SUMMARY

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. 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 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!).
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.

Table 1
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>➢ Students work individually.</td>
<td>➢ Students work in small groups.</td>
</tr>
<tr>
<td>➢ Students have common learning goals and tasks.</td>
<td>➢ Students have individualized learning goals and tasks, different from those of other students.</td>
<td>➢ Students have shared learning goals and tasks within a group which may be similar or different from other groups.</td>
</tr>
<tr>
<td>➢ The teacher grades students using norm-referenced methods.</td>
<td>➢ The teacher grades students using criteria-referenced methods.</td>
<td>➢ The teacher grades students both on their work as a group and on their individual work.</td>
</tr>
</tbody>
</table>

The above three learning interactions can be separated but are linked in some ways, too. 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).

The acronym TASK (Robbins, Gregory and Herden 2000) can be used to remember the aspects of cooperative learning.
Thinking is built into the process
Accountability is essential Goal achievement: both individual and group
Social skills for team success
Keeping everyone on TASK: Roles, tasks, resources, novelty, simulation and clear expectations.
Similarly the acronym Groups conveys as follows
When we work in groups (Johnson and Johnson, 1996), we
Give Encouragement
Respect others
Stay on task
Use quite voices
Participate actively
Stay in on Group

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.

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.

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,
Cooperative Learning Techniques

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

**Teams Games Tournaments**

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 approach. 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. 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 they must pay careful attention during the class presentation, because doing so well help them do well in the games, and their games scores determine their team scores.

Teams

Teams are composed of four or five students who represent a cross-section of the class in 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 of simple, 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, 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. Illustrate the relationship between heterogeneous team and homogenous tournament tables.

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.

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. 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 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).
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. Many studies indicate that cooperative learning promotes a greater academic achievement than the traditional learning methods. Slavin (1983b) identified 46 field experiments on cooperative learning, conducted in elementary and secondary classes (Grade 2-9). The effect on cooperative learning on students’ achievement was clearly positive. Gender, locale and Parental education and type of teaching methods have direct influence on the academic achievement of the students.

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.

**ACADEMIC ANXIETY**

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. 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. 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.

**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). Research stresses on cooperative learning approach which can be used to reduce students’ anxiety in class. Along with describing the characteristics and elements of cooperative learning, where the students get into groups and each of the individual members performs his or her task contributing to the success of the whole group. 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 & Karawerit, 1981).

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).

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. Thus, periodic assessment of children’s progress in the acquisition of social competence is appropriate.

Research on social competence has collective evidence of the numerous benefits which attribute 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).

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 (CL) 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, pro-social peer interactions in a context that is
personally beneficial and beneficial to others.

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. 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.

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.

**STATEMENT OF THE PROBLEM**

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

**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 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'.

**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.

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.

H₆ 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.

DESIGN OF THE STUDY

An educational research is described as experimental when the researcher first, specifies a set of researchable hypotheses and then, establishes a systematic programme of data gathering under precisely defined conditions in an effort to test the hypotheses. The hypotheses provide a network of statements relating the impact of an independent variable or a set of independent variables on some outcome variables or dependent variables (Ingersoll, 1982).

According to Weiner (1977), the experimental method, which is suitable for testing hypotheses, is the strongest method for developing and understanding psychological concepts. Any experimental problem has two interrelated aspects, the design of the experiment and statistical analysis of the data. The latter aspect is directly dependent upon the former. Statistical methods can greatly increase the
efficiency of an experiment and also strengthen the conclusions so obtained (Montgomery, 1984).

A good experimental design should provide some explanation with respect to all the objectives of the experiment (Weiner, 1971) and be kept as simple as possible (Montgomery, 1984).

In the present study, a pre-test-post-test control group quasi experimental design was employed with a purposive sample in the form of intact sections of Class 9th of the same school. It involved two groups of students, i.e., experimental group and control group. The experimental group was taught through cooperative learning method and the control group taught through conventional method.

