CHAPTER I
INTRODUCTION

All for one, one for all

--- Alexander Dumas

1.1 CONCEPT OF COOPERATIVE LEARNING

Life is by nature, highly independent. Being independent and working in a team, gives a person an opportunity to share himself deeply, meaningfully with others and have access to the vast resources and potential of other human beings. “Without the cooperation of its members society cannot survive and the society of man has survived because the cooperativeness of its members made survival possible.... It was not an advantageous individually here and there who did so, but the group. In human societies the individuals who are most likely to survive are those who are best enabled to do so by their group (Montagu 1965). Oliver (1999) argues that a learning design comprises the following key elements:

- Tasks that learners are required to do;
- Resources that support learners to conduct the task; and
- Support mechanisms that exist from a teacher implementing it.

Education is a teaching learning process. Learning depends upon instruction and during instruction, a child cannot be treated like an empty vessel into which any type of information can be passed down. A teacher must think of ways and means of stimulating and encouraging learning in the students. He should provoke their interest and motivate them to learn. He should create conditions in which they feel the need to learn. Many teachers use traditional methods of instruction. It may be difficult to motivate the students to learn of a large class with traditional learning methods. The students of a large class have to cover the syllabus in a limited period of time. There is no opportunity for a teacher in traditional learning methods to give individual
attention to all the students. Hence gap between weak and able student’s increases. Cooperative learning claims to help the students in such a situation.

Cooperative learning is an instructional strategy which provides opportunity to learners in “learning to cooperate and cooperating to learn”. It usually supplements the teacher’s instruction by giving students an opportunity to discuss information or practice skills originally presented by the teacher, debate, disagree and ultimately to teach one another. Johnson and Johnson (1999) states that “cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other’s learning. It may be contrasted with competitive and individualistic learning”. Roger, Olsen and Kagan (1992) described that cooperative learning is group learning activity. It is organized in such a way that learning is based on the socially structured change of information between 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. Parker (1994) described the cooperative learning as “classroom environment where students interact with one another in small groups while working together on academic task to attain the common goal”.

Cooperative learning can be used at all age levels, from kindergarten to university. It is much more than just a bag of tricks to make teaching run more smoothly. It is a different way of conceiving teaching. Now a day, the educational scene is changing. The central point of education is the pupil and not the teacher. The task of education is not to pour information into students’ minds with powerful and useful concepts. To facilitate this process student should be taught in ways that make information meaningful and relevant. Students should be given opportunities to discover or apply ideas themselves. The quality of education at all levels should be strengthened by practicing student centered activities.

Cooperative learning, due to its ancient pedigree and positive outcomes, has been a focus of research in the past century. Different researchers have defined cooperative learning in different ways. Artzt and Newman (1990) defined cooperative learning as; Small groups of learner working together as a team to solve a problem, complete a task or accomplish a common goal.”
Cooperative learning is a successful teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject. Each member of a team is responsible not only for learning what is taught but also for helping teammates learn, thus creating an atmosphere of achievement. Griswold and Rogers (1995) defined cooperative learning as “the instructional use of small groups, so that students work together to maximize their own and each others learning; a method of instruction by which students work together in small groups to reach a common goal; and an activity that facilitates collaborative efforts among students.” Cooperative effort results in participants striving for mutual benefits so that all group members:

- gain from each other’s efforts;
- recognize that all group members share a common fate;
- Know that one’s performance is mutually caused by oneself and one’s team members; and
- Feel proud and jointly celebrate when a group member is recognized for achievement (Johnson and Johnson, 1991).

According to Johnson, Johnson and Holubec (1998), in cooperative learning, “students work in small groups to accomplish shared learning goals. They learn the assigned material and ensure that all other group members also learn it. Cooperative learning uses a criterion based evaluation system in which student achievement is judged against a fixed set of standards”. According to Vernon and Louise (1998), “Students take more responsibility for helping each other with assignments and problems in cooperative learning. That alleviates some of the stress on the teacher to maintain order and to keep the students on task”. Foyle and Lyman (1988) defined cooperative learning as a teaching strategy involving children’s participation in small group learning activities that promote positive interaction. Cooperative learning is a process by which students work together in groups “to master material initially presented by the teacher” (Slavin 1990). To be successful, all members in a group must achieve mastery of the material or contribute to the completion of a group assignment. Cooperative learning is often referred to as a teaching methodology that provides opportunities for students to develop knowledge and skills in small
structured group interactions.

According to Slavin (1983) the most significant feature of cooperation is cooperative behaviour as students are required to work together or help each other in groups. The second feature of cooperation is cooperative task structures when two or more students are required to work together to achieve a common goal. Incentive structures are the third feature of cooperation in which rewards are awarded based on the performance of all group members. Finally, cooperative motives are a situation that allows individual students a choice between cooperative, competitive, or individualistic behaviour.

Cooperative efforts result in participants recognizing that all group members share a common fate (We all sink or swim together), strive for mutual benefit so that all group members gain from each other's efforts (Your efforts benefit me and my efforts benefit you), recognize that one's performance is mutually caused by oneself and one's colleagues (United we stand, divided we all), empower each other (Together we can achieve anything), and feel proud and celebrate jointly when a group member is recognized for achievement (You got an A! That is terrific!).

1.2 CHANGING PARADIGM OF THE TEACHING-LEARNING PROCESS

In the traditional paradigm of teaching, teacher’s knowledge is transferred to passive learners. Traditional methods set students one against another in competitive battles for the teacher’s approval and for the best grades. Cooperative methods set students on the same side, encouraging, tutoring, and liking each other. Social and ethnic relations are transformed while achievement soars. The teachers’ effort is aimed at developing students’ competencies and talents; education is a personal transaction among students and between teacher and students as they work together (Johnson, Johnson and Holubec, 1998). In Table 1.1 explains the distinction between traditional learning to cooperative learning.
Table 1.1
From Traditional to Cooperative Learning

<table>
<thead>
<tr>
<th>From…</th>
<th>To…</th>
</tr>
</thead>
<tbody>
<tr>
<td>“A good class is a quiet class.”</td>
<td>“Learning involves healthy noise.”</td>
</tr>
<tr>
<td>“Keep your eyes on your paper.”</td>
<td>“Help your partner solve it.”</td>
</tr>
<tr>
<td>“Sit quietly.”</td>
<td>“Get up and look what others did.”</td>
</tr>
<tr>
<td>“Talking is cheating.”</td>
<td>“Verbalize to learn.”</td>
</tr>
</tbody>
</table>

(Source: Kagan, 2009, Cooperative Learning., p 1.2)

Table 1.2
Reinforcement in Traditional to Cooperative Classrooms

<table>
<thead>
<tr>
<th>Reward Property</th>
<th>Traditional Classroom</th>
<th>Cooperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediacy</td>
<td>Delayed</td>
<td>Immediate</td>
</tr>
<tr>
<td>Frequency</td>
<td>Infrequent</td>
<td>Frequent</td>
</tr>
<tr>
<td>Strength</td>
<td>Weak</td>
<td>Strong</td>
</tr>
<tr>
<td>Type</td>
<td>Outcome-Based</td>
<td>Process and Outcomes-Based</td>
</tr>
<tr>
<td>Equality</td>
<td>Unequal</td>
<td>More equal</td>
</tr>
</tbody>
</table>

(Source: Kagan, 2009, Cooperative Learning., p 4.4)

1.3 AN OVERVIEW OF COMPETITIVE, INDIVIDUALISTIC, AND COOPERATIVE LEARNING

Students in the classroom interact both formally and informally with other students. The more formal student interactions in classrooms can be characterized as competitive, individualistic or cooperative. The characteristics of each of these interactions is adapted from Tanner, Chatman, and Allen (2003), and listed in Table 1.3.
Table 1.3
Interactions Common Characteristics

<table>
<thead>
<tr>
<th>Competitive Learning</th>
<th>Individualistic Learning</th>
<th>Cooperative Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ Students work individually.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>➢ Students have common learning goals and tasks.</td>
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<td></td>
</tr>
<tr>
<td>➢ The teacher grades students using norm-referenced methods.</td>
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<td></td>
</tr>
<tr>
<td>➢ Students work individually.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>➢ Students have individualized learning goals and tasks, different from those of other students.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>➢ The teacher grades students using criteria-referenced methods.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>➢ Students work in small groups.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>➢ Students have shared learning goals and tasks within a group which may be similar or different from other groups.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>➢ The teacher grades students both on their work as a group and on their individual work.</td>
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</tbody>
</table>

The above three learning interactions can be separated but are linked in some ways, too. Aims to describe and briefly discuss these three types of student learning situations separately in order to see how cooperative learning differs from other learning situations, and why cooperative learning appears to have positive effects on student learning. It is also believed only cooperative learning provides opportunities for students to work on these three fronts at the same time, which places it above other teaching methods such as competitive and individualistic approaches (Johnson et al., 1994).

1.3.1 Competitive Learning

In competitive interactions, students compete against each other to win. The competitive learning situations in schools are characterized by negative interdependence, where when one student wins; the other loses (Johnson, Johnson, & Stanne, 2000; Slavin, 1995). They compete against each other and accept the results.
For example, if one student does well in an assessment, it hurts another student’s chances of winning, and if one student does poorly, it helps another student’s chances of winning. It is believed that this type of interaction is presently the most dominant in many schools—notably secondary schools that focus heavily on exam results—where competitive expectation is fairly widespread in many societies when students enter school and grows stronger as they progress through school (Johnson & Johnson, 2001). However, competitive learning has been criticized by many and some of these criticisms include: because there is only one winner, all other students must fail; it is linked to high anxiety levels, self-doubt, selfishness and aggression; it may promote cheating, and it interferes with the capacity to problem solve (Johnson & Johnson, 1992).

1.3.2 Individualistic Learning

Individualistic learning occurs when students work independently to accomplish learning goals unrelated to those of other students (Johnson & Johnson, 1992). This is the main characteristic of individualistic learning where each student faces the learning situation alone, and one student’s achievements do not affect another’s (Berry, 2003). Consequently, a student’s main focus is on his or her self-interest and personal success, and they ignore as irrelevant the successes and failures of others (Johnson & Johnson, 1989). This type of learning is commonly described as a one-sided model of instruction (Sewal, 2006) in which the teacher transfers the knowledge and skills to the students (Salomon & Perkins, 1989). Students work alone and are not expected to be interrupted by other students. The advocates of individualistic learning argue that this type of learning is beneficial for individual students because it helps them to develop self-reliance and independent thinking (Berry, 2003).

1.3.3 Cooperative Learning

In contrast to competitive and individualistic learning, cooperative learning students work together in small groups towards a common goal. Within cooperative situations, individuals seek results that are beneficial for all members of a group. Students work together to maximize their own and each other’s learning. It may be contrasted with competitive learning in which students work against each other to
achieve an academic goal and individualistic learning in which students work by themselves to accomplish academic goals and they do not cooperate with each other to get goals.

Cooperative learning promoted higher achievement, more positive relationships among students and healthier psychological adjustment than do competitive or individualistic experience. Johnson, Johnson and Smith (1991) referred to cooperative learning as the instructional use of small groups so that students work together to maximize their own and each other’s learning.

Working in cooperative groups, students learn valuable social skills, use higher-order thinking and rehearse and practice new concepts, processes and information. Cooperative group learning does not happen successfully unless it is well-orchestrated and certain healthy considerations prevail. “These considerations increase the chances that the groups will work well together and achieve targeted standards.” (Gregory and Chapman, 2002)

Cooperative learning is a strategy that develops healthy interaction skills, promotes success of the individual student and group members, and forms personal and professional relationships (Johnson & Johnson, 1999). Cooperative learning has several techniques for promoting an educational experience that facilitates students to move beyond standard classroom parameters (Fantuzzo, Ginsburg-Block, Miller, & Rohrbeck, 2003).

Flowers and Ritz (1994) viewed cooperative learning as a teaching strategy where teams of two or more work together on learning tasks. Each member of the team brings special talents to the group, i.e., concrete or analytical abilities or others. Also other team members cooperate on the achievement of the tasks and learn from each other. It also means taking the talents of individuals and pooling these together to get the job done. As a result, students learn both academic and social skills from a cooperative learning environment. Cooperative learning is an arrangement in which students work in mixed ability groups and are rewarded on the basis of the success of the group (Woolfolk, 2001).

Students perceive that they can reach their learning goals if and only if the other students in the learning group also reach their goals (Deutch, 1962; Johnson&

Learning is cooperative, when it involves a group of people working together on a particular issue or task, and it arises from the collaborative interaction between the participants. Research has shown that cooperative learning has benefits such as competence in working with others, self-confidence, and personal insight (McConnell 2000).

Over the years, in many different countries, cooperative learning has been used extensively with in main stream classrooms (Almasi, 1995; Gambrell, 1996; Jones & Steinbrink, 1991; McTighe & Lyman, 1988) becoming a widely used teaching procedure in all subject areas, and in all aspects of teaching and learning (Johnson et al., 2000). They found that social skills, on-task behavior and pupil self-esteem improved as a result of having pupils work in groups. They also found that pupils’ attitudes towards cooperative learning were positive and rated their work in groups as effective.

1.4 GROUPING AND WORKING TOGETHER

Over the last two decades, cooperative learning has achieved broad-based support from researchers and classroom teachers (Slavin 1999). The frequency indicates that this approach to instruction is well suited in the educational mainstream. (Antil, Jenkins, Wayne and Vadasy 1998).

The acronym TASK (Robbins, Gregory and Herden 2000) can be used to remember the aspects of cooperative learning.

TThinking is built into the process
AAccountability is essential Goal achievement: both individual and group
SSocial skills for team success
KKeeping everyone on TASK: Roles, tasks, resources, novelty, simulation and clear expectations.

Similarly the acronym Groups conveys as follows
When we work is groups (Johnson and Johnson, 1996), we
Cooperation among students, who celebrate each other’s successes, encourages each other to do homework and learn to work together regardless of ethnic backgrounds or whether they are male or female, bright or struggling, disabled or not, is still rare.

1.5 AN OVERVIEW OF THE HISTORICAL DEVELOPMENT OF COOPERATIVE LEARNING

The development of Cooperative Learning can be traced from the work of Dewey (1916). He was concerned with developing socially responsible citizens who can work together to solve social problems. Building on this, Lewin’s research helped to bring about a particular stream of social psychology; group dynamics. In the post second world war period, there was a considerable growth in experimental research in group dynamics and its application in classroom settings.

