EFFECTIVENESS OF COOPERATIVE LEARNING TECHNIQUES IN TEACHING COMMUNICATION SKILLS: ESP LEARNERS’ PERSPECTIVE

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Abstract. The present study aims to record the effectiveness of cooperative learning techniques in teaching English communication skills to engineering students. When communicating in English during various activities in and out of the class, engineering students are observed having various inhibitions which affect their performance. Cooperative learning is an instructional technique developed to increase academic achievement of students through social and interpersonal skills development. It is widely recognized as a pedagogical practice that promotes socialization and learning among students. One hundred first year Bachelor of Technology (B.Tech.) students from a private University in Maharashtra are the subjects of the present research. Two cooperative techniques viz. Role Play and Jigsaw were used to teach two units Communication Process and Report Writing. Students’ performances were video recorded. The findings showed a remarkable development in the students’ understanding and implementation of various terms in communication process. Moreover, selected students learnt how to write and present technical reports effectively. After the experiment, a questionnaire was developed and administered to the subjects to know their views on effectiveness of cooperative learning techniques. Present paper analyses and discusses the students’ views on use of cooperative learning techniques.

Key words: cooperative learning, role play, jigsaw, ESP, communication skills

1. INTRODUCTION

Teaching and learning of any language require communicative atmosphere in which students can interact and communicate frequently to enhance their language skills (Sharan, 2011; Neda, Radosavlevikj, 2020). Students’ interaction with one another is equally important to teachers’ interaction with students. Most of the teachers in India are trained to arrange interactions between students and teaching materials i.e., textbooks and curriculum programmes. Much of the training time is also spent on how teachers should interact with students. However, how students should converse with one another is hardly considered in Indian Education System, especially in engineering faculty. How skillfully teachers arrange conversations among students has very important role in learning. When
teachers provide a platform where students can interact with one another, it not only helps students to understand the concepts but also to improve their self-confidence.

Unfortunately, due to overcrowded classrooms in professional faculties, like engineering, with around 70 students, it is very difficult for learners to enhance their language learning skills through interactions with one another. As a result, teachers prefer to use the traditional lecture method where teacher is the only person who thinks, suggests and talks. Students rarely get opportunity to say something. The existing exam patterns in India encourage students to consider one another as competitors and defeat one another by scoring more marks than other. Consequently, students fail to enhance friendly and constructive cooperation through which they not only can learn, teach, cooperate and enhance one another’s knowledge, but they also can develop their communicative, social-interpersonal skills (Du, 2012). If the students are given opportunities to communicate with each other by using some cooperative learning strategies, they will be able to overcome most of their inhibitions in communication such as anxiety, shyness, hesitations, etc.

To overcome this situation, language teacher needs to use an innovative language learning approach that encourages students to consider each other as a learning resource rather than competing. Cooperative learning (CL) is a better solution to fill this gap. Johnson and Johnson (1999) advocate that for better and effective learning of language that enhances student cognitive and interpersonal communicative skills the classroom set-up needs to be replaced with the one which promotes cooperation, communication and interaction among students. Although cooperative learning is not specifically designed for language learning, it has frequently been used and researched in language class.

2. LITERATURE REVIEW

Cooperative learning is a teaching strategy that requires small groups of students to work interdependently on learning activities in order to achieve and receive group rewards or recognition (Slavin, 1980). Cooperative learning basic premise is that students construct knowledge through interaction with other students (Johnson et al., 1991). In such cases, students work together to solve one another’s doubts that they may not ask to instructors. The critical element of cooperative learning is that students must work together to achieve common interdependent goals (Johnson et al., 1991).

Research carried out on the effectiveness of the use of CL in ESL/EFL contexts has shown that CL is very effective in developing positive attitudes towards learning and towards other learners (Gunderson & Johnson, 1980), enhancing intrinsic motivation (Clement, Dornyei, & Noels, 1994; Szostek, 1994; Ushioda, 1996), and creating solidarity among team members through their working together to achieve group goals (Nichols & Miller, 1994). Research has also shown that CL decreases levels of anxiety and increases self-confidence (Deci & Ryan, 1985), increases social backing for academic achievement (Daniels, 1994), and increases the level of expectancy of completing academic tasks successfully (Douglas, 1983).