The intact sections were equated on intelligence and socio-economic status. A figurative representation of the design is given in Table 2.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Pre-Test</th>
<th>Independent Variables</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>X₁</td>
<td>Cooperative Learning (TGT)</td>
<td>X₂</td>
</tr>
<tr>
<td>Control Group</td>
<td>Y₁</td>
<td>No Intervention</td>
<td>Y₂</td>
</tr>
</tbody>
</table>

The design comprised three stages. The first stage involved pre-testing of all the students of two groups on intelligence, socio-economic status, and achievement in Hindi Grammar, academic anxiety and social competence. The second stage involved the experimental treatment, which consisted of teaching three units of 9th grade Hindi Grammar through cooperative learning methods (TGT) approach to experimental group and the conventional method was used for control group. In the third stage the students were post-tested on achievement in Hindi Grammar, academic anxiety and social competence. A schematic view of the phases of experiment is presented in Table 3.
Table 3  
Phases of the Study

<table>
<thead>
<tr>
<th>Stages</th>
<th>Treatments</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental Group</td>
<td>Control Group</td>
</tr>
<tr>
<td>1. Pre-testing</td>
<td>Measurement of Student’s</td>
<td>Measurement of Student’s</td>
</tr>
<tr>
<td></td>
<td>1. Intelligence</td>
<td>1. Intelligence</td>
</tr>
<tr>
<td></td>
<td>2. Socio-economic status</td>
<td>2. Socio-economic status</td>
</tr>
<tr>
<td></td>
<td>3. Achievement in Hindi Grammar</td>
<td>3. Achievement in Hindi Grammar</td>
</tr>
<tr>
<td></td>
<td>4. Social competence</td>
<td>4. Social competence</td>
</tr>
<tr>
<td>2. Treatment</td>
<td>Teaching Hindi Grammar through Cooperative Learning (TGT)</td>
<td>Teaching Hindi Grammar through Traditional method</td>
</tr>
<tr>
<td>3. Post-testing</td>
<td>Measurement of Student’s</td>
<td>Measurement of Student’s</td>
</tr>
<tr>
<td></td>
<td>1. Achievement in Hindi Grammar</td>
<td>1. Achievement in Hindi Grammar</td>
</tr>
<tr>
<td></td>
<td>2. Academic Anxiety</td>
<td>2. Academic Anxiety</td>
</tr>
</tbody>
</table>

STUDY VARIABLES  
In an experimental research, the relationship between two types of variables namely independent and dependent variables is studied. Independent variables are the causes, while dependent ones are effects. Another category of variables, which is equally important, is of the intervening variables. All these three kinds of variables, identified for the study are as discussed below.

Independent Variables  
As the impact of cooperative learning strategy was to be studied, the method of instruction or teaching in the form of cooperative learning methods was used as an independent variable. Teams Games Tournaments (TGT) of cooperative learning was used to see its effect on the achievement of students in Hindi Grammar, their academic anxiety and social competence. The experimental group was taught through Teams Games Tournaments (TGT) methods of cooperative learning and the control group was taught through the traditional method. Thus, cooperative learning method and the traditional learning method were the two independent variables for the study.
Dependent Variables

Achievement in Hindi Grammar, Academic Anxiety and Social Competence were taken as dependent variable. All these variables were measured twice during the course of the study – first before beginning the experimental treatment, i.e. at the pre-test stage and then after completing the experimental treatment, i.e. at the post-test stage.

Intervening Variables

There are certain variables known as intervening variables which have their effect on the academic achievement, academic anxiety and social competence. Intervening variables such as nature of school, grade level, subject to be taught, intelligence of pupils, socio-economic status of pupils, previous knowledge of pupils etc. were controlled experimentally.

Control Employed

It is necessary to control all those variables that may significantly affect the dependent variables. Hence, such intervening variables were controlled by employing suitable controls.

1. Nature of School

The sample was selected from a single Haryana Board JAT (H.A.M.S.) High School situated in an urban area of Rohtak.

2. Grade Level

Ninth class students were selected for the study and grade level was thus kept constant during the study.

3. Teacher

Experimental group and the control group were taught by the investigator herself to avoid any variation.

4. Subject

Both groups were taught same units of Hindi Grammar.

Duration of the Treatment

Both groups were taught for 58 days of 40 minutes period.
SAMPLE

The sample of the study comprised of 96 students studying in 9th Class of JAT (H.A.M.S.) High School, Rohtak. One section formed the control and the other section formed the experimental group.

Table 4
Sample of the Study

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Groups</th>
<th>Total No. of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Experimental group</td>
<td>48</td>
</tr>
<tr>
<td>2</td>
<td>Control Group</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>96</td>
</tr>
</tbody>
</table>

Selection of Control Group

The control group consisted of 48 students studying in 9th standard of the same school. The group was exposed to traditional method of instruction. No novel treatment was given. The investigator herself gave teacher-directed instruction, followed by cooperative learning settings for experimental treatment involved in the study after discussions with the guide and experts at the Department of Education, M.D. University, Rohtak.

Conducting the Experiment

The experiment was conducted in three phases as given below:
Phase 1: Administration of Pre-test
Phase 2: Conducting the Instructional programme; and
Phase 3: Administration of Post-test

TOOLS USED

Standardized Test
1. Verbal Intelligence Test (Dr. R.K. Ojha and Dr. K. Ray Chaudhary)
2. Socio Economic Status Scale (Dr. A.K. Kalia and Dr. Sudhir Sahu)
3. Academic Anxiety Scale for Children (Dr. A.K. Singh and Dr. A. Sen Gupta)
4. Social Competence Scale (Dr. V.P. Sharma, Dr. Prabha Shukha and Dr. Kiran Shukha)
Self Developed Tools
1. Achievement Test in Hindi Grammar (developed by investigator)
2. Cooperative Learning (TGT) lesson plans (developed by investigator)
3. Cooperative learning (TGT) worksheets (developed by investigator)
4. Formative Test (developed by investigator)

STATISTICAL ANALYSIS
To achieve objectives of the study, the data collected was statically analysed using the following techniques.
1. Descriptive statistics such as means and SDs were worked out on the score of achievement in Hindi Grammar, Academic Anxiety and Social Competence.
2. Analysis of variance (ANOVA) was used, in order to find out the significance of difference between means of intelligence and SES among experimental and control group.
3. ‘t’ test was employed for testing the significance of difference between the means of pupils achievement in Hindi Grammar, Academic Anxiety and Social Competence on pre-test, post-test and gain scores. Graphical presentation was given to depict the data pictorially. All calculations were made by using SPSS version 20.0.

The following levels were established to find out the significance of difference between means of different groups under consideration:
- 0.05 level
- 0.01 level

FINDINGS OF THE STUDY
1. No significant difference was found in achievement scores of experimental group and control group at pretest score that is, both the groups were found to be similar in respect to their achievement scores.
2. It was found that the subjects exposed to cooperative learning method (TGT) achieved higher on achievement test in comparison to those exposed to traditional method of teaching.
3. It was found that the subjects exposed to cooperative learning method (TGT) achieved significantly higher mean gain score of achievement in comparison to that in the traditional method.

4. No significant difference was found in academic anxiety scores of experimental group and control group at pretest score that is, both the groups were found to be similar in respect to their academic anxiety scores.

5. It was found that the subjects exposed to cooperative learning method (TGT) achieved significantly lower mean score of academic anxiety in comparison to that in the traditional method.

6. It was found that the subjects exposed to cooperative learning method (TGT) achieved significantly lower mean gain score of academic anxiety in comparison to that in the traditional method.

7. No significant difference was found in social competence scores of experimental group and control group at pretest score that is, both the groups were found to be similar in respect to their social competence scores.

8. It was found that the subjects exposed to cooperative learning method (TGT) achieved significantly higher mean score of social competence in comparison to that in the traditional method.

9. It was found that the subjects exposed to cooperative learning method (TGT) achieved significantly higher mean gain score of social competence in comparison to that in the traditional method.

It can be concluded from the above findings that Team Game Tournaments under cooperative learning improved significantly the scores of the students of experimental group as far as their academic achievement, academic anxiety and social competence are concerned.

CONCLUSION

Cooperative learning is one of the most well researched of all teaching strategies. Forty years of research has shown that when compared to other methods of instruction, cooperative learning is one of the most effective ways for students to

The data findings from this study indicate that the mean scores of academic achievement students in the cooperative learning group at the pretest score were lower than their mean scores at the post-test score and differ significantly, while the mean scores of students in the traditional learning method group at the pretest score were almost the same at posttest score and in some cases slightly different from their pretest mean scores were not significantly differed. This implies that when cooperative learning method (TGT) was used to teach the students, cooperative learning method (TGT) brought about increase in academic achievement, and social competence scores at the post-test score and reduction in students’ score of anxiety which was evidenced in the reduction of their mean scores at the posttest score.

Highly structured cooperative learning allows students to develop their own understanding of key concepts all the while encouraging and assisting others. It may be safely concluded from the above findings that TGT under cooperative learning significantly improves the scores of students of the experimental group in their Achievement. The conclusions of the study expressed in terms of their global importance for educational purposes vis-à-vis also tested the hypotheses of the study.

Academic anxiety has a significant relationship with study behaviour of the students and their academic achievements. In traditional class, where teacher calls upon a student; he/she becomes the focus of attention of the entire class. Any mistakes or incorrect answers become subject to scrutiny by the whole class. Such experiences produce embarrassment and anxiety in many students. In contrast, in a cooperative learning situation, when students work in a group, the focus of attention is diffused among the group members. When an answer is presented to the class, it represents the work of the entire group; therefore no individual can be held up to criticism, hence the score of classroom anxiety is reduced.

Cooperative learning strategies appear to promise positive effects on the students, as reflected in increased social competence and improved social attitudes and behavior. The general principle behind cooperative learning is that the students work together as a team to accomplish a common goal, namely that each student
learns something of value from the cooperative learning activity. As shown in the present study, Cooperative learning enhances social interaction, which is essential to meet the needs of at-risk students. Within the framework of cooperative learning groups, students learn how to interact with their peers and increase involvement with the school community. Positive interactions do not always occur naturally and social skills instruction must precede and concur with the cooperative learning strategies. Social skills encompass communicating, building and maintaining trust, providing leadership and managing conflicts.

The results of the study, interpreted in the context of global perspectives of education expected by world organization like UNESCO over the years, are also significantly relevant. UNESCO’s to landmark contributions to the cause of education namely, Edgar Faure’s Report, LEARNING TO BE, The World of Education. Today and tomorrow (1972) and Jaques Delors Report, ‘Learning : the Treasurer Within (1996), Paving the road map for education in the 21st century, provide a robust philosophy of life long cooperative learning to meticulously meet the emerging challenges of a new world order through the process of education. In a nut shell, the results of the study in hand are in agreement favourably with the UNESCO’s thought process on educational development for the 21st century. The results of the study thus have seminal importance for education, its progress and strategies.

The findings do prove the superiority of the cooperative learning method over the traditional classroom teaching processes, which indeed has been the growing demand of the fast changing educational scenario today, making schooling a playful endeavor for all practical purposes of sustainable development and joyful learning, especially at the school level. The results of the study, however, do not, in any way, discard or undermine the importance of individualized learning techniques, nor was it the objective of the study, but it only shows that the method of cooperative learning is much more crucial to the inculcation of values of cooperative living and healthy cooperation rather than the dry bones of sheer competition that narrows down the process of education to self-directed individualized learning. Quite significantly, both healthy cooperation as well as healthy competition complement and supplement each
other in making the learning process tangible to sustainable human development. Therefore, both of them are obligatory in their own right to an effective schooling.

EDUCATIONAL IMPLICATIONS

The present research clearly shows that changing from a traditional competitive classroom to a cooperative one does not slow down student achievements; but significantly improves achievement as it is evident from the findings of the study. Cooperative learning is a powerful learning approach for helping all students to attain content standards and develop the academic achievements needed for succeeding in multicultural world.

In the present study, cooperative learning strategy (TGT) was found more effective than conventional method of teaching with respect to students achievement in Hindi Grammar reducing academic anxiety and enhancing social competence. Cooperative learning strategies prove practical and more expectable to students. Thus a positive effect on students’ achievement in Hindi Grammar was found to be there to suggest the usefulness of cooperative learning for improving students’ achievement.

Group rewards are used in the present study, which is essential for the effectiveness of cooperative learning. Group rewards are based on the individual learning of all group members. This point takes strength from motivational theory of cooperative learning, which is great implication in the field of teaching. Students should be given some incentive or reinforcement in terms of praise, encouragement and prices to bring rapid progress in achievement.

There may remain many unanswered questions in a piece of research, but the main to be commended here its to say that cooperative learning proves to be more tangible in its effectiveness on achievement. Cooperative learning proves to be practical and widely acceptable to students. When students are not able to understand teacher’s explanation, group members are able to explain in simpler words that are more easily understood. In this way, it improves students’ perception about learning and decreases the feeling of alienation. Also students attain comparably on achievement which shows that cooperative learning reduces individual differences and enables all types of students to perform better.
It suggests that time-on-task is an important preconditioned for learning, most of the major cooperative learning methods, specially the students Teams Games Tournament, would have positive effects on time-on-task or on teacher ratings of students behaviour in class.

Cooperative learning can be used as a supplement to large group classroom teaching. It is easier to monitor 5 or 6 students in groups than 55 or 60 individuals in class. Cooperative learning suggests a new role of teacher. A teacher, accustomed to being the sole source of information for teaching the passive learners in the classroom has to change to be a facilitator in the learning process to actively encourage the student to: (i) help each other and learn from each other; (ii) participate in discussions; (iii) facilitate each others' learning; (iv) engage in problem solving in a free democratic way.

Teams Games Tournament (TGT) under cooperative learning method can prove very effective to make society cohesive and integrated whole by eradicating caste, race, religion and other such barriers because one of the major conclusions of this study is that the students taught through cooperative learning develop greater intergroup relations crossing the caste/race/religious barriers. Castists and racial/religious fundamentalism is eating in to the vital of are society and dragging the nation towards the peril of disintegration. The desired social change can be feasible by widely using Teams Games Tournament under Cooperative Learning method at school and college level in the country.

The teacher should closely monitor the involvement of all kinds students especially the achieving students in their learning activities. Teachers need to structure the lessons and curriculum cooperatively. The study has important implications for teacher education. Given the current widespread use of cooperative learning at all levels, it is imperative that pre service teachers understand how to structure and monitor meaningful learning experiences for students. Cooperative learning sessions would include games, recreational activities like solving puzzles and riddles, holding group discussions on some general topic related to current affairs to create more interest among students. Ultimately, the participants of cooperative learning sessions or the members of the group begin to take control of their own
learning. The present study has an important implication for teacher education, Pre-service and In-service teachers should understand how to structure and monitor meaningful experience for students. Important skills such as critical thinking, creative problem solving and the synthesis of knowledge can easily be accomplished through cooperative group activities in the inclusive classroom.

Cooperative learning assigns a new role to the teachers. It is the teacher to convert the passive listeners in the class in to active members and achievers by implementing cooperative learning in perfect way. While constructing the curriculum, all learning experiences including cooperative learning behaviours should be added so that students can be more benefited and enjoy the learning. A conducive environment with no threat of competition will allow the child to blossom and achieve his full potential in a relaxed atmosphere.

Meaningful content in cooperative lessons is critical for the success of all students. For students to succeed within their groups, careful consideration regarding group heterogeneity must be in conjunction with roles that ensure active and equal participation. Students in heterogeneous classroom team to solve complex cognitive tasks and the progress of the lower achieving students does not occur at the expense of the higher achievers or vice versa. So cooperative learning is recommended for fostering students reasoning and communication.

The results and conclusions reached during the course of this study clearly highlight the effectiveness of cