problems that might come from not setting the ground rules for behavior and carefully crafting the group dynamics(Kagan, 1995).

It was also considered time-consuming to teach materials in a cooperative way, although more students might have learned and retained better of the material, as suggested in the Learning Pyramid. This might be true, especially in the beginning when cooperative learning was new to the teacher and to the students.

Cooperative learning lied in the differences of opinion regarding encouraging conflict or achieving consensus among group members (Tsai, 1998).
Cooperative Learning has many limitations that could cause the process to be more complicated than first perceived. (Sharan, 2010) discusses the issue regarding the constant evolution of cooperative learning is discussed as a threat. Due to the fact that cooperative learning is constantly changing, there is the possibility that teachers may become confused and lack complete understanding of the method (Sharan, 2010). Teachers implementing cooperative learning may also be challenged with resistance and hostility from students who believe that they are being held back by their slower teammates or by students who are less confident and feel that they are being ignored or demeaned by their team (Sharan, 2010).

The above-mentioned limitations of cooperative learning could be reduced to a great extent or even avoided completely if the teachers had undergone continuous teacher development before the implementation of cooperative learning.

**Conclusion**

It is very important for the teacher to plan and structure the strategy in the classroom. Besides mastering the content knowledge of the discipline they teach, they should also know and put into practice the main features that lead to the success of cooperative learning because how we teach is as important as what we teach. A teacher should graduate students as employment generators, not employment seekers.

**References**


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