Furthermore, in a more recent study, Ghaith and Abd El-Malak (2004) reported that the use of the CL, Jigsaw II model in teaching reading comprehension proved to be more effective than traditional methods in developing the higher-order reading comprehension skills of university-bound Arab learners of English as a foreign language. These learners had satisfied all college admission requirements but needed to improve their English proficiency in order to function effectively in an all-English curriculum at the college
Effectiveness of Cooperative Learning

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level. Specifically, Jigsaw II was effective in enhancing learners’ interpretive reading abilities that include making inferences, identifying adverb and pronoun referents, understanding implied cause/effect relationships, determining the author's purpose, figuring out the meaning of figurative language as well as reading written discourse critically by assessing the accuracy, timeliness, and appropriateness of information and determining the author's purpose and the propaganda techniques authors may use in order to influence the thinking and actions of their readers.

Most studies on the effects of CL have consistently indicated that this method improves students’ English oral skills (Pattanpichet, 2011), English reading comprehension (Bolukbas, Keskin, and Polat, 2011; Meng, 2010; Law, 2011), and English writing (Roddy, 2009).

Teacher-centered classrooms rely on a pedagogical style in which the instructor transmits knowledge to the students (Knowles, 1970). In such cases, the student is highly dependent on the instructor for learning. In Cooperative learning classrooms, by contrast, instructors serve as learning facilitators rather than the sole knowledge source. The student becomes the focal point rather than the teacher, a technique that researchers have shown to improve thinking skills (Knowles, 1970; Tinto, 1997).

Therefore, learner-centered classroom environments are more likely to elicit higher order thinking gains than teacher-centered classrooms (Peterson & Walberg, 1979). In learner centered classrooms, students are more likely to work interdependently, which requires them to help each other in the learning process. The act of helping others and learning through interaction with others creates interdependence between students, which may lead to an increased desire for cognitive growth. Holtham, Melville, and Sodhi (2006) found that interdependent groups performed much more effectively than students who simply allocated work evenly among members.

3. COOPERATIVE LEARNING

Cooperative learning is defined as a set of instructional methods through which students are encouraged to work on academic tasks (Slavin, 1995). It also refers to a teaching technique where students work in groups on a certain activity in order to maximize one another’s learning and to achieve certain goals (Johnson, Johnson, & Smith, 1998). The cooperation among students creates interdependence which may lead to increased motivation and cognitive processing. Collaboration among students in the learning process is a fundamental principle of effective undergraduate teaching (Antil, Jenkins, Wayne, & Vadasy, 1998; Astin, 1993; Chickering & Gamson, 1987; McKeachie, 1999; Pascarella & Terenzini, 2005; Tinto, 2003).

Thus, Cooperative learning has been found and suggested to be an effective solution to a wide range of academic problems. It is composed of teaching-learning techniques which stress higher level thinking skills and increase “higher-order learning as an alternative to ability grouping, remediation, or special education; as a means of improving race relations; and as a way to prepare students for an increasingly collaborative work force” (Slavin, 2010).

3.1 Elements that account for the success of cooperative learning

There are number of options for teachers to choose and implement cooperative learning methods. The five essential elements of cooperative learning include positive interdependence, face-to-face interactions, individual and group accountability, interpersonal skills and
opportunities for group processing (Johnson, Johnson 1990). These characteristics must also be taken into account while incorporating cooperative learning strategies into the classroom. Dividing students into groups and expecting them to work together will not necessarily encourage cooperation. Group members frequently face the situations in which they are totally blank about the procedure. They might not know what to do; consequently, conflict can occur as members struggle with the demands of the task as well as managing the processes involved in learning such as dealing with conflicting opinions among members or with students who essentially loaf and contribute little to the group’s goal (Johnson & Johnson, 1990).

The first element of cooperative learning technique is **positive interdependence** which requires students to depend on one another in order to complete a given task or assignment. A teacher can generate positive interdependence by ensuring that all students are assigned roles, materials are shared among members. Teachers should also observe that students agree with each other on strategies used to complete given task and group rewards are used to praise students.

The second element required for cooperative learning to be successful is **face-to-face interactions**. Teachers must provide space in a classroom environment for teams to meet with each other and have opportunities to share ideas, dialogue about possible solutions, resolve conflicts, and come to a consensus. Teachers should guide them to solve disagreements, differences in opinions and to interact positively when in a group setting. When the students are provided with a structured environment in which they help, encourage and support each other to achieve common goal or objective then face to face interactions will be fruitful and the outcome will be positive.

**Individual and group accountability** refers to the actual assessment of group interactions and the final product as well as the ways in which targeted feedback is provided to both the individual and the group as a whole. Key to success is to connect and bridge the gap between individual and group feedback. The group must understand that each individual plays a vital role in the success of the entire group and therefore must know ways in which each individual can improve as well as the overall group. Students can be motivated through rewards and constructive feedback. So they hold each other accountable and thereby expect individuals to interact well with each other, come prepared to the group meeting, remain on task and successfully complete the given assignment.

Effectiveness of cooperative learning depends on social interaction and peer relationships. Therefore, **soft skills or interpersonal skills** are necessary for success. Students must not only have knowledge of soft skills but also appropriate ways of exhibiting those. If students lack knowledge of soft skills they should be explicitly taught. Through assigned roles, students learn the social skills required to lead a group, keep a group on task, encourage a group to continue when stumbled, etc. Archer-Kath et al. (1994) state “for cooperative learning groups to be productive, members must ask each other for information, give each other information, ask for and give each other help when they need it, and support and praise each other’s efforts to learn”.

Additionally, as noted above, students often need direct modeling with regard to how to handle conflict or disagreements in a group setting. Gillies and Ashman (1996, 1998) have consistently found that students who were trained to cooperate and help each other are: more inclusive of others, respectful and considerate of others’ contributions, and provide more detailed explanations to assist each other’s learning than students who have not participated in this training. The social skills that facilitate students’ interactions during small group discussions include:
active listening to each other,
sharing ideas and resources,
commenting constructively on others’ ideas,
accepting responsibility for one’s behaviors,
making decisions democratically,
encouraging others for better performance.

The final component of cooperative learning is **group processing** which plays a crucial role in cooperative learning situations. It is essential for individual students and groups to be self-reflective; they should retrospect on the positive and negative aspect of their performance and ways to improve negative aspects. Questions such as the following are often used to stimulate this type of retrospection:

- What have we achieved?
- What do we still need to achieve?
- How might we do this?

### 3.2 Cooperative learning techniques used

**Role play**

Role play is any speaking activity when you either put yourself into somebody else’s shoes, or when you stay in your own shoes but put yourself into an imaginary situation. Role play is an activity that brings variation and movements in the classrooms. Incorporating role play into the classroom adds variety, a change of pace and opportunities for lot of language production and also lot of fun. It is widely agreed that learning takes place when activities are engaging and memorable. While performing in role play quieter students get the chance to express themselves in a more forthright way. The world of the classroom is broadened to include the outside world; it offers a much wider range of language opportunities. Through role plays learners will improve their communication skills. Teachers are facilitators in this whole task. They are supposed to guide students to select the situations for role play and to group students.

Adam Blatner (2009) in his article “Role-Playing in Education” says that role-playing is a methodology derived from socio-drama that may be used to help students understand the more subtle aspects of literature, social studies, and even some aspects of science or mathematics. Further, it can help them become more interested and involved, not only learning about the material, but learning also to integrate the knowledge in action, by addressing problems, exploring alternatives, and seeking novel and creative solutions. Role-playing is the best way to develop the skills of initiative, communication, problem-solving, self-awareness, and working cooperatively in teams, and these are certainly superior to learning of mere facts.

**Steps to use role play method**

1. **Identify the situation:** To start the process gather people together, introduce the problem, and encourage an open discussion to uncover all of the relevant issues. This will help students to start thinking about the problem before the role play begins.

2. **Add details:** Next, set up a scenario in enough detail for it to feel ‘real’. Make sure that everyone is clear about the problem that you are trying to work through, and that they know what you want to achieve by the end of the session.
3. Assign roles: Identify various fictional characters involved in the scenario. Some of these may be people who have to deal with the situation when it actually happens. Allocate roles to the students involved in the exercise; they should use their imagination to put themselves inside the minds of the people that they are representing.

4. Act out the scenario: Each person can then assume their role, and act out the situation, trying different approaches where necessary.

5. Discuss what you have learned: When you finish the role play, discuss what you have learned, so that everybody involved can learn from the experience.

**Jigsaw method**

Jigsaw is perhaps the most widely known cooperative learning activity used to encourage communication in classroom. This method was invented and named in Austin, Texas, in 1971, by a graduate professor named Elliot Aronson. It was invented to help defuse an explosive situation in classroom and to help students to get along with one another. Professor Aronson realized that he needed to shift the emphasis from a patiently competitive atmosphere to a more cooperative one and jigsaw is the result of it. It is a cooperative learning technique in which students work in small groups. Jigsaw is a cooperative learning strategy that enables each student of a ‘home group’ to specialize in one aspect of a learning unit. Students meet with members from other groups who are assigned the same aspect, which is called ‘expert group’ and after mastering the material, return to the ‘home’ group and teach the material to their group members.

The purpose of the jigsaw is to develop teamwork and cooperative learning skills within all students. It helps developing a depth of knowledge, allows student to be introduced to the material and yet maintain a high level of personal responsibility. It also intends to disclose student’s own understanding of a concept, as well as reveal any misunderstandings. The results of the study carried out by Ljubica, Kardaleska (2013) showed that for lengthier reading passages or demanding topics – which is the case with the ESP material, jigsaw approach is far more efficient method.

If we look at the traditional classrooms, the situation is that the students work individually and compete against each other for grades. The teacher stands in front of the class, asks a question, and waits for the students to indicate that they know the answer. Most often, a few students raise their hands and try to attract teacher’s attention. Most of the other students sit calm and bob their head expecting that the teacher does not call on them. When the teacher calls on one of the enthusiastic students, the other students may become disappointed as those students had also tried to get the teacher’s attention. If the selected student tells the right answer, the teacher smiles, nods approvingly, and goes on to the next question. In the meantime, the students who did not know the answer wind down. They have escaped being shamed this time.

**Steps to use jigsaw method**

Compared with traditional teaching methods, the jigsaw classroom has several advantages: most teachers find jigsaw easy to learn and enjoy working with it. It can be used with other teaching strategies. It works even if only used for an hour per day. Following are the steps to use jigsaw method in classroom:
1. Divide students into 5-6 persons jigsaw groups. The groups should be diverse in terms of gender, ethnicity, race, and ability. Appoint one student from each group as the leader. Initially, this person should be the most mature student in the group.

2. Divide the day’s lesson into 5-6 segments. For example, if you want literature students to learn about William Shakespeare, you might divide a short biography of him into 5-6 segments such as:
   1. His childhood; 2. His works; the plays, the sonnets, and the poems; 3. Categories of his plays: comedies, histories, tragedies, romances; 4. Themes of his tragedies, comedies, etc.
   Assign each student to learn one segment, making sure students have direct access only to their own segment.

3. Give students time to read over their segment at least twice and become familiar with it. There is no need for them to memorize it.

4. Form temporary ‘expert groups’ by having one student from each jigsaw group join other students assigned to the same segment. Students leave their ‘home’ groups and meet in ‘expert’ groups. Expert groups discuss the material and brainstorm ways in which to present their understandings to the other members of their ‘home’ group.

5. Bring the students back into their jigsaw groups.

6. Ask each student to present his or her segment to the group. Encourage others in the group to ask questions for clarification. The experts return to their ‘home’ groups to teach their portion of the materials and to learn from the other members of their ‘home’ group.

7. Teacher should float from group to group and observe the process. If any group is having trouble (e.g., a member is dominating or disruptive), make an appropriate interference.

8. At the end of the session, give a quiz on the material so that students quickly come to realize that these sessions are not just fun and games but really count.

9. Teacher will assess students’ degree of mastery of all the material. After observing the performance of all the students, he/she will reward the groups whose members reach the preset criterion of excellence or give extra points on their individual scores if this criterion is met.

10. Students will also need to evaluate themselves on how well their group did in the jigsaw (e.g., active listening, checking each other for understanding, and encouraging each other) and set goals for further interaction.

4. Methodology

Data collection and analysis

Data for the present research was collected from one hundred first year students pursuing their Bachelor’s degree in Technology from Sanjay Ghodawat University in Maharashtra state. To check effectiveness of cooperative learning a questionnaire was developed for the students. Communication Process and Report Writing are the topics included in the first year B.Tech. (Professional Communication II) syllabus. The researcher used role-play method to teach communication process, and for report writing she used jigsaw method. Students’ one to one interviews were also conducted to get their views on cooperative learning techniques. Selected students’ performances were observed,
and video recorded. Analysis of the data collected showed remarkable improvement amongst the students. To know the effectiveness of these cooperative learning techniques from students’ point of view, a five-point Likert Scale questionnaire consisting of fifteen statements was prepared and administered to the students.

The analysis of the students’ responses to the questionnaire was done. Recordings of the students’ performances in the selected situations were observed and analyzed to identify students’ understanding and grasping of the terms/topics taught. Students’ interviews were also analyzed to know whether they are comfortable with the cooperative learning techniques used to teach communication process and report writing.

5. FINDINGS AND DISCUSSION

The following table presents statements and percentage of students’ responses to the questionnaire used for the present study.

<table>
<thead>
<tr>
<th>SN</th>
<th>Statements</th>
<th>SD &amp; D</th>
<th>UD</th>
<th>SA &amp; A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I enjoyed learning English language skills with cooperative learning techniques.</td>
<td>4.00%</td>
<td>4.93%</td>
<td>91.07%</td>
</tr>
<tr>
<td>2</td>
<td>I like to learn English Language skills with teacher centered class.</td>
<td>31.98%</td>
<td>7.40%</td>
<td>60.62%</td>
</tr>
<tr>
<td>3</td>
<td>I got opportunity to learn and express my knowledge in cooperative learning class.</td>
<td>7.46%</td>
<td>1.23%</td>
<td>91.31%</td>
</tr>
<tr>
<td>4</td>
<td>I was comfortable in my jigsaw group while sharing and discussing the topic.</td>
<td>3.70%</td>
<td>9.87%</td>
<td>86.43%</td>
</tr>
<tr>
<td>5</td>
<td>I like to listen my language teacher instead of taking part in activities.</td>
<td>80.62%</td>
<td>2.38%</td>
<td>17.16%</td>
</tr>
<tr>
<td>6</td>
<td>Cooperative Learning Techniques helped me to improve my confidence level.</td>
<td>2.30%</td>
<td>2.30%</td>
<td>95.40%</td>
</tr>
<tr>
<td>7</td>
<td>I was so much anxious while taking part in role play and jigsaw.</td>
<td>30.80%</td>
<td>19.75%</td>
<td>49.45%</td>
</tr>
<tr>
<td>8</td>
<td>I learnt team work, and leadership through cooperative learning techniques.</td>
<td>6.17%</td>
<td>7.40%</td>
<td>86.43%</td>
</tr>
<tr>
<td>9</td>
<td>I learnt so many new things from my team members while completing group activities.</td>
<td>6.17%</td>
<td>4.93%</td>
<td>88.90%</td>
</tr>
<tr>
<td>10</td>
<td>My understanding of terms/concepts was more in cooperative learning than in traditional class.</td>
<td>12.34%</td>
<td>3.58%</td>
<td>84.08%</td>
</tr>
<tr>
<td>11</td>
<td>I have to participate actively for the success of my team.</td>
<td>4.93%</td>
<td>8.64%</td>
<td>86.43%</td>
</tr>
<tr>
<td>12</td>
<td>I was active listener and participant to complete group activities on time.</td>
<td>9.81%</td>
<td>3.50%</td>
<td>86.69%</td>
</tr>
<tr>
<td>13</td>
<td>I enjoyed when my team members and teacher appreciated my performance.</td>
<td>3.70%</td>
<td>8.64%</td>
<td>87.66%</td>
</tr>
<tr>
<td>14</td>
<td>I faced so many difficulties while completing tasks/activities in cooperative learning class.</td>
<td>63.08%</td>
<td>9.87%</td>
<td>27.05%</td>
</tr>
<tr>
<td>15</td>
<td>I would like to continue learning with cooperative learning techniques.</td>
<td>4.07%</td>
<td>4.93%</td>
<td>91.00%</td>
</tr>
</tbody>
</table>

(Strongly disagree - SD, disagree - D, strongly agree - SA, agree - A, Undecided - UD)
More than 91% students enjoyed learning English language skills with cooperative learning techniques (statement 1), took cooperative learning class as an opportunity to learn and express their knowledge with others (statement 3) and wished to continue learning with such techniques (statement 15). This shows that these students coming from rural and semi urban background and having good amount of language learning experience prefer active learning/cooperative learning techniques to learn English and communication skills. During interview also they opined that they enjoyed doing various activities as a part of learning and learnt many concepts and their usages very effectively. They also wished to have the same course in their higher classes and all the subjects should be taught in the same way.

Taking Johnson and Johnson’s (1990) five essential elements of cooperative learning into consideration, some statements were added to check these essential elements. The result showed that the students also involved effectively and fruitfully when situations pertaining these five elements were created. More than 86% of the students felt that the ambience created in the classroom/language lab during their presentations/activities was very comfortable and they were confident enough to put forth their segment to their jigsaw group members effectively (statement 4). They learnt teamwork, leadership (statement 8) through cooperative learning and many new concepts from their group members (statement 9) such as, as replied during their interviews, cooperation, patience, effective listening, conflict resolution, politeness, etc. Considering the importance of everyone’s role in teamwork they realized that their role was crucial in the ultimate success of their team (statement 11) and took more efforts to make their presentations effective. Moreover, the same percentage of students were active listeners and performed actively for the success of their teams (statement 12). Other team members’ and teacher’s appreciation of one’s performance encouraged them to be active participants (statement 13). These results clearly indicate that positive interdependence, face-to-face interactions, individual and group accountability, interpersonal skills and opportunities for group processing are truly crucial elements for cooperative learning strategies to be successful.

Total of 60.62% students’ responses preferring teacher centric class (statement 2) to learn English language skills was quite surprising initially. However, when asked for justification during interviews, they expressed that when teacher is very communicative, interactive and uses Information and Communication Technology (ICT) enabled teaching methods for teaching then they prefer listening the teacher as the teacher is more effective than the teacher teaching using traditional methods. Otherwise, as expressed by more than 80% of students, they would prefer to learn language skills by getting involved in various cooperative learning activities, share their knowledge with others, as well as listening others for improving themselves than just listening their language teacher continuously (statement 5).

As they got opportunities to face audience and express their knowledge to their group members through role play and Jigsaw, more than 95% of the students agreed that cooperative learning techniques helped them to improve their confidence (statement 6). Moreover, for more than 84% students it also helped them in understanding various concepts as they actively participated in the given tasks (statement 10).

The students’ feedback on effectiveness/usefulness of these techniques was also taken. From their responses, it was observed that these techniques truly helped the students. Following are samples from their responses.
As pointed out by many researchers (for example Patil, Sunanda and Tripti Karekatti, 2015) anxiety is one of the major constrains for engineering students’ communication skills development. In the present study it was also found that only 30.80% of the students were not anxious while taking part in role play and jigsaw activity (statement 7). The rest of the students were either anxious or unaware about their anxiety. When they were asked the reason of their nervousness, they replied that it was because they were taking part in such activities and performing in front of their friends for the first time. They knew that the success of team or group depended on their individual contribution to the team. However, as reflected in statement 14, only 27% of the students faced many difficulties while completing tasks/activities in cooperative learning class. This clearly reflects that anxiety appears just at initial stage, once they are engaged in activities they feel less anxious.
6. CONCLUSION

From the findings of the present study, it can be concluded that to help ESP learners overcome their anxiety in language learning, cooperative learning strategies such as role play and jigsaw can play pivotal role. In addition, to foster various interpersonal skills such as leadership, team skills, presentation, positive attitude, cooperation, conflict resolution, and increase confidence of ESP students, cooperative learning strategies should be used by ESP teachers. Step by step procedure of such strategies helps students to perform better and improve faster. The observation conducted by the researcher also confirmed that most of the students were able to take active part in the lesson by answering questions during and after the lesson. Therefore, it is strongly recommended that various cooperative learning strategies, especially jigsaw and role play, should be used to teach English Communication Skills to ESP students.

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