The development of Cooperative Learning was further supported by Deutsch (1949), who was the first to investigate the differences in interactions between individuals and group processes that were either cooperative or competitive. Interest in group work re-emerged in the 1970s stimulated by empirical research on peer tutoring, which showed academic and social benefits (Brown et al., 1971).

In the 1980s a wealth of research was triggered principally by Johnson and colleagues who had begun training teachers in Cooperative Learning at the University of Minnesota from 1961 onwards. In the late 1970s Aronson (1978) developed the ‘Jigsaw’ method together with Kagan’s (1985) work during the 1970s and 1980s developing cooperative strategies or Structures. In Israel, Shlomo and Sharan (1976) developed the group investigation procedure for cooperative learning cooperative learning groups.
During the next two decades work on cooperative learning mushroomed, primarily in the US. This led to development of a cooperative elementary school by Slavin and the success for all programmes which was aimed at ensuring that all children are supported to learn. This programme used cooperative learning methods and applied them to the curriculum, specifically reading and mathematics, social studies and languages. The programme found overall positive outcomes. From than onward, the cooperative learning has gained attention of teachers of different countries.

Johnson, Maruyama, Johnson, Nelson, and Skon (1981) and Slavin (1983) conducted meta-analyses of the research on the three goal structures and reached three major conclusions. First, cooperative learning fosters higher achievement gains than the other two learning structures. Second, cooperative learning structures promote higher levels of self-esteem, satisfaction with school, positive gender and race relations, and general feelings of worth and approval by others. Finally, these results hold true for all grade levels, age groups, and subject matter. However, between 1970 and 1999, a majority (approximately 77%) of the research that investigated student achievement was conducted at the primary and secondary school levels.

Hundreds of studies have compared the effects of Cooperative Learning with other instructional methods such as the lecture or individualized instruction. Many of these studies coincided with the flowering of the cooperative learning movement in the 1980s. Nevertheless research is ongoing as is evidence by the large number of publication and journal articles reported in the International Association for the Study of Cooperation in Education (IAECE) news letter.

1.6 BASIC ASSUMPTIONS OF COOPERATIVE LEARNING

1. The cooperative learning ideology rests in making the teaching-learning process as learner-centered rather than being content or teacher-centered.

2. It advocates the constructivist ideology for better teaching-learning outcomes by encouraging the students to formulate their own constructs and ways of understanding.
1.7 ESSENTIAL ELEMENTS OF CO-OPERATIVE LEARNING

Cooperative learning has emerged as a leading new approach to classroom instruction. Although Slavin (1990) proposed a three-elements theory of co-operative learning comprising positive interdependence, individual accountability and social skills, but the five-elements of cooperative learning proposed by Johnson, Johnson and Holubec (1991) is preferred to be used most, which are described as follows,

![Diagram of Elements of Cooperative Learning]

**Fig.1.1 : Elements of Cooperative Learning**

### 1.7.1 Positive Interdependence

Positive interdependence means that a gain for one student is associated with gains for the other students. Students should be guided to understand that: “the success of every team member depends upon the success of other members” and “if one fails, they all do” (Kagan, 1994).

The discipline using cooperative groups begin with structuring positive interdependence. Group members have to know that they “sink or swim together”. It is positive interdependence that requires group members to roll up their sleeves and work together to accomplish something beyond individual success. It is positive interdependence that creates the realization that members have two responsibilities to learn the assigned material and to ensure that all members of the group learn their
respective assigned material. When positive interdependence is clearly understood, it highlights the fact that:

(a) Each group member’s efforts are required and are indispensable for group success (i.e., there can be no social loafing).
(b) Each group member has a unique contribution to make to the joint effort because of his or her resources and/or role and task responsibilities.

There are a number of ways of structuring positive interdependence within a learning group, such as:

1. **Positive Goal Interdependence**: Students perceive that they can achieve their learning goals if and only if all the members of their group also attain their goals. The group is united around a common goal--a concrete reason for being a positive learner group.

2. **Positive Reward (Celebrate Interdependence)**: Each group member receives the same reward when the group achieves its goals. To supplement goal interdependence, teachers may give students: (i) a group grade for the overall production of their group; (ii) an individual grade resulting from tests; and (iii) bonus points if all members of the group achieve the criterion on tests. Regular celebrations of group efforts and success enhance the quality of cooperation.

3. **Positive Resource Interdependence**: Each group has only a portion of the resources, information or materials necessary for the task to be completed; the members’ resources have to be combined for the group to achieve its goals.

4. **Positive Role Interdependence**: Each member is assigned complementary and inter-connected roles that specify responsibilities that the group needs in order to complete the joint task. Role interdependence among students implies that they are assigned roles such as reader, recorder, checker of understanding, encourager of participation and elaborator of knowledge. Although the teacher cannot continually check the understanding of every student, the teacher can engineer such checking by having students work in cooperative groups and assigning one member the role of checker.

5. **Positive Task Interdependence**: It exists when a division of labour is created so that the actions of one group member have to be completed if the next member is to
complete his or her responsibility. Outside threat interdependence exists when groups are placed in competition with each other. Fantasy interdependence exists when a task is given that requires group members to imagine that they are in a hypothetical situation.

Research indicates that positive interdependence provides the context within which promotive interaction takes place. Group membership and interpersonal interaction among students do not produce higher achievement unless positive interdependence is clearly structured.

1.7.2 Face-to-Face Promotive Interaction

It involves students enhancing each other’s goals by using such techniques as supporting, praising, encouraging and scaffolding. The discipline of using cooperative groups includes ensuring that group members meet face-to-face to work together to complete assignments and promote each other’s success. Group members need to do real work together. Promotive interaction exits when individuals encourage and facilitate each other’s efforts to complete tasks in order to reach the group’s goals. Through promoting each other’s success, group members build both an academic and a personal support system for each member. Promotive interaction is characterized by individuals providing each other with efficient and effective help and assistance, exchanging needed resources such as information and materials, as illustrated below:

- Processing information more efficiently and effectively;
- Providing each other with feedback in order to improve their subsequent performance;
- Challenging each other’s conclusions and reasoning in order to promote higher quality decision making into the problems being considered;
- Advocating the exertion of effort to achieve the group’s goals;
- Acting in trusting and trustworthy ways;
- Being motivated to strive for mutual benefit; and
- Maintaining a moderate level of arousal characterized by low anxiety and stress.

1.7.3 **Individual Accountability**

It involves being responsible for completing one’s share of the work or master the task assigned within the group. In doing so, social loafing is assumed to be minimized. The discipline of using cooperative groups includes structuring group and individual accountability. Group accountability exists when the overall performance of the group is assessed and the results are given back to all group members to compare against a standard of performance. Individual accountability exists when the performance of each individual member is assessed, the result are given back to the individual and the group to compare against a standard of performance, and the member is held responsible by group-mates for contributing his or her fair share to the group’s success. What children can do together today, they can do alone tomorrow (Vyotsky, 1962). It is important that the group knows who needs more assistance, support and encouragement in completing the assignment. It is also important that group members know that they cannot ‘hitch-hike’ on the work of others. When it is difficult to identify members’ contributions, when members’ contributions are redundant, and when members’ are not responsible for the final group outcome, they may be seeking a ‘free ride’ (Harkins and Petty 1982; Kerr and Brunn 1981; Williams, Harkins and Latane, 1981).

The purpose of cooperative learning groups is to make each member a stronger individual in his or her own right. Individual accountability is the key to ensuring that all group members are, in fact, strengthened by learning cooperatively. After participating in a cooperative lesson, group members should be better prepared to complete similar tasks by themselves. Common ways to structure individual accountability include:

- Keeping the size of the group small.
- Giving an individual test to each student.
Randomly examining students orally by calling on one student to present his or her group’s work to the teacher (in the presence of the group) or to the entire class;

Observing each group and recording the frequency with which each member contributes to the group’s work;

Assigning one student in each group the role of the checker who asks other group members to explain, the reasoning and rationale underlying group answers; and

Having students teach what they have learned to someone else and when all students do this, it is called ‘simultaneous explaining’.

1.7.4 Social Skills

It requires a positive interaction among all group members. Skills such as effective communication, building and maintaining trust and constructively resolving conflicts are emphasized. Placing socially unskilled students in a group and telling them to cooperate does not guarantee that they are able to do so effectively. Cooperative learning is inherently more complex than competitive or individualistic learning because students have to engage in task work and teamwork simultaneously. To coordinate efforts that will achieve mutual goals, students must (a) get to know and trust each other, (b) communicate accurately and unambiguously, (c) accept and support each other, and (d) resolve conflicts constructively (Johnson and Johnson 1991).

Placing socially unskilled students in a group and telling them to cooperate does not guarantee that they have the ability to do so effectively. Interpersonal and small group skills do not magically appear when they are needed. Students must be taught the social skills required for high quality collaboration and be motivated to use them for cooperative group to be productive. The whole field of group dynamics is based on the premise that social skills are the key to group productivity (Johnson and Johnson 1991).
The more socially skillful students are and the more attention teachers pay to teaching and rewarding the use of social skills, the higher the achievement that can be expected within cooperative learning groups. Lew et al. (1986) and Mesch et al. (1988) investigating on the impact of a reward contingency for academic achievement on performance within cooperative learning groups, indicate that the combination of positive interdependence on academic contingency for high performance by all group members and a social skills contingency promoted the highest achievement.

1.7.5 Group Processing

The final phase of the discipline of using cooperative group is structuring group processing. Effective group work is influenced by whether or not groups reflect on how well they are functioning. A process is an identifiable sequence of events taking place over time, and process goals refer to the sequence of events instrumental, in achieving outcome goals. Group processing may be defined as reflecting on a group session to:

(i) Describe what member actions were helpful and unhelpful; and
(ii) Make decisions about what actions to continue or change.

The purpose of group processing is to clarify and improve the effectiveness of the members in contributing to the collaborative efforts to achieve the group’s goals. There are five steps in structuring group processing in order to improve continuously the quality of the group’s task, work and teamwork.

- The first step is to access the quality of the interaction among group members as they work to maximize each other’s learning.
- The second step in examining the process by which the group does its work is to give each learning group feedback.
- The third step is for groups to set goals as to how to improve their effectiveness.
- The fourth step is to process how effectively the whole class is functioning.
- The fifth step is to conduct small-group and whole-class celebrations.
Some of the keys to successful small-group processing are allowing sufficient time for it to take place, providing a structure for processing, emphasizing positive feedback, making the processing specific rather than general, maintaining students to use their cooperative skills while they process, and communicating clear expectations as to the purpose of processing.

1.8 TYPES OF COOPERATIVE LEARNING

There are three types of cooperative learning described below

Formal Cooperative Learning
Informal Cooperative Learning
Cooperative Base Groups

Fig. 1.2: Types of Cooperative Learning

1.8.1 Formal Cooperative Learning

Formal cooperative learning consists of students working together, for one class period to several weeks, to achieve shared learning goals and complete jointly specific tasks and assignments (Johnson, Johnson, & Holubec, 2008). In formal cooperative learning groups the teachers’ role includes:

1. Making pre-instructional decisions. Teachers (a) formulate both academic and social skills objectives, (b) decide on the size of groups, (c) choose a method for assigning students to groups, (d) decide which roles to assign group members, (e) arrange the room, and (f) arrange the materials students need to complete the assignment. In these pre-instructional decisions, the social skills objectives specify the interpersonal and small group skills students are to learn. By assigning students roles, role interdependence is established. The way in which materials are distributed can create resource interdependence. The arrangement of the room can create environmental interdependence and provide the teacher with easy access to observe each group, which increases individual accountability and provides data for group processing.
2. **Explaining the instructional task and cooperative structure.** Teachers (a) explain the academic assignment to students, (b) explain the criteria for success, (c) structure positive interdependence, (d) structure individual accountability, (e) explain the behaviors (i.e., social skills) students are expected to use, and (f) emphasize intergroup cooperation (this eliminates the possibility of competition among students and extends positive goal interdependence to the class as a whole). Teachers may also teach the concepts and strategies required to complete the assignment. By explaining the social skills emphasized in the lesson, teachers operationalize (a) the social skill objectives of the lesson and (b) the interaction patterns (such as oral rehearsal and jointly building conceptual frameworks) teachers wish to create.

3. Monitoring students’ learning and intervening to provide assistance in (a) completing the task successfully or (b) using the targeted interpersonal and group skills effectively. While conducting the lesson, teachers monitor each learning group and intervene when needed to improve task work and teamwork. Monitoring the learning groups creates individual accountability; whenever a teacher observes a group, members tend to feel accountable to be constructive members. In addition, teachers collect specific data on promotive interaction, the use of targeted social skills, and the engagement in the desired interaction patterns. This data is used to intervene in groups and to guide group processing.

4. Assessing students’ learning and helping students process how well their groups functioned. Teachers (a) bring closure to the lesson, (b) assess and evaluate the quality and quantity of student achievement, (c) ensure students carefully discuss how effectively they worked together (i.e., process the effectiveness of their learning groups), (d) have students make a plan for improvement, and (e) have students celebrate the hard work of group members. The assessment of student achievement highlights individual and group accountability (i.e., how well each student performed) and indicates whether the group achieved its goals (i.e., focusing on positive goal interdependence). The group celebration is a form of reward interdependence. The feedback received during group processing is aimed at improving the use of social skills and is a form of individual accountability. Discussing the processes the group used to function, furthermore, emphasizes the continuous improvement of promotive
interaction and the patterns of interaction need to maximize student learning and retention.

1.8.2 Informal Cooperative Learning

Informal cooperative learning consists of having students work together to achieve a joint learning goal in temporary, ad-hoc groups that last from a few minutes to one class period (Johnson, Johnson, & Holubec, 2008). During a lecture, demonstration, or film, informal cooperative learning can be used to focus student attention on the material to be learned, set a mood conducive to learning, help set expectations as to what will be covered in a class session, ensure that students cognitively process and rehearse the material being taught, summarize what was learned and prepare the next session, and provide closure to an instructional session.

The teacher’s role for using informal cooperative learning to keep students more actively engaged intellectually entails having focused discussions before and after the lesson (i.e., bookends) and interspersing pair discussions throughout the lesson. Two important aspects of using informal cooperative learning groups are to (a) make the task and the instructions explicit and precise and (b) require the groups to produce a specific product (such as a written answer). The procedure is as follows.

1. **Introductory Focused Discussion**: Teachers assign students to pairs or triads and explain (a) the task of answering the questions in a four to five minute time period and (b) the positive goal interdependence of reaching consensus. The discussion task is aimed at promoting advance organizing of what the students know about the topic to be presented and establishing expectations about what the lecture will cover. Individual accountability is ensured by the small size of the group. A basic interaction pattern of eliciting oral rehearsal, higher-level reasoning, and consensus building is required.

2. **Intermittent Focused Discussions**: Teachers divide the lecture into 10 to 15 minute segments. This is about the length of time a motivated adult can concentrate on information being presented. After each segment, students are asked to turn to the person next to them and work cooperatively in answering a question (specific enough so that students can answer it in about three minutes) that requires students to cognitively process the material just presented. The procedure is:
a. Each student formulates his or her answer.
b. Students share their answer with their partner.
c. Students listen carefully to their partner’s answer.
d. The pairs create a new answer that is superior to each member’s initial formulation by integrating the two answers, building on each other’s thoughts, and synthesizing.

The question may require students to:

a. Summarize the material just presented.
b. Give a reaction to the theory, concepts, or information presented.
c. Predict what is going to be presented next; hypothesize.
d. Solve a problem.
e. Relate material to past learning and integrate it into conceptual frameworks.
f. Resolve conceptual conflict created by presentation.

Teachers should ensure that students are seeking to reach an agreement on the answers to the questions (i.e., ensure positive goal interdependence is established), not just share their ideas with each other. Randomly choose two or three students to give 30 second summaries of their discussions. Such individual accountability ensures that the pairs take the tasks seriously and check each other to ensure that both are prepared to answer. Periodically, the teacher should structure a discussion of how effectively the pairs are working together (i.e., group processing). Group celebrations add reward interdependence to the pairs.

3. **Closure Focused Discussion**: Teachers give students an ending discussion task lasting four to five minutes. The task requires students to summarize what they have learned from the lecture and integrate it into existing conceptual frameworks. The task may also point students toward what the homework will cover or what will be presented in the next class session. This provides closure to the lecture.

Informal cooperative learning ensures students are actively involved in understanding what is being presented. It also provides time for teachers to move around the class listening to what students are saying. Listening to student discussions can give instructors direction and insight into how well students understand the
concepts and material being as well as increase the individual accountability of participating in the discussions.

1.8.3 Cooperative Base Groups

Cooperative base groups are long-term, heterogeneous cooperative learning groups with stable membership (Johnson, Johnson, & Holubec, 2008). Members’ primary responsibilities are to (a) ensure all members are making good academic progress (i.e., positive goal interdependence) (b) hold each other accountable for striving to learn (i.e., individual accountability), and (c) provide each other with support, encouragement, and assistance in completing assignments (i.e., promotive interaction). In order to ensure the base groups function effectively, periodically teachers should teach needed social skills and have the groups’ process how effectively they are functioning. Typically, cooperative base groups are heterogeneous in membership (especially in terms of achievement motivation and task orientation), meet regularly (for example, daily or biweekly), and last for the duration of the class (a semester or year) or preferably for several years. The agenda of the base group can include academic support tasks (such as ensuring all members have completed their homework and understand it or editing each other’s essays), personal support tasks (such as getting to know each other and helping each other solve nonacademic problems), routine tasks (such as taking attendance), and assessment tasks (such as checking each other’s understanding of the answers to test questions when the test is first taken individually and then retaken in the base group).

The teacher’s role in using cooperative base groups is to (a) form heterogeneous groups of four (or three), (b) schedule a time when they will regularly meet (such as beginning and end of each class session or the beginning and end of each week), (c) create specific agendas with concrete tasks that provide a routine for base groups to follow when they meet, (d) ensure the five basic elements of effective cooperative groups are implemented, and (e) have students periodically process the effectiveness of their base groups.

The longer a cooperative group exists, the more caring their relationships will tend to be, the greater the social support they will provide for each other, the more committed they will be to each other’s success, and the more influence members will
have over each other. Permanent cooperative base groups provide the arena in which
caring and committed relationships can be created that provide the social support
needed to improve attendance, personalize the educational experience, increase
achievement, and improve the quality of school life.

1.8.4 Integrated Use of All Three Types of Cooperative Learning Groups

These three types of cooperative learning may be used together (Johnson,
Johnson, & Holubec, 2008). A typical class session may begin with a base group
meeting, which is followed by a short lecture in which informal cooperative learning
is used. The lecture is followed by a formal cooperative learning lesson. Near the
end of the class session another short lecture may be delivered with the use of
informal cooperative learning. The class ends with a base group meeting.

1.9 THEORETICAL ROOTS OF COOPERATIVE LEARNING

Johnson and Johnson (1999) discussed three theoretical perspectives that have
been stated as under:

![Fig. 1.3: Theoretical Roots of Cooperative learning]

Social interdependence perspectives

Cognitive perspectives

Motivational perspectives

1.9.1 Social Interdependence Perspectives

Social interdependence structure determines the way for persons to interact
with each other. Moreover, outcomes are the consequences of persons’ interactions.
Therefore, one of the cooperative elements that have to be structured in the classroom
is positive interdependence or cooperation. When this is done, cooperation results in
promotive interaction as group members encourage and ease each other’s efforts to
According to Slavin (1996a), a positive side of the social cohesion perspectives is an emphasis on team building activities in preparation for cooperative learning and processing or group self-evaluation during and after group activities. Social cohesion theorists tend to reject the group incentives. According to Cohen (1986) challenging and interesting task and knowledge about group processing skill are highly rewarding for the students.

1.9.2 Cognitive Perspectives

Cognitive perspectives can be described in the following two parallel tracks.

a) Cognitive Developmental Perspective

The cognitive development perspective is based on the theories of Jean Piaget and Vygotsky. Vygotsky (1978) proposed his concept of the “Zone of proximal development” in order to make sense of the relationship of society and the individual and social and cognitive development. He defined the Zone, as a distance between what a child can do in isolation—that is, the actual development level—and what the child can do in collaboration with others. This he called the proximal level.

Shran, Kussell, Hertz-Lazarowitz, Bejarano, Raviv, & Sharan (1984) observed improvement in students’ cognitive awareness in reading comprehension when they taught with cooperative learning methods. Reading performance improved to a greater degree than that of students in traditional reading classes. This success was due to the fact that cooperative learning provided a platform for discussion analysis and synthesis of ideas that was necessary for understanding.

b) Cognitive elaboration perspectives

According to Webb (1989), the students who gained the most from cooperative activities were those who provided elaborated explanations to other students. The students who received elaborated explanations learned more than those who worked alone did.

Wadsworth (1984) has called for an increased use of cooperative activities in schools. He argues that interaction among students on learning tasks will lead in itself to improved student achievement. Students will learn from one another because in their discussion of the content, cognitive conflicts will arise, in adequate reasoning
will be exposed and higher quality understanding will emerge.

Stevens, Stavin, and Farnish (1991) observed that during cooperative practice, students evaluated explained, and elaborated the strategies to one another, and thus they successfully internalized and mastered the complex cognitive process.

1.9.3 Motivational Perspectives

Motivational learning perspective focuses on the impact of group reinforcements and rewards on learning. According to Slavin (1983a), cooperative goal structures create a situation in which the only way group members can attain their own personal goals is if the group is successful. Therefore; to meet their personal goals, group members help their group mates and encourage their group mates to exert maximum effort. In other words, rewarding groups based on group performance creates an interpersonal reward structure in which group members will give or withhold social reinforcers in response to group mates task related efforts.

Slavin (1995) cites one intervention that uses cooperative goal structure is the group contingency, in which group rewards are given on the basis of group members’ behavior. The theory underlying group contingencies does not require the group members to be able to actually help one another or work together. The fact is that their outcomes are dependent on one another’s behavior. It is sufficient to motivate students to engage in behavior, which helps the group to be rewarded, because the group incentive induces students to encourage goal-directed behaviors among their group mates.

Social interdependence theory, motivational learning theory, and cognitive-developmental theory all predict that cooperative learning will promote higher achievement than competitive or individualistic learning. These researchers, among others, have established the theoretical relevance of cooperative learning method. Cooperative learning method provides maximum opportunities for meaningful input and output in highly interactive and supportive environment.

1.10 TEACHERS ROLE IN COOPERATIVE LEARNING

For a cooperative lesson the teacher, make a number of pre-instructional decisions, explain to students the instructional task and the cooperative nature of the
lesson, conduct the lesson, and evaluate and process the results. More specifically, one can follow these steps:

1. **Make pre-instructional decisions.** In every lesson you (a) formulate objectives, (b) decide on the size of groups, (c) choose a method for assigning students to groups, (d) decide which-roles to assign group members, (e) arrange the room, and (f) arrange the materials students need to complete the assignment.

2. **Explain the task and cooperative structure.** In every lesson you (a) explain the academic assignment to students, (b) explain the criteria for success, (c) structure positive interdependence, (d) explain the individual accountability, and (e) explain the behaviors you expect to see during the lesson.

3. **Monitor and intervene.** While you (a) conduct the lesson, you (b) monitor each learning group and (c) intervene when needed to improve task work and teamwork, and (d) bring closure to the lesson.

4. **Evaluate and process.** You (a) assess and evaluate the quality and quantity of student achievement, (b) ensure students carefully process the effectiveness of their learning groups, (c) have students make a plan for improvement, and (d) have students celebrate the hard work of group members.

In each class session teachers must make the choice of being "a sage on the stage" or "a guide on the side." In doing so they might remember that the challenge in teaching is not covering the material or the students, it's uncovering the material with the students.

### 1.11 HOW TO CREATE AN EFFECTIVE GROUP?

To be effective a group must do three things: achieve its goals; maintain good working relationships among members; and adapt to changing conditions in the surrounding organization, society, and world. To create such a group we should use the following set of guidelines. These guidelines provide direction for building an effective group, a framework for diagnosing how well a group is functioning, and a means for motivating group members to improve.

### 1.11.1 Guidelines for Creating Effective Groups

*Guideline 1:* Establish clear, operational, and relevant group goals that create positive interdependence and evoke a high level of commitment from every member. Groups exist for a reason: People want to achieve goals they are unable to achieve by
themselves. In effective groups, goals must be stated clearly so that all members understand the nature of the goals. Additionally, goals must be operational so that members understand how to achieve them. Goals also must be relevant to members' needs so that they commit themselves to achieving the goals. Finally, the group's goals must create positive interdependence among members.

Guideline 2: Establish effective two-way communication by which group members communicate their ideas and feelings accurately and clearly. Communication is the basis for all human interaction and group functioning, and it is especially important when groups of people are working toward a common goal. Group members must send and receive messages effectively "in order to exchange information and transmit meaning. Effective communication also can decrease misunderstandings and discord among group members. Effective communication depends on minimizing competition among members and establishing two-way communication.

Guideline 3: Ensure that leadership and participation are distributed among all group members. All members of a group are responsible for providing leadership. Equal participation and leadership ensures that all members are invested in the group's work/ committed to implementing the group's decisions, and satisfied with their membership. Shared leadership and participation also enables the group as a whole to use the resources of every individual, thereby increasing the cohesiveness of the group.

Guideline 4: Ensure that power is distributed among group members and that patterns of influence vary according to the needs of the group. In effective groups, members' power is based on expertise, ability, and access to information, not on authority or personality characteristics. Power struggles among group members can distract the group from. Its purpose and goals, ultimately making the group useless. To prevent power struggles, every member of the group must have some power of influence in some part of group work. As a group evolves and new goals are set, the distribution of power also needs to evolve. To this end, group members should form coalitions that help fulfill personal goals on the basis of mutual influence and interdependence.
Guideline 5: *Match decision-making procedures with the needs of the situation.* Groups can make decisions in a variety of ways, but there must be a balance between the time and resources a group has available and the method of decision making it uses. A jury deciding a death penalty case, for example, would require a unanimous decision, whereas a church group deciding when to hold its next meeting may not. Balance also is needed among the size and seriousness of the decision, the commitment needed to put it into practice, and the method used for making the decision. The most effective way of making a decision usually is by consensus (unanimous agreement). Consensus promotes distributed participation, the equalization of power, constructive controversy, cohesion, involvement, and commitment.

Guideline 6: *Engage in constructive controversy by disagreeing and challenging one another's conclusions and reasoning, thus promoting creative decision making and problem solving.* In order to make effective decisions, members must present the best case possible for each major course of action and subject all other alternatives to critical analysis. Controversies over opposing ideas and conclusions are beneficial for groups, because they promote involvement in the group's work, quality and creativity in decision making, and commitment to implementing the group's decisions. Controversies also help ensure that minority and dissenting opinions receive serious discussion and consideration.

Guideline 7: *Face your conflicts and resolve them in constructive ways.* Conflicts of interest may result from incompatible needs or goals/scarce resources, and competitiveness. Five basic methods can be used to manage conflicts of interest: withdrawal, forcing (win-lose negotiations), smoothing, compromise, and problem solving (finite-greatiye negotiations). Members of effective groups face their conflicts and engage in integrative problem-solving negotiations to resolve them. When problem-solving negotiations fail, mediation may occur. When they are resolved constructively, conflicts are an important and indispensable aspect of increasing group effectiveness.
1.12 COOPERATIVE LEARNING TECHNIQUES

Slavin (1995) summarized the most extensively researched and widely used cooperative learning techniques as:

Cooperative Learning Techniques

- Student Team Learning
- Jigsaw
- Learning together
- Group Investigation

- Student Teams Achievement Divisions (STAD)
- Teams-Games-Tournaments (TGT)
- Team Accelerated Instruction (TAI)
- Cooperative Integrated Reading and Composition (CIRC)

**Fig. 1.4 Cooperative Learning Technique**

**Student Teams Achievement Divisions (STAD).** STAD is a generic method used in any subject matter area. According to Slavin (1986), STAD works best with material that has single, correct answers and is most likely to be used in mathematics computation, spelling, language usage, and mechanics. As in TGT, students are placed in four member heterogeneous groups for teacher directed instruction and for assisting one another in mastering the basic material. The Tournaments used in TGT are replaced with individually administered quizzes in which students do not assist one another. STAD like TGT was developed to provide grade level instruction in basic skill areas at the same general pace for all students. A cooperative learning method for mixed-ability groupings involving team recognition and group responsibility for individual learning. Then the groups return to their original question, synthesize the answers, and report. In Student Teams-Achievement Divisions (STAD) (Slavin, 1994a), students are assigned to four-member learning teams that are mixed in performance level, gender, and ethnicity. The teacher presents a lesson, and then students work within their teams to make sure that all team
members have mastered the lesson. Finally, all students take individual quizzes on the material, at which time they may not help one another.

Students’ quiz scores are compared to their own past averages, and points are awarded on the basis of the degree to which students meet or exceed their own earlier performance. These points are then summed to form team scores, and teams that meet certain criteria may earn certificates or other rewards. In a related method called Teams-Games-Tournaments (TGT), students play games with members of other teams to add points to their team scores. STAD and TGT have been used in a wide variety of subjects, from mathematics to language arts to social studies, and have been used from second grade through college. The STAD method is most appropriate for teaching well-defined objectives with single right answers, such as mathematical computations and applications, language usage and mechanics, geography and map skills, and science facts and concepts. However, it can easily be adapted for use with less well-defined objectives by incorporating more open-ended assessments, such as essays or performance.

**Teams-Games-Tournaments (TGT).** TGT, originally developed by Edwards and De Vries (1972), is a generic strategy used in any subject matter area. Students are placed in four members heterogeneous teams. They receive a teacher directed lesson, help one another master the material, and compete in weekly Tournaments with others of similar achievement (Slavin, 1986). Despite the temporary grouping of students by achievement level for Tournaments in TGT, the lessons presented to the students, the materials completed by them, and the pace of instruction are the same for all students in the class. Worksheets are the primary instructional materials used in TGT. Slavin (1991) noted that TGT is best suited to basic skill instruction.

**Team Accelerated Instruction (TAI):** TAI (later renamed Team Assisted Individualization) was developed for pre algebra mathematics instruction in grades three through six (Slavin, 1986). It includes specific TAI instructional materials on basic mathematics operations and topics: addition, subtraction, multiplication, division, numeration, fractions, decimals, ratio, percent, statistics, and algebra. Students are assigned to four or five member heterogeneous teams, are pretested, and enter the curriculum at the point designated by their pretest performance. They work
through curriculum units which contain guide page reviewing the concepts, skill practice pages, formative quizzes, a 15-item unit test, and answer pages so that a student monitor may score the test. All students also take mathematics facts tests twice a week. The management functions of securing materials, checking student papers, and scoring tests are the responsibility of the students. After each three-week period of individualized instruction, the teacher conducts group-paced instruction for a week.

**Cooperative Integrated Reading and Composition (CIRC):** CIRC was developed for grade level reading and writing instruction in the elementary grades. Research studies have been reported for grades 3-4 and grades 2-6 (Stevens, Madden, Slavin, & Farnish, 1987; Stevens, Slavin, & Farnish, 1991). Instruction is primarily based on basal readers and involves direct instruction in reading comprehension, integrated writing, and language arts using a writing process approach. Heterogeneous teams are composed of members of at least two different reading groups who read to one another, answer questions about the story, practice spelling and vocabulary words, and writes on a topic related to the basal story. Team members receive points based on individual performance on quizzes and composition which are "added" to produce a team score. Achievement criteria are specified; teams that meet the criteria receive certificates. A comprehensive program for teaching reading and writing in the upper elementary grades; students work in four-member cooperative learning teams. (CIRC) (Stevens & Slavin, 1995a) is a comprehensive program for teaching reading and writing in the upper elementary grades. Students work in four-member cooperative learning teams. They engage in a series of activities with one another, including reading to one another, making predictions about how narrative stories will come out, summarizing stories to one another, writing responses to stories, and practicing spelling, decoding, and vocabulary. They also work together to master main ideas and other comprehension skills. During language arts periods, students engage in writing drafts, revising and editing one another’s work, and preparing for publication of team books. Three studies of the CIRC program have found positive effects on students’ reading skills, including improved scores on standardized reading and language tests (Stevens et al., 1987; Stevens & Slavin, 1995).
**Jigsaw and Jigsaw II:** The Jigsaw models were developed for narrative materials in the core content areas like social studies, science, literature, and other school subjects in which the goal is to learn concepts rather than skills (Aronson et al. 1978; Slavin, 1986). Heterogeneous groups of students are given sections or chapters of material to read and teach "their topic" or a part of the text to others in their group. As is the case with TGT, STAD, Circles of Learning, and Cooperative Controversy, the Jigsaw models rely primarily on grade level texts and other printed materials.

**Learning Together or Circles of Learning:** Johnson and Johnson have emphasized group process in their generic model characterized by explicit and sustained teaching of structured social skills. Most of the research by the developers and their associates compared the cooperative goal structure (in which groups work together) with a competitive condition (in which teams or individuals compete with one another) and with an individualistic condition (in which students work alone on material).

Heterogeneous groups of two to six students with maximum variation in levels of achievement are recommended. In addition, the Johnsons have suggested unmotivated students be placed in groups with on-task students. In some cases, students are permitted to work together to complete a single worksheet or product for a group grade (Johnson, Johnson, & Holubec, 1990).

**Group Investigation:** In contrast to the cooperative learning models which are largely structured around traditional texts and classroom materials, Group Investigation is an interest-based study of a topic selected by the teacher (Sharan & Sharan, 1976). Small groups of students select subtopics, develop and carry out a learning plan, and prepare a small group presentation for the entire class. Teachers and students evaluate group and individual contributions. Students work on group products, give group presentations, and receive group evaluations. However, individual achievement is assessed through examinations as well. Presumably, students have access to any materials including reference materials relevant to their subtopic. The most extensive research study on Group Investigation was conducted in Israel with problems in history and geography (Sharan & Shachar, 1988). A cooperative learning model in which students work in small groups using cooperative
inquiry, group discussion, and cooperative planning and projects, and then make presentations to the whole class on their findings.

Cooperative learning can take place in a variety of circumstances. For example, brainstorming and tutorial groups, when employed as instructional methods, provide opportunities to develop cooperative learning skills and attitudes. Various methods exist for cooperative learning and can be used at whenever the instructor deems it fit to use them. Most of these structures are developed by Dr. Spencer Kagan and certain activities that use cooperative learning are given below:

**Think-Pair-Share.** It involves a three step cooperative structure. During the first step individuals think silently about a question posed by the instructor. Individuals pair up during the second step and exchange thoughts. In the third step, the pairs share their responses with other pairs, other teams, or the entire group.

![Think-Pair-Share](image)

**Three-Step Interview (Kagan).** Each member of a team chooses another member to be a partner. During the first step individuals interview their partners by asking clarifying questions. During the second step partners reverse the roles. For the final step, members share their partner's response with the team.

![Three-Step Interview](image)

**RoundRobin Brainstorming (Kagan).** Class is divided into small groups (4 to 6) with one person appointed as the recorder. A question is posed with many answers and students are given time to think about answers. After the "think time," members of the team share responses with one another round robin style. The recorder writes down the answers of the group members. The person next to the recorder starts and each person in the group in order gives an answer until time is called.
Three-minute review. Teachers stop any time during a lecture or discussion and give teams three minutes to review what has been said, ask clarifying questions or answer questions.

Numbered Heads Together (Kagan). A team of four is established. Each member is given numbers of 1, 2, 3, 4. Questions are asked of the group. Groups work together to answer the question so that all can verbally answer the question. Teacher calls out a number (two) and each two is asked to give the answer.

Team Pair Solo (Kagan). Students do problems first as a team, then with a partner, and finally on their own. It is designed to motivate students to tackle and succeed at problems which initially are beyond their ability. It is based on a simple notion of mediated learning. Students can do more things with help (mediation) than they can do alone. By allowing them to work on problems they could not do alone, first as a team and then with a partner, they progress to a point they can do alone that which at first they could do only with help.
**Circle the Sage (Kagan).** First the teacher polls the class to see which students have a special knowledge to share. For example the teacher may ask who in the class was able to solve a difficult math homework question, who had visited Mexico, who knows the chemical reactions involved in how salting the streets help dissipate snow. Those students (the sages) stand and spread out in the room. The teacher then has the rest of the classmates each surround a sage, with no two members of the same team going to the same sage. The sage explains what they know while the classmates listen, ask questions, and take notes. All students then return to their teams. Each in turn, explains what they learned. Because each one has gone to a different sage, they compare notes. If there is disagreement, they stand up as a team. Finally, the disagreements are aired and resolved.

[Image of a person pointing to a lightbulb]

**Partners (Kagan).** The class is divided into teams of four. Partners move to one side of the room. Half of each team is given an assignment to master to be able to teach the other half. Partners work to learn and can consult with other partners working on the same material. Teams go back together with each set of partners teaching the other set. Partners quiz and tutor teammates. Team reviews how well they learned and taught and how they might improve the process.

[Image of two people shaking hands]

**Dyadic Learning.** Students work in dyads (pairs) to read and study their content area material. They begin by reading one or two pages of the text. One partner is designated as the "recaller" responsible for orally summarizing from memory what
has been read. The other partner, as "listener/facilitator," follows in the book and corrects errors, clarifies concepts, and elaborates on the material. They may use drawings or diagrams to facilitate understanding and retention of the information. Then they read another section of text and switch roles.

**Team word webbing.** Students work in groups; write on chart paper or newsprint, drawing main concepts, supporting elements, and bridges representing the relations of ideas among the concepts (concept map). Concept development, higher levels of thinking

**Cybernetic Sessions.** The teacher uses questions to guide students through an active process of analysis and synthesis. The teacher writes specific thought provoking questions about what has been studied, one each, on poster sized sheets of paper which are placed in different parts of the room. The class is divided into groups of 5 students, and each group is assigned a poster. The students record their answers to the question on the poster. Then the groups move to the next poster clockwise from them and add to the answers they find there. The groups proceed in turn to add to the answers on all of the questions. Their time with each question is limited to 3-5 minutes.

### 1.13 TEAMS GAMES TOURNAMENTS (TGT)

Teams Games Tournaments (TGT) is one of cooperative learning methods, and is a good model to begin with for teachers who are new to the cooperative learning approach. TGT consists of five major components—Class Presentations, Teams, Games, Tournaments and Team Recognition.

**Class Presentations**

Material in TGT is initially introduced in a class presentation. This is most often direct instruction or a lecture-discussion conducted by the teacher, but could include audiovisual presentations. Class presentations in TGT differ from usual teaching only in that they must be clearly focused on the TGT unit. In this way, students realize that they must pay careful attention during the class presentation, because doing so well help them do well in the tournaments, and their tournament scores determine their team scores.
Teams

Teams are composed of four or five students who represent a cross-section of the class in terms of academic performance, sex, and race or ethnicity. The major function of the team is to prepare its members to do well on the games. After the teacher presents the material, the team meets to study worksheets or other material. The worksheets may be materials obtained from the Johns Hopkins Team Learning Project, or they may be teacher-made.

The team is the most important feature of TGT. At every point, the emphasis is on the members doing their best for the team, and on the team doing its best for its members. The team provides the peer support for academic performance that is important for effects on learning: it also provides the mutual concern and respect that are important for effects on such outcomes as intergroup relations, self-esteem, and acceptance of mainstreamed students.

Games

The games are composed, course content-relevant questions that students must answer, and are designed to test the knowledge student’s gain from class presentations and team practice. Games are played at tables of three students, each of whom represents a different team. Most games are simply numbered questions on a ditto sheet. A student picks a number card and attempts to answer the question corresponding to the number. A challenge rule permits players to challenge each other’s answers.

Tournaments

The Tournaments is the structure in which the games take place. It is usually held at the end of the week or a unit, after the teacher has made a class presentation and the teams have had time to practice with the worksheets. For the first tournaments, the teacher assigns students to tournaments tables – assigning the top three students in past performance to Table1, the next three to Table 2, and so on. This equal competition makes it possible for students of all levels of past performance to contribute maximally to their team scores if they do their best Figure No. 1.5 Illustrate the relationship between heterogeneous team and homogenous tournament tables.
After the first week, however, students change tables depending on their own performance in the most recent tournaments. The winner at each table is “bumped up” to the next higher table, the second scorer stays at the same table, and the low scorer is “bumped down.” In this way, if students have been misassigned at first, they will eventually be moved up or down until they reach their true level of performance.

**Team Recognition.** Teams may earn certificates or other rewards if their average scores exceed a certain criterion. Students' team scores may also be used to determine up to 20 percent of their grades.

**Preparation**

**Materials.** TGT can be-used with curriculum materials specifically designed for Student Team Learning and distributed by the Johns Hopkins Team Learning Project or it can be used with materials adapted from textbooks or other published sources or with teacher-made materials.

However it is quite easy to make on materials. Simply make a worksheet, a worksheet answer sheet, and a set of cards numbered from one to thirty for every three students in your largest class each unit should occupy three to five days of
instructions. You can obtain these materials from the John Hopkins team learning project or make your own by numbering coloured index cards.

Assigning Students to Teams. As we have seen, TGT teams represent a cross section of the class. A four-person team in a class that is half male, half female, three quarters white, and one-quarter minority might have two boys and two girls and three white students and one minority student. The team would also have a high performer, a low performer, and two average performers. Of course, high performer is a relative term; it means high for the class, not necessarily high compared with national norms. We may take likes, dislikes, and "deadly combinations" of students into account in assigning students to teams, but do not let students choose their own teams, because they will tend to choose others like themselves. Instead follow these steps:

1. **Make copies of team summary sheets.** Make one copy of a team summary sheet (in Appendix) for every four students in your class.

2. **Rank students.** On a sheet of paper, rank the students in your class from highest to lowest in past performance. Use whatever information you have to do this; test scores are best, grades are good, but your own judgment is fine. It may be difficult to be exact in your ranking, but do the best you can.

3. **Decide on the number of teams.** Each team should have four members if possible. To decide how many teams you will have, divide the number of students in the class by four. If the number is divisible by four, the quotient will be the number of four-member teams you should have. For example, if there are thirty-two students in the class, you would form eight teams with four members each. If the division is uneven, the remainder will be one, two, or three. You will then have one, two, or three teams composed of five members. For example, if there are thirty students in your class, you would have seven teams five teams would have four members and two would have five members.

4. **Assign students to teams.** In assigning students or teams, balance the teams so that (a) each team is composed of students whose performance levels range from low to average to high, and (b) the average performance level of all the teams in the class is about equal. Using your list of students ranked by performance, assign team letters to each student. For example, in an eight-team class you
would use the letters A through H. Start at the top of your list with the letter A; continue lettering toward the middle. When you get to the last team letter, continue lettering in the opposite order. For example if you were using the letters A—H (as a table 1.4), the eighth and ninth students would be assigned to team H, the tenth to team G, the next to team F, and so on. When you get back to letter A, stop and repeat the process from the bottom up, again starting and ending with the letter A.

Table 1.4
Assigning students to Teams

<table>
<thead>
<tr>
<th>Rank</th>
<th>Team Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>B</td>
</tr>
<tr>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>4</td>
<td>D</td>
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<tr>
<td>5</td>
<td>E</td>
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<tr>
<td>6</td>
<td>F</td>
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<tr>
<td>7</td>
<td>G</td>
</tr>
<tr>
<td>8</td>
<td>H</td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>H</td>
</tr>
<tr>
<td>11</td>
<td>G</td>
</tr>
<tr>
<td>12</td>
<td>F</td>
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<tr>
<td>13</td>
<td>E</td>
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<tr>
<td>14</td>
<td>D</td>
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<tr>
<td>15</td>
<td>C</td>
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<tr>
<td>16</td>
<td>B</td>
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<tr>
<td>17</td>
<td></td>
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<tr>
<td>18</td>
<td>A</td>
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<tr>
<td>19</td>
<td></td>
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<td>20</td>
<td></td>
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<td>24</td>
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<tr>
<td>25</td>
<td></td>
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<tr>
<td>26</td>
<td></td>
</tr>
</tbody>
</table>

Note that two of the students (17 and 18) are not assigned at this point. They will be added to teams as fifth members, but first the teams should be checked for race or ethnicity and sex balance. If, for example, one-fourth of the class is black,
approximately one student on each team should be black. If the teams you have made based on performance ranking are not evenly divided on both ethnicity and sex (they will hardly ever be balanced on the first try), you should change team assignments by trading students of the same approximate performance level, but of different ethnicity or sex, between teams until a balance is achieved.

5. **Fill out team summary sheets.** Fill in the names of the students on each team on your team summary sheets (in Appendix) leaving the team-name space blank.

**Determining Initial Base Scores.** Base scores represent students’ average scores on past games. If you are starting TGT after you have given three or more games, use students' average game scores as base scores. Otherwise, use students' final grades from the previous year (See table 1.5).

<table>
<thead>
<tr>
<th>Last Year’s Grade</th>
<th>Initial Base Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>87</td>
</tr>
<tr>
<td>B</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>75</td>
</tr>
<tr>
<td>C</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>60</td>
</tr>
<tr>
<td>D</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>53</td>
</tr>
</tbody>
</table>

Average Three Test Scores

| A’s Scores         | 90     |
|                   | 84     |
|                   | 87     |

\[
\text{A’s Base Score} = \frac{261}{3} = 87
\]

**Team Building.** Before starting any cooperative learning program, it is a good idea to start off with one or more team-building exercises just to give team members a chance to do something run and to get to know one another. For example, teams might be given a chance to create team logo, banner, song, or rap.
Assigning Students to Initial Tournaments Tables

Make a copy of the Tournaments table assignment sheet (in Appendix). On it, to form teams (see table 1.6). Count the number of students in the class. If the number list students from top to bottom in past performance, using the same ranking you used is divisible by three, all Tournaments tables will have three members; just assign the first three students on the list to table 1, the next three to table 2, and so on. If there is a reminder to the division, one or two of the top Tournaments tables will have four members. For examples, a class of twenty-nine students would have nine Tournaments tables, two of which would have four members. The first four students on the ranked list will be assigned to table one, the next four to table two, and three each to the other tables (See table 1.6). These numbers are only for your records; in announcing table assignment to children, call them table blue, red, green, etc., in random order, so that students will not know exactly how tables are assigned.

Table 1.6
Tournament Number

<table>
<thead>
<tr>
<th>Student</th>
<th>Team</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
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<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Red</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>C</td>
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<td>1</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>D</td>
<td>Yellow</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>E</td>
<td>Blue</td>
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<tr>
<td>F</td>
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<tr>
<td>G</td>
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<td>I</td>
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<td>M</td>
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<tr>
<td>N</td>
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<td>O</td>
<td>Blue</td>
<td>5</td>
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<td>P</td>
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<td></td>
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<tr>
<td>Q</td>
<td>Green</td>
<td>5</td>
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</tr>
</tbody>
</table>

How to start TGT

Begin with the schedule of activities described in the following section. After teaching the lesson, announce team assignments and have students move their desks together to make team tables. Tell students they will be working in teams for several
weeks and playing academic games to add points to their team scores, and that high-scoring teams will receive recognition.

**Schedule of Activities.**

TGT consists of a regular cycle of instructional activities, as follows:

*Teach.* Present the lesson

*Team study.* Students work on worksheets in their teams to master the material.

*Tournaments.* Students play academic games in ability- homogeneous, three member Tournaments tables.

*Team recognition.* Team scores are computed based on team members' Tournaments scores, and teams are recognized if they exceed pre-set criteria.

**Teach**

Time: 1—2 class periods

Main idea; present the lesson

Materials needed; lesson plan

Each lesson in TGT begins with a class presentation. The presentation should cover the opening, development, and guided-practice components of total lesson; the team activities and independent practice and assessment, respectively. In lesson, stress the following (adapted from Good, Grouws and Ebmeier, 1983).

**Opening**

- Tell students what they are about to learn and why it is important. Arouse student curiosity with a puzzling demonstration, real-life problem, or other means.
- You may have students work in their teams to "discover" concepts or to whet their appetites for the lesson.
- Briefly review any prerequisite skills or information.

**Development**

- Stick close to the objectives that you want students to learn.
- Focus on meaning, not memorization-
 Actively demonstrate concepts or skills, using visual aids, manipulatives, and many examples.
 Frequency assess student comprehension by asking many questions.
 Explain why an answer is correct or incorrect, unless this is obvious.
 Move to the next concept as soon as students have grasped the main idea.
 Maintain momentum by eliminating interruptions, asking many questions, and moving rapidly through the lesson.

**Guided Practice**
 Have all students work problems or examples or prepare answers to your questions.
 Call on students at random. This makes all students prepare themselves to answer.
 Do not give long class assignments at this point. Have students work one or two problems or examples or prepare one or two answers, then give them feedback.

**Team Study**
Time: 1—2 class periods
Main idea: students study worksheets in their teams
Materials needed: two worksheets for every team two answer sheets for every team.

During team study, team members' tasks are to master the material you presented in your lesson and to help their teammates master the material. Students have worksheets and answer sheets they can use to practice the skill being taught and to assess themselves and their teammates. Only two copies of the worksheets and answer sheets are given to each team—this forces teammates to work together—but if some students want their own copies, the teacher may make additional copies available.

On the first day of team work in TGT one should explain to students what it means to work in teams. In particular, before beginning team work discuss the following team rules (which you may list on a bulletin board or chalkboard):
1. Students have a responsibility to make sure that their teammates have learned the material.
2. No one is finished studying until all teammates have mastered the subject.
3. Ask all teammates for help before asking the teacher. ("Ask three before me,')
4. Teammates may talk to each other softly.

**Tournaments**

Time: one class period

**Main idea:** Competition at three-member, ability-homogenous tournament tables.

**Materials needed:** Tournament table assignment sheet, filled in one copy of game sheet and game answer for each tournament table one game score sheet (in Appendix) for each tournament table one deck of numbered cards, corresponding to the number of questions on the game sheet, for each tournament table.

At the beginning of the tournament period, announce students’ tournament-table assignments and have them move desks together or go to tables serving as tournament tables. Scramble the numbers so that students won’t know which are the “top” and “bottom” tables. Have selected students help distribute one game sheet, one answer sheet, one deck of number cards, and one game score sheet to each table. Then begin the game.

To start the game, the students draw cards to determine the first reader—the student drawing the highest number. Play proceeds clockwise from the first reader.

The first reader shuffles the cards and picks the top one. He or she then reads aloud the question corresponding to the number one the card, including the possible answer if the question is multiple-choice. For example, a student who picks card 21 reads and answers questions 21. A reader who is not sure of the answer is allowed to guess without penalty. If the content of the game involves problems, all students (not just the reader) should work the problems so that they will be ready to challenges. After the reader gives an answer, the student to his or her left (first challenger) has the option of challenging and giving a different answer. If he or she passes, or if the second challenger has an answer different from the first two, the second challenger may challenge. Challengers have to be careful, however, because they must return a previously won card to the deck (if they have one) if they are wrong. When everyone has answered, challenged, or passed, the second challenger (or the player to the reader’s right) checks the answer sheet and reads the correct answer aloud. The player
who gave the correct answer keeps the card (if any) to the deck. If no one gave a correct answer, the card returns to the deck.

For the next round, everything moves one position to the left; the first challenger becomes the reader, the second challenger becomes the first challenger, and the reader becomes the reader, the second challenger becomes the first challenger, and reader becomes the second challenger. Play continues, as determined by the teacher, until the period ends or the deck is exhausted. When the game is over, players record the number of cards they won on the game score sheet in the column for game 1. If there is time, students reshuffle the deck and play a second game until the end of the period, recording the number of cards won under ‘Game2’ on the score sheet (in Appendix).

All students should play the game at the same time. While they are playing, move from group to group to answer questions and be sure that everyone understands the game procedures. Ten minutes before the end of the period, call “Time” and have students stop and count their cards. They should then fill in their names, teams, and scores on the game score sheet (in Appendix).

Have students add up the score they earned in each game (if they played more than one) and fill in their day’s total. For younger children (fourth grade or below), simply collect the score sheet. If students are older, have them calculate their own tournament points. Table Summarizes tournament points for all possible outcomes. At a three person table with no ties the top scorer receives sixty points, the second scorer forty points and the third scorer twenty points. If there are more or less than three players or if there are any ties, use table to determine points for each student. When everyone has calculated his or her tournament points, have a student collect the game score sheets.

Team Recognition

Main idea: figuring team scores and preparing certificates or other rewards.

Figuring Team Scores

As soon as possible after the tournament, figure team scores and prepare team certificates to recognize high-scoring teams. To do this, first check the tournament
points on the game score sheets. Then, simply transfer each student’s tournament points to the summary sheet for his or her team, add all the team members’ scores, and divide by the number of team members.

**Recognizing Team Accomplishments**

Three levels of awards are given, based on average team scores:

<table>
<thead>
<tr>
<th>Criterion (Team Average)</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>GOOD TEAM</td>
</tr>
<tr>
<td>45</td>
<td>GREAT TEAM</td>
</tr>
<tr>
<td>50</td>
<td>SUPER TEAM</td>
</tr>
</tbody>
</table>

You may give certificates (such as those in Appendix) to teams that meet Great team or Super team criteria. Good teams should just be congratulated in class. Instead of or in addition to team certificates, you may wish to display each week’s successful teams on a bulletin board, posting their pictures or team names in place of honor. However you recognize team accomplishments, it is important to communicate that team success (not just individual success) is important, as this is what motivates students to help their teammates learn.

**Bumping**

Bumping, or reassigning students to new tournament tables, must be done to prepare for the next tournament. It is easiest to do the bumping when you are figuring team scores. To bump students use following steps:

1. Use the game score sheets to identify the high and low scorers at each tournament table. On the tournament table assignment sheet, circle the table assignments of all students who were high scores at their tables. If there was a tie for high score at any table, flip a coin to decide which number to circle; do not circle more than one number per table.
2. Underline the table numbers of students who were low scorers. Again, if there was a tie for low score at any table, flip a coin to decide which to underline; do not underline more than one number per table.

3. Leave all other table assignments as they were including numbers for absent students.

4. In the column for the next tournament, transfer the numbers as follows: If the number is circled, reduce it by one (4 becomes 3). This means that the winner at table 4 will compete the following week at table 3—a table where the competition will be more difficult. The only exception is that 1 remains 1, because table 1 is the highest table. If the number is underlined, increase it by one (4 becomes 5), except the lowest table, where the low scorer stays at the same table (for example, 10 remains 10). This means that the low scorer at each table will compete the next week at a table where the competition will be less difficult. If the number is neither underlined nor circled, do not change it for the next tournament; transfer the same number.

1.14 BENEFITS OF COOPERATIVE LEARNING METHOD

Benefits of cooperative learning method are categorized as academic benefits and social benefits.

Academic Benefits

In the process of application of cooperative learning method, as a result of numerous activities which are held either in the classroom or out of the classroom,
various academic developments and changes takes place. Researches carried out on cooperative learning method have put forward that; it cultivates student’s thinking skills (Webb 1980; Smith et al. 1981; Slavin 1996), it encourages critical thinking and helps the students to express their opinions throughout the discussion sessions (Peterson and Swing 1985; Nelson-Legall 1992), it increases student’s abilities and practical skills both in and out of the classroom and it improves theirs skills of processing information(Johnson et al. 1986; Webb et al. 1986; Male 1990; Bruffee 1993; Tannenberg 1995), it improves students’ oral communication skills (Yager et al. 1985-b; Bershon 1992), discussions being held throughout learning activities help students remember the content of the context(Johnson and Johnson 1979; Ames and Murray 1982; Dansereau 1985), it increases the responsibility of learning and creates an efficient and exploratory environment (Slavin 1980; Baird and White 1984; Leikin and Zaslavsky 1997) it provides the teacher candidates with the training of effective teaching strategies (Johnson and Johnson 1990; Artut and Tarim 2007) it prevents the teachers from being seen as the only source of information(Felder 1997), it encourages the learning-based rather than race-based approach and it also improves the rate of attendance and the rate of researches carried out by the students (Janke 1980; Cooper et al., 1984; Davis et al. 1990)

Social Benefits

The cooperative learning method provides a basis for the formation of social experiences of the individual and the increase of their courage for these experiences. Teacher, in order to form and improve social skills, plays an active role in students’ interaction with each other and in facilitation of the process. Administrators, school personnel and families form the complementary components of the cooperative learning process. Through this formation, students who have economic and emotional problems and problems concerning the family are provided support (Kessler et al. 1985; Carpenter 2003). Cooperative learning, by means of social support systems and social interaction methods (Cooper, et al., 1984; Johnson et al. 1998; Doymuş, et al., 2004; Şimşek 2005) builds and environment that assures positive attitudes towards the solution of problems and resolution of controversies (Messick and Mackie 1989; Sherman 1991). This method, in the context of interpersonal relations, improves
students’ responsibilities towards each other and helps to clear away misinterpretations (Bonoma et al. 1974; Webb 1980; Jonhnson and Johnson 1985; Stahl and Sickle 1992; Johnson et al. 1998) strengthens empathising and enables viewing events from different perspectives (Swing and Peterson 1982; Slavin et al. 1962; Deutsch 1985; Yager et al. 1985-b; Hooper and Hannafin 1988; Felder 1997) while maintaining personal responsibility, it helps forming a team by actualising certain approaches to solve problems. In this process, students put into practice work and community models regarding the roles in their groups (Slavin 1983; Sandberg 1995; Johnson et al. 1998). Implementations of cooperative learning enhances the leadership skills for both male and female students (Bean 1996). This method makes it possible for the students both individually and in classroom environments to develop better communication skills and establish academic relations (Tinto, 1997). Cooperative learning method, in connection with its above mentions features, helps to attain a democratic attitude (Şimşek et al., 2006;) that cooperative learning techniques promote student learning and academic achievement increase student retention enhance student satisfaction with their learning experience help students develop skills in oral communication develop students’ social skills promote student self-esteem help to promote positive race relations.

1.15 PITFALLS OF COOPERATIVE LEARNING

Slavin (1995) identified the following pitfalls related to cooperative learning:

1) Free Rider

If not properly constructed, cooperative learning methods can allow for the “free rider” effect in which some group members do all or most of the work (and learning) while others go along for the ride.

The free – rider effect is most likely to occur when the group has a single task, as when they are asked to hand in a single report, complete a single worksheet, or produce one project.

2) Diffusion of Responsibility

Diffusion of responsibility is a situation in which students who are perceived to be less skillful are ignored by other group members. For example, it a group’s
assignment is to solve a complex mathematics problem, the ideas or contributions of student believed to be poor at mathematics could be ignored or brushed off, and there is little incentive for the more active participants in the problem solving activity to take time to explain what they are doing to the less active group members.

3) Learning a part of task specialization

When each group member is made responsible for a unique part of the group’s task as in jigsaw, Group Investigation and related method, there is danger that students may learn a great deal about the portion of the task they worked on themselves but not about the rest of the contact. However, these dangers are automatically controlled in some methods of cooperative learning.

1.16 ACADEMIC ACHIEVEMENT

Academic achievement may be defined as excellence in all academic disciplines, in class as well as co-curricular activities. It includes excellence in sporting behaviour, confidence, communication skills, punctuality, arts, culture and the like which can be achieved only when an individual is well adjusted. Trow (2004) defined academic achievement as “knowledge attaining ability or degree of competence in school tasks usually measured by standardized tests and expressed in a grade or units based on pupils’ performance”. Good (1959) refers to academic achievement as, “The knowledge obtained or skills developed in the school subjects usually designed by test scores or marks assigned by the teacher”. Mehta (1969) defined academic achievement as “academic performance includes both curricular and co-curricular performance of the students. It indicates the learning outcome of the students. In class rooms students performs their potentials efficiently, as a result of it, learning takes place”. The learning outcome changes the behaviour pattern of the student through different subjects.

Academic achievement is the performance of students in the field of education and the types of environment found at home plays, perhaps, a very important role in determining academic achievement in children. The environment assessed in home was related to emotional and verbal responsivity, acceptance of child’s behaviour organisation of environment, provision of play materials, parental involvement with
child and opportunities for variety in daily stimulation. The child rearing issue is of major concern in contemporary society. Childhood has been accepted to be the most sensitive and vulnerable stage of an individual’s life during which care and nurturance pay a significant role. The mind of a child is considered as clean slate (tabla rasa) on which attitudes, values, beliefs etc. can easily be inscribed. The kind of care children receive is greatly reflected in their personalities. The child needs to be handled scientifically so as to develop desirable behavioural patterns leading to the emergence of good human being, which can contribute to the ultimate progress of family in particular and society in general. It calls for an environment that encourages activity, experimentation and manipulative experiences. Deficiencies in the environment during this period may cause irreparable damage to future development of the child where no subsequent attention may really make up the loss. According to Ballard, family was the original social institution from which all other institutions develop. It is, in fact, the foundation of all social organisations.

According to Mayuri & Devi (2003), “The outcome of education determines the quality of life, progress and status of people living anywhere in the world. In fact, it appears that the whole system of education revolves around the academic achievement of students. Thus a lot of time and effort by the schools is used for helping students to achieve better in their scholastic endeavors. Academic performance is a complex behavior. Research has consistently shown that academic achievement is not an outcome of any single factor; rather it is the result of the interplay of a large number of factors (Gupta, 1993). Many reasons have been advanced as the cause of high rates of failure, including bad study habits, low IQ, faulty teaching methods, erroneous examination systems, social and economic disparities etc.

An achievement is all and obtaining for a exertion or an accomplishment of an effort, Achievement is thus an attainment, a proficiency gained or an ability required. In the field of education an achievement is the amount of knowledge or skills that a child has learn in a particular field or subject it is an exposition his present level of performance. Academic Achievement is related to the acquisition of principles and journalization and the capacity to perform certain manipulation, objectives, symbols
and idea’s. Crow and Crow (1969) defined, “Academic Achievement as the extent which a learner is profiting from instruction in a given area of learning i.e. achievement is reflected by the extent to which a learner is profiting from instructions in a given area of learning i.e. achievement is reflecting by the extent to which skill or knowledge has been imparted to him.” Academic Achievement is the pivot or centre of educational growth and development. It has permanent importance in the field of educational research.

In a classroom students are involved in developing and reconstructing knowledge through experience, motivation, cooperation, exploring talk and teacher’s intervention. Students need opportunities to construct knowledge by solving real problems through asking and refining questions, designing and conducting investigations, gathering, analyzing and interpreting information and data, drawing conclusions and reported findings (Blumenfield, 1993).

The assessment of academic achievement has been largely confined to the evaluation in terms of information, knowledge and understanding. It is the competence of students shown in school subjects for which they have taken instruction. The test scores or grades assigned to the students on the basis of their performance in the achievement test determine the status of pupils in the classroom (Singh and Singh, 2007).

In other words, it refers to the pupils’ knowledge attained and skills developed in the school subjects and assessed by the authorities with the help of achievement tests in the form of examination. As Stephen (1960) pointed that academic achievement is the unique responsibility of educational institution established by the society to promote the development of learners. The development of the learners is possible only if proper individual attention is given to them for enhancing the knowledge attained or skills developed in school subjects usually reflected by test scores or marks assigned by the teachers or by both (Good, 1973).

Thus, there are various aspects of the concept of academic achievement which have a great bearing on the personality of students. From an early age, a sense of achievement is a source of good feeling and self esteem and failure as a source of
disgrace and self reproach. Its introduction is concerned with the quantity and quality of learning in a subject or group of subjects, assessed by examination marks (Pandey, 1998). It is the status or level of a person’s skills, the range and depth of his knowledge or his proficiency in a designated area of learning or behaviour (Horrock, 1976).

1.16.1 Factors affecting Academic Achievement

Academic achievement is a multidimensional and multifaceted phenomenon. There are many factors which affect academic achievement viz. intelligence, personality, motivation, school environment, heredity, home environment, learning, experiences at school, interests, aptitudes, family background, socio economic status of the parents and many more other factors influenced the academic achievement. Sinha (1970) reported that hard work, intelligence, memory, good health, availability of books, methods of study, financial security and interest in social and practical work affect the academic scores.

A number of studies have been carried out to identify and analyses the numerous factors that affect academic performance in various centres of learning. Their findings identify students’ effort, previous schooling (Siegfried & Fels, 1979), parents’ education, family income (Devadoss & Foltz, 1996), self motivation, age of student, learning preferences (Aripin, Mahmood, Rohaizad, Yeop, & Anuar, 2003), class attendance (Romer, 1993), and entry qualifications as factors that have a significant effect on the students’ academic performance in various settings.

A number of studies have been carried out to identify causal factors of poor academic performance in a number of institutions worldwide. Most of these studies focus on the three elements that intervene, that is, parents (family causal factors), teachers (academic causal factors), and students (personal causal factors) (Diaz, 2003). The combination of factors influencing academic performance, however, varies from one academic environment to another, from one set of students to the next, and indeed from one cultural setting to another.

Subjective factors are related to the individual himself while influencing one’s achievement as intelligence, learning ability, self efficacy, learning style, study habits, creativity, level of aspiration, self concept, locus of control etc. whereas objective
factors are related to the environment of the individual as socio economic status, educational system, family environment, evaluation system, value system, teachers’ efficiency, school situation and environment.

Hence, it could be concluded that the gender, geographical area in which the student live and type of teaching method are exposed may influence academic success of the students at all levels of education. Gender, locale and Parental education and type of teaching methods have direct influence on the academic achievement of the students.

1.16.2 Cooperative Learning and Academic Achievement

Academic achievement has become a yardstick of self worth and success. Cooperative learning usually result in positive student outcomes in three primary domains: academic achievement; interpersonal abilities; and social development (Karnes & Collins, 1997), Which include higher achievement and greater productivity, high level reasoning, generation of new ideas and solutions; motivation for learning; personal responsibility, more caring, supportive, and committed relationships, and social competence and self-esteem. Teachers who employ cooperative learning methods could accomplish a number of important goals simultaneously. Cooperative learning provides opportunities for teachers to maximize achievement and greater productivity of all students (Johnson & Johnson 1994)

The review of another 60 studies of cooperative learning conducted in elementary and secondary schools between 1972 and 1987 found cooperative learning to be an effective means of increasing student achievement (Slavin, 1990). Similarly, a meta-analysis of 122 studies on cooperative learning was carried out by Johnson et al. (1981) and their analysis supports the overwhelming superiority of cooperation for promoting student achievement and productivity over competitive and individualistic methods. Polloway, Patton and Serna (2001) found that cooperative learning arrangements are useful for increasing achievement, encouraging student involvement, and enhancing motivation for learning.

Cooperative learning produces higher achievement, more positive relationships among students and healthier psychological adjustment than do competitive or individualistic experiences. (Johnson, Johnson and Smith, 1991) Slavin
(1983) postulated the following effects of major characteristics of cooperative learning on achievement:

- Specific Group Rewards Based on Member’s Learning are likely to increase the effects of cooperative learning on student achievement.
- Task specialization is likely to have a positive effect on student learning of the basic skills in cooperative learning methods, but only if there are incentives for student to learn from each other and only in subject that lead themselves to being broken to subtopics.
- Group Competition is likely to increase the effect of cooperative learning on student achievement.
- Equal opportunity scoring system likely to increase the effect of cooperative learning on achievement.

1.17 ANXIETY

Anxiety is defined as “a painful or apprehensive uneasiness of mind usually over an impending or anticipated ill” (Merriam-Webster, 2012). Students experiencing academic anxiety feel apprehensive over academic tasks. Students can feel anxiety related to every academic task. Some may only feel anxiety related to test taking or other specific tasks. Anxiety is not always negative. Some students can be motivated by anxiety. The desire to achieve high puts a lot of pressure on students which becomes tension and anxiety. Anxiety in a way, is the most intimate experience to man. It enters into man's life with the first breath and ends with the last. It is the main cause of all mental disorders. The word 'anxiety' came from the Latin word 'Anxients' which means 'experience of varying blends of uncertainty, agitation and threat'. The credit to introduce the word in psychology goes to Freud (1894). He has expressed that anxiety results due to suppression of romantic sexual tensions.

Anxiety is a prolonged state of fear. It is an emotion that is difficult to define and even more difficult to reliably detect in performance. “Nervousness” is often used to synonymously with anxiety. Anxiety plays an important role in the acquiring of motor skill as well as in athletic performance. Anxiety can either enhance or inhibit performance. Whether its effect is positive or negative depends on how an individual athlete perceives the situation. People with low and high levels of anxiety have been
known to perform poor and there is also a positive relationship between high and low level of anxiety. But moderate level of anxiety seems best for the acquisition and performance of motor skills.

Anxiety is a normal reaction to certain situations. A small level of anxiety is normal, but severe anxiety can be a serious problem. Academic anxiety can become more detrimental over time. As a student’s academic performance suffers, the anxiety level related to certain academic tasks increases (Huberty, 2009). Most teachers will have students with social anxiety and/or academic anxiety. Social anxiety can also affect a student’s academic performance. If a student has social anxiety, the student might not be able to complete group tasks or might not feel comfortable asking for help in class. Social anxiety can go along with or even lead to academic anxiety. Teaching students self-regulation can reduce anxiety and increase academic performance (Ader & Erktin, 2010).

Everyone suffers from anxiety in greater or lesser degree from time to time as a result of specific situations for which anxiety is reasonable response. Anxious children display poorer recall than less anxious children, and it is believed that the anxiety creates distracting stimulation that deflects attention from relevant incoming information and therefore impairs memory and intellectual abilities. The degree of anxiety associated with intellectual mastery occurs under two conditions – when expectancy of success or failure is moderate and when motivation is high but expectancy of success is low. In the first instance, the child is maximally uncertain about how he will perform on a test and the uncertainty generates anxiety. The child would be much less anxious if he knew definitely he would pass or fail. In the second instance, the child values competence on a particular intellectual task but expects to fail. When there is discrepancy between a valued goal and the expectancy of obtaining that goal, anxiety is likely to be generated.

Anxiety may be only regarded as a disorder when it occurs in the absence of an appreciable degree or a kind of threat or danger. Anxiety may be a diffuse, free-floating but persistent feeling of unease i.e. generalized anxiety; or it be a fear attached only to specific object or situations i.e. phobia. It may also occur intermittently in extremely acute form i.e. panic attacks. Anxiety may take the form of
a state which in temporary feeling of subjective and physical tension or it may be described as a trait in which it takes the form of relatively permanent personality characteristic. Hence, anxiety has been conceptualized as an experience or a learned drive or a learned response with drive properties, or a state of physiological arousal or a particular pattern of cortical or endocrinological functioning or a consequence of a person’s efforts to sustain his individuality or some combination of these.

1.17.1 Definitions of Anxiety:

According to Sullivan (1953), "Anxiety is a state of tension arising from the experience of disapproval in interpersonal relation."

According to Sarason et al. (1960), "The anxiety experience involves the fundamental emotions of fear, shame, guilt and anger."

According to Wilson, Nathan, O'leary, & Clark (1996), "Anxiety is a psychological disorder that is associated with significant suffering and impairment in functioning. It is a blend of thoughts and feelings characterised by a sense of uncontrollability and unpredictability over potentially adverive life events."

According to American Psychological Association Anxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure.” People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry. They may also have physical symptoms such as sweating, trembling, dizziness or a rapid heartbeat.

The term 'Anxiety' seems to be diffused if one looks at the various definitions because it lacks singular operational reference. Nevertheless, there is substantial convergence of opinion of its general nature. But there is agreement that the effects of anxiety are generally maladaptive and debilitating rather than adoptive and facilitating with respect to scholastic behaviour.

1.18 ACADEMIC ANXIETY

It is a fact that a nation's progress depends upon its students’ academic achievements and development. That's why every nation emphasizes students’ academic achievements. The academic achievements of the students are badly affected due to increase in anxiety in the society. There is no denying to the fact that
anxiety has increased in the society it not only affects education but also students’ personalities which linger throughout their lives.

Today, anxiety is a common phenomenon of every day’s life. It plays a crucial role in human life because all of us are the victims of anxiety in different ways. Generally, anxiety can either be a trait anxiety or a state anxiety. Trait anxiety is a stable characteristic or trait of the person. State anxiety is one which is aroused by some temporary condition of the environment such as examination, accident, punishment etc. On scanning Vedic literature it was found that the concept of examination anxiety as such did not exist in that period. The word ‘Chinta’ which according to some dictionaries stands for examination anxiety, has not been used in the same sense as in modern usage. Some invariably use “Chinta” for “Vichara” (Thought) which is also one of the accepted meaning of “Chinta”.

Swami Vivekananda defined anxiety as one of the thirty three subordinate feeling in Rhetoric’s. Such feeling will be aroused under the circumstances when the person has not been able to achieve his object or in worried over any forthcoming less, damage or painful thought.

Academic anxiety is an important educational problem that affects millions of students in colleges and schools over the world each year. Although a low level of anxiety can cause positive motivation for improvement of educational functioning, high levels of it can cause a disturbance in concentration, attention, storage of knowledge, recall and educational reduction. Academic anxiety afflicts students during school- related situations Psychologists’ reports that affected individuals frequently develop the problem due to developmental issues or their educational, family or genetic history.

Ravi and Latha (2005) conducted research to find out the adjustment and problem areas of many adolescent in the school and the results showed that most of the problems concentrated on academic anxiety followed by anxiety regarding their future. Indian parents have now realized the potentialities of education as an instrument that not only unlocks the doors of modernization, but also facilitates social mobility.
Matto & Nabi (2012) found that now a day most of school children they have high levels of academic anxiety. Parents and teachers should work together for excellent development of children. Timely encouragement and motivation is very important and should be efficiently used by both teachers and parents. Academic anxiety is a common issue that students cannot ignore if they want to succeed in school.

1.18.1 Types of Academic Anxiety:

Freud identified three kinds of academic anxiety viz. objective examination anxiety, neurotic examination anxiety and normal examination anxiety, depending on whether the source of danger was from external world or from internal impulses or conflicts.

Objective academic anxiety which was synonymous with fear was evoked by real dangers in external world. The intensity of objective examination anxiety was proportional to the actual danger. Neurotic Examination anxiety was evoked by unaccepted sexual and aggressive impulses that had been severely and consistently punished in childhood. A study of research reveals four bases of classification of examination anxiety which are listed below or are briefly described in the section to follow:-

(i) Normal academic anxiety and Neurotic academic anxiety
(ii) Situational academic anxiety and Character logical academic anxiety
(iii) Conscious academic anxiety and Unconscious academic anxiety
(iv) State academic anxiety and Trait academic anxiety

(i) Normal Academic Anxiety:

In normal academic anxiety, one may face certain kind an degree of threat. He faces limitation of his powers, the degrees of his vulnerability. Limitation and Vulnerability are not expressions of illness but are inherent in the nature of man.

Neurotic academic Anxiety: In neurotic examination anxiety, the individual faces a host of threats which endanger of the neurotic character structure. He must maintain these out of strongest inner necessity to protect his feelings of safety and unity. These have acquired enormous subjective value for him so that he must protect
them in order to maintain his sense of identity and his feeling of worth. At the core of examination anxiety, is a feeling of better helpless and lack of feeling of wholeness.

(ii) Situational Academic Anxiety:

When an individual feels Academic anxiety because of situation in which he finds himself, no sooner he is out of situation or gain control of it, then the examination anxiety subsides.

Characterological Academic Anxiety:

When examination anxiety becomes a component of psychic makeup of the individual, in such instance, the individual will worry about things that have happened and also about things that have not happened.

(iii) Conscious Academic Anxiety:

Where the individual is conscious of what he is anxious about. Here the cause is mostly known and the individual knows that he is anxious.

Unconscious Academic Anxiety:

When an individual experience enduring spells of tension and restlessness without knowing what makes him so, the examination anxiety is called unconscious examination anxiety. The manifestation of unconscious examination anxiety may be at the physiological level, usually in the form of psychosomatic reactions, e.g. asthma, migraine, urticaria, duodenal-ulcers, high and low blood pressure, general dyspepsia, anorexia nervosa ETC.

(iv) Trait Academic Anxiety:

Trait Examination anxiety is defined as a personality trait describing the extent to which individuals are prone to manifest ‘State’ examination anxiety under condition of stress. This corresponds to characterological examination anxiety.

State Academic Anxiety:

State examination anxiety is defined as a transitional state of apprehension and tension which is reaction of stress. This corresponds to situational examination anxiety.

1.18.2 Academic Anxiety as a Motivator:

There are many positive aspects of academic anxiety, but usually the negative aspects are highlighted. A little academic anxiety from time to time can be beneficial
to task performance. This is illustrated by the *Yerker-Dodson law* (1908) which postulates that the relationship between examination anxiety and learning is curvilinear. Neither lower nor higher level of academic anxiety improves performance. Optional positive effect is obtained in the middle range. There is research evidence which supports it and indicates a curvilinear relationship between test academic anxiety and performance. Application of *Yerker-Dodson Law* to human learning seems eminently sensible.

Hence, it is evident that educational or academic anxiety is a kind of anxiety which relates to the imminent danger from the environment of the educational institutions together with teacher and certain subjects like Chemistry, Physics for numerical, Mathematics, and English to some extent for some north Indian states. It is a mental sensitivity of uneasiness or distress in response to school or college circumstances that is perceived negatively. Academic anxiety is totally not a bad thing. However it is true that a high level of anxiety interferes with concentration and memory which are critical for day to day academic performance and success, however it is also true without any anxiety, majority of us would lack the enthusiasm and motivation to study for exams, do everyday homework or write any research papers. A modest amount of anxiety actually helps academic performance by creating morale and motivation. Academic anxiety is a common issue that students cannot ignore if they want to achieve academic success in school. If academic anxiety is not properly addressed, it can have many serious, severe and long lasting consequences such as causing a student to start hating a subject or a teacher, procrastinate, tell lies to parents, perform poorly on school work, absent classes to pursue activities that interest him and withdraw from socializing with peers or friends and may recoil into his own cocoon and drop school (Mahato and Jangir, 2012).

1.18.3 Cooperative Learning and Academic Anxiety

Academic anxiety is a kind of state anxiety which relates to the impending danger from the environment of the academic institutions including teachers, certain subjects like Mathematics, English etc. (Singh and Gupta, 1984). Cooperative Learning reduces classroom anxiety created by new and unfamiliar situations faced by students (Kessler, Price & Wortman 1985). Moreover, cooperative learning reduces
competitiveness and individualism but offers chances to build or transform the knowledge among students (Johnson, 2005). It is widely supported that anxiety is a significant factor that deteriorates the students’ learning or achievement which is measured by the test. When students’ anxiety decreases, they tend to perform better tasks. A relaxing environment helps and facilitates students’ learning. Cooperative learning is an approach that does not create threatening situations in the class. It is recommended that teachers incorporate this approach in their instruction by providing a variety of activities in groups and try to create a pleasant learning environment. It will make students have a good perception of learning as well as to make them feel like participating in class.

Cooperative Learning is one of the appropriate teaching techniques which lead to less anxiety and increase students’ self awareness from their learning procedure (Powel & Enright, 1990). Tests can be a major source of anxiety in a student’s learning process. Team testing as a learning technique can decrease stress, increase motivation to learn. The research findings suggest that cooperative learning enhances trust and mutual respect, declines anxiety, promotes meta-cognitive knowledge and encourages self-dignity and enthusiasm toward learning (Johnson & Johnson, 1989; Millis, 2010; Slavin & Karaweit, 1981).

1.19 SOCIAL COMPETENCE

Social competence is an important ingredient of modern civilization; and is the essential attribute of the members of a progressive onward moving society (Sharma, Shukla and Shukla, 1992). Social competence is the condition of possessing the social, emotional, and intellectual skills and behaviours needed to succeed as a member of society (Davidson, Welsh and Bierman, 2005). Bierman (2004) defined social competence as the capacity to coordinate adaptive responses flexibly to various interpersonal demands, and to organize social behavior in different social contexts in a manner beneficial to oneself and consistent with social conventions and morals. Broderick and Blewitt (2010) identified four categories of foundational social competencies: (1) affective processes (including empathy, valuing relationships, and sense of belonging), (2) cognitive processes (including cognitive ability, perspective taking, and making moral judgments), (3) social skills (including making eye contact,
using appropriate language, and asking appropriate questions), and (4) high social self-concept.

The success of an individual in the society depends largely upon the extent to which he has acquired the richness and potency of social competence desirable for his/her self-actualization, growth and development. It is acquired through social interaction and culture integration in different socio-cultural settings (Sharma, Shukla and Shukla, 1992). Social competence is a collection of specific social behaviour such as differential self-concept, consolidation of identity, habits of personal maintenance and care consistent with common peer group standards differentiations of feelings and implication’s, positive and affectionate personal relationship, appropriate regulations of antisocial tendencies, curiosity and active exploration of the environment, control of attention as a function of situational or task requirements, perceptual skills, fine motor dexterity, language skills, memory flexibility in the application of information processing, strategies, quantitative and rational concepts, understanding and skills, general knowledge of health, social environment, consumer behaviour, etc., competence motivation, problem solving skills, some positive attitudes towards learning and educational experiences. Social competence is a set of individual-level cognitive and non cognitive attributes that lead to an individual’s adaptive functioning, positive adjustment and goal attainment within their social environment (Rydell et al., 1997; Ewart et al., 2002; Baumrind, 1978; Clausen, 1991; Ford, 1982; Harter, 1982).

Child’s development is a product of a continuous dynamic interaction between the child and the experience provided by her/his family, peer-, school- and other social contexts. Furthermore, the experiences provided by the environment are not independent of the child, since her/his previous behavior may have been a strong determinant of current experiences (Sameroff, 1993). The main contexts for the children’s and adolescent’s socio-emotional well-being are their homes, peer networks and schools (e.g. Bronfenbrenner, 1979). Consequently, the significant social agents for children and adolescents are their mothers, fathers, friends, mates, peers, and teachers.
Social competence has been conceptualized as consisting of six categories of competence: adoption of social values, development of a sense of personal identity, acquisition of interpersonal skills, learning how to regulate personal behaviour in accord with societal expectations, planning and decision-making, and development of cultural competence (Kostelnik et al., 2002).

Behaviors that are dysfunctional and disapproved of in one context might be functional and approved of in another. Through thinking and feeling, the socially competent person is able to select and control which behaviors to emit and which to suppress in any given context, to achieve any given objective set by them or prescribed by others (Grossman and Adams, 1993).

Social development begins at birth and progresses rapidly during the pre-school years. It is clear that early childhood programs should include regular opportunities for spontaneous child-initiated social play. Berk and Winsler (1995) suggest that it is through symbolic/pretend play that young children are most likely to develop both socially and intellectually. Thus, periodic assessment of children’s progress in the acquisition of social competence is appropriate. When one refers to “a measure of social competence”, most likely one means a measure of one or more social skills (perceptual, cognitive or motoric), their manifestation in overt behaviour, or their outcome in terms of enhanced interpersonal relationships, causal or intimate (Schneider, 1993). Trower (1982) argued that assessment of social competent should encompass both an individual’s social knowledge and the ability to act upon it. A variety of formal and informal methods are appropriate for assessing social competence (Williamson and Dorman, 2002).

The link between adolescent attachment to parents and peer relationships is complex. Studies of the relationship between childhood attachment and social competence help trace a progression of early peer and parent relationships and link them with relationships in adolescence. Popularity measures in childhood are appropriate ways to measures social competence and social acceptance because the social network throughout most of childhood tends to be a large peer group, with a few close friends. This is especially true for young boys, who tend to travel in “packs,” while girls tend to pick a few close friends with whom they spend time
Overall, secure children seem to be better adjusted to the intellectual, social, emotional, and behavioral demands of an early school environment than insecure children, who tend to be more rejected and less well-liked by peers (Cohn, 1990; Granot & Mayseless, 2001).

During the school years, a mismatch between a child’s behaviour and contextual demands may develop from a behavioural problem, such as poor social competence or loneliness, into a functional impairment, such as social anxiety, social phobia or depression (Rapee & Spence, 2004; Stein & Stein, 2008).

A simple way to think about social competence is that it includes all the knowledge and skills children need in order to be effective in their interactions. More specifically, Kostelnik, Gregory, Soderman, and Whiren (2012) break this simplistic understanding into seven components that integrate knowledge, values and skills as they relate to self and others.

1. Social Values. (e.g., caring, helpfulness, flexibility, responsibility, honesty)
2. Positive Self-identity. (e.g., self-awareness, sense of competence, sense of worth)
3. Interpersonal Skills. (e.g., communicates ideas and needs, adjusts behavior to fit social circumstances, acknowledges other people’s rights)
4. Self-Regulation. (e.g., controls impulses, delays gratification, resists peer pressure)
5. Planning & Decision making, (e.g. makes choices, solves problems, plans ahead)
6. Cultural Competence. (e.g., recognizes and questions unfair treatment, demonstrates knowledge, comfort and respect for individuals of varying backgrounds)
7. Emotional Intelligence. (e.g., recognizes emotions in self and others, demonstrates empathy, gives and receives emotional support)

The main elements of social competence are universally shared; most children will obtain standards of social competence as defined by the community they live in.
1.19.1 Benefits of Social Competence

Research on social competence has collective evidence of the numerous benefits this attribute has on children. Children who demonstrate evidence of social competence experience higher levels of emotional satisfaction such as happiness, feelings of self-worth and successful interactions (Kostelnick, et al., 2012). However, the benefits of social competence are not limited to global feelings of personal and life satisfaction. Social competence has been associated with a variety of academic and classroom based competencies as well. Zins, Bloodworth, Weissberg, and Walberg (2004, as cited in Kostelnick, et al., 2012) collected evidence linking social competence in children to the following classroom accomplishments:

- greater academic motivation
- more positive attitudes toward school
- fewer absences
- more classroom participation
- higher math achievement
- higher language arts achievement
- higher social studies achievement
- higher grades
- fewer suspensions
- less tendency to drop out of high school

1.19.2 Enhancing Social Competence in the Classroom

As educators, we recognize that learning is occurring at many levels in our schools - during direct instruction, in cooperative learning groups, in the lunch room and on the playground. Observing and understanding the various skills that go into successful mastery of any situation is the first step toward supporting that skill. The child is sitting and actively listening to the lesson being taught instead of doing what they might prefer to do, such as chatting with their friends, reading to themselves, or running around and playing. Although we as teachers assume they come to our classes with the skills in hand to accomplish learning, not all students do - we must teach them about our expectations for classroom interactions and behavior.
McFall (1982) defined social competence simply as “somebody’s judgment that a person’s behavior in a given situation was effective”. Despite the lack of focus into social situations and prosocial behaviour, this definition captures the contributions of child-, behaviour-, situation-, and judgement-level factors that were later presented as primary factors associated with children’s and adolescents’ social competence (Dirks, et al., 2007). According to their review, knowing something about 1) the child of interest, 2) the situation in which the behaviour is conducted, 3) the behaviour that was selected, and 4) the person evaluating the behaviour, would explain a major amount of variability in social functioning.

Later on in development, there is abundant evidence on the importance of peer relations for adolescents’ psycho-social well-being (Ladd & Troop-Gordon, 2003; Prinstein, Boergers & Vernberg, 2001). Although more advanced socio-cognitive abilities may offer a better means than before to handle these current socio-emotional issues, this change may also mean increased vulnerability to an adolescent’s socio-emotional well-being. For example, Rapee and Spence (2004) have suggested that early- to mid-adolescence is likely to be a critical time for many individuals with social anxiety due to the increasing importance of social interactions at this developmental stage. For example, peer victimization is one of the strongest traced risk factors for loneliness, social anxiety and depression (Eslea, Menesini, Morita, O’Moore, Mora-Merchán, Pereira & Smith, 2003; Juvonen, Graham & Schuster 2003; Spence et al., 2000; Storch & Masia-Warner, 2003). Excessive teasing, criticism, bullying, rejection, ridicule, humiliation and exclusion by significant others can be found behind the development of social anxiety and social phobia (Asher & Coie, 1990; Prinstein, et al., 2001; Ranta, Kaltiala-Heino, Pelkonen & Marttunen, 2009a; Rapee & Spence, 2004). Peer responses of this type are likely to reflect a long-term history of social interaction patterns and a gradual establishment of vicious cycles (Blöte, Kint & Westenberg, 2007; Rapee & Spence, 2004). Lonely and socially anxious children and adolescents are less popular and more likely to be ignored, neglected, rejected and excluded by peer groups (Blote & Westenberg, 2007; Gazelle & Ladd, 2003; Rapee & Spence, 2004). Vice versa, research findings point out that these children and adolescents tend to demonstrate more inhibited and less assertive
behaviour in social situations, inferior social skills (Horowitz, French & Anderson, 1982; Lau & Kong, 1999) and more negative interpretations of social situations (Blote & Westenberg, 2007; Miers, Blöte, Bögels & Westenberg, 2008) than others. Hence, Social competence is increasingly multidimensional during adolescence as adolescents encounter a variety of new social situations and can respond with a broad range of appropriate behaviors.

1.19.3 Cooperative Learning and Social Competence

Social competence is the ability to use the appropriate social skills in every aspect of life. Social skills are composed of competencies necessary for students to initiate and maintain positive social relationships with their peers, teachers, family, and other community members (Walker, 1995). Social Skills are necessary for becoming successful and independent in the world outside the school walls and need to be incorporated into the curriculum for all children. Social skills must be taught and considered an important part of a child’s development.

Cooperative learning opportunity is an excellent strategy for encouraging positive peer interactions and generalization of social skills as well as promoting academic achievement (Goldstein, 1999). Cooperative learning has been recognized by teachers as a convenient technique which brings the opportunity to develop high-order social skills in learners through their organization in small groups where they learn on their own, without the constant and direct teacher supervision. Cooperation between students provides countless benefits including increase of their learning achievement, social skills, and conflict resolution and making decisions, which are essential skills in the current real-life tasks. Cooperation also approaches instruction of social skills in a sequential, deliberate manner. Rather than teaching the specific social skill needed for today’s lesson. Cooperative learning groups have been found to be effective settings for teaching social skills (Goodwin, 1999). It appears to be a viable method to promote a sense of community within the classroom while teaching and providing for positive, prosocial peer interactions in a context that is personally beneficial and beneficial to others.
1.20 RATIONALE OF THE STUDY

As the world grows more complex and as democracy spreads throughout the world, the need for learners to interact cooperatively, work towards group goals and think critically has undoubtedly increased. Our education aims at all round development of the personality of the child. Education is meant for developing three domains i.e. cognitive, affective and conative. Every one’s has own learning capacity based on his/her genetic make-up and interest. It is also true that individual may not have inborn ability to perform the given task efficiently hence all methods of instruction do not align with learning capacities of every individual learner. Teachers have to depend on large group instruction in which students experience problems in understanding of concepts, questions & answers and projects which initiates need of cooperative work to get task accomplish.

Emotional and social pressure is increasing day by day especially at high school stage. Students are frequently troubled with their daily problems because they do not have the capacity and training to solve problems. Parents and educational institutions pressurize the children to excel in academics and other areas of performance. Cooperative learning in the classroom is an effective way to promote language learning of all learners. Cooperative learning is a strategy that develops healthy interaction skills, promotes success of the individual student and group members, and forms personal and professional relationships (Johnson & Johnson, 1999). Research evidence of nearly 600 experimental studies or so over the last twelve decades has tended to show that cooperative learning technique (Johnson and Johnson, 2001) help: promote student learning and academic achievement, increase student retention, enhance student satisfaction with their learning experience, help students develop skills in oral communication, develop students’ social skills, promote students’ self-esteem, increase liking of the school and promote tolerance for individual differences.

During the past fifty years, cooperative learning has been the least used goal structure in instructional situations. The use of cooperative learning has both its advocates and its critic. Cooperative learning is now widely recognized as one of the most remarkable and fertile areas of theory, research, and practice in education.
Finally we can say that cooperation, collaboration, consideration, creativity, responsibility, participation all these things seem to become involved in the 21st century, as does the suggestion of stretching the student's experience beyond individual knowing to a kind of collaborative wisdom. Cooperative Learning is one way of providing students with a well defined framework from which to learn from each other. Students work towards fulfilling academic and social skill goals that are clearly stated. It is a team approach where the success of the group depends upon everyone pulling his or her weight.

Cooperatively Learning has overwhelmingly attracted the attention of Educationalists, Socialists and psychological scientists. Yet there are many important theoretical as well as practical issues yet to be resolved in research on cooperative learning. We can no longer ignore the potential power of the peer group, perhaps the one remaining free resource for improving schools.

According to Mayuri & Devi (2003), “the outcome of education determines the quality of life, progress and status of people living anywhere in the world. Learning outcomes is the unique responsibility of all educational institutions established by the society to promote a wholesome scholastic development of the pupils”. The whole system of education revolves around the academic achievement of students. Academic achievement is a multidimensional and multifaceted phenomenon. Academic anxiety is affected by many factors which include intelligence, personality, motivation, school environment, heredity, home environment, and learning, experiences at school, interests, aptitudes, family background, anxiety and social skills. The assessment of academic achievement has been largely confined to the evaluation in terms of information, knowledge and understanding. Academic anxiety is a common issue that students cannot ignore if they want to achieve academic success in school. If academic anxiety is not properly addressed, it can have many serious, severe and long lasting consequences such as causing a student to start hating a subject or a teacher, procrastinate, tell lies to parents, perform poorly on school work, absent classes to pursue activities that interest him and withdraw from socializing with peers or friends and may recoil into his own cocoon and drop school (Mahato and Jangir, 2012).
Social competence refers to the social, emotional, and cognitive skills and behaviors that student need for successful social adaptation. A student's social competence depends upon a number of factors including the student's social skills, social awareness, and self-confidence. Social skills represent the ability to perform those behaviors that are important in enabling a person to achieve social competence (McFall, 1982; Spence, 1995). The ability to perform these important behavioral social skills is a necessary but insufficient determinant of competent social functioning. There are many other factors that determine how an individual actually behaves in a social situation. Children differ in the degree to which they have opportunities to learn appropriate social and interpersonal skills. Due to increasing pressure for academic achievement, the child gets anxious and becomes emotionally unbalanced and socially maladjusted. To deal effectively with his social relations, a person needs to acquire the social skills that enable him to deal with people tactfully and with understanding. Due to high anxiety, child develops certain personality traits which inhibit his proper physical, emotional and social development. All these factors add to emotional tensions of the child and make him an unbalanced personality.

Failure and poor achievement among high school students are serious problems faced by educationists, teachers, parents and administrators in the present time despite the fact that high school students have high general mental ability. Whether these failures are due to high level of anxiety or whether these are due to lack of emotional and social maturity or due to low general mental ability is to be seen. These were some of the questions, the answers to which would make this study meaningful. According to research review in the area of small group cooperative learning appears to have educational and social advantages. The proposed research in the area of cooperative learning will help us in the advancement of knowledge on the implementation front. Consequently, the investigator thought of exploring how cooperative learning can affect Academic Achievement, Academic Anxiety, and Social competence of high school students.
1.21 STATEMENT OF THE PROBLEM

EFFECT OF COOPERATIVE LEARNING ON ACADEMIC ACHIEVEMENT, ACADEMIC ANXIETY AND SOCIAL COMPETENCE OF HIGH SCHOOL STUDENTS

1.22 OPERATIONAL DEFINITIONS OF THE KEY TERMS

The terms used in the statement of the problem are defined as under:

(i) Cooperative learning

“Cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other’s learning. Students perceive that they can reach their learning goals if and only if the other students in the learning group also reach their goals” (Johnson et al., 1999).

(ii) Academic Achievement

Academic achievement means, “Knowledge attained or skills developed in the school subjects usually designed by test scores or by marks assigned by teachers or by both” (Good, 1973). Thus, Achievement, in the context of this study, will mean academic performance of students in Hindi Grammar taught through Teams Games Tournaments (TGT) under Cooperative Learning to be measured with the help of achievement test to be developed by the investigator.

(iii) Academic Anxiety

Academic anxiety is a normal response to the pressure of school. It can help to motivate students to study for tests or complete assignments. The definition given by Singh and Gupta (1984) was adapted as the operational definition of the term Academic Anxiety, “Academic Anxiety is a kind of state anxiety, which relates to the impending danger from the environments of the academic institutions including teacher and subjects. Sometimes, however, the anxiety can reach levels that hinder academic performance instead of improving it.

(iv) Social competence

Social competence is the ability to recognize, interpret and respond appropriately in social situations. Social competence has been defined as the social ability and interpersonal skill (Eisler, 1976) of an individual in effectively meeting a
person-situation interaction' or successfully dealing with 'an individual environmental factors'.

1.23 OBJECTIVES OF THE STUDY

The study intended to achieve the following objectives:

- To compare the academic achievement of students in Hindi Grammar adjusted on intelligence and socio-economic status, taught through Teams-Games-Tournaments (TGT) under cooperative learning and through traditional method before the experimental treatment.
- To compare the academic achievement of students in Hindi Grammar adjusted on intelligence and socio-economic status, taught through Teams-Games-Tournaments (TGT) under cooperative learning and through traditional method, after the experimental treatment.
- To compare the mean gain academic achievement scores of the experimental and control groups of students taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning and traditional methods.
- To compare the academic anxiety of students adjusted on intelligence and socio-economic status taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning and through traditional method before the experimental treatment.
- To compare the academic anxiety of students adjusted on intelligence and socio-economic status taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning and through traditional method, after experimental treatment.
- To compare the mean gain academic anxiety scores of the experimental and control groups of students taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning and traditional method.
- To compare the social competence of students adjusted on intelligence and socio-economic status taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning and through traditional method before the experimental treatment.
To compare the social competence of students adjusted on intelligence and socio-economic status taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning and through traditional method, after the experimental treatment.

To compare the mean gain social competence scores of the experimental and control groups of students taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning and traditional method.

1.24 HYPOTHESES OF THE STUDY

In order to realize the objectives of the study, the following hypotheses were formulated:

H₁ At the end of the experimental treatment, the group of students taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning methods attained a significantly higher Achievement score than the group of students taught through traditional method.

H₂ At the end of the experimental treatment the group of students taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning method attained a significantly higher mean gain score on the Academic achievement than the group of students taught through traditional method.

H₃ At the end of the experimental treatment the group of students taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning method attained a significantly lower mean score on Academic anxiety than the group of students taught through the traditional method.

H₄ At the end of the experimental treatment the group of students taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning method attained a significantly lower mean gain scores on Academic – Anxiety than the group of students taught through the traditional method.

H₅ At the end of the experimental treatment the group of students taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning method attained a significantly higher mean score on social competence than the group of students taught through traditional method.
At the end of the experimental treatment the group of students taught Hindi Grammar through Teams-Games-Tournaments (TGT) under cooperative learning method attained a significantly higher mean gain scores on social competence than the group of students taught through traditional method.

1.25 DELIMITATIONS OF THE STUDY
Keeping in view the constraints of time and resources, the present study was delimited as under:

- The study was conducted on 9th class students of Rohtak District only.
- The study was confined to Teams-Games-Tournaments (TGT) method despite the fact that there are other equally effective methods under cooperative learning.
- The effect of applying Teams-Games-Tournaments (TGT) methods was studied in the case of Hindi Grammar only.
- The present study was restricted to teaching inside the classroom.
- Only three units of the syllabus of Hindi Grammar of 9th class were taught.
- The impact of Teams-Games-Tournaments (TGT) under cooperative learning can be studied throughout the academic session. But in the proposed study effects were observed after fifty eight days only.
- Only 96 students of District Rohtak of Haryana Board were taken for the present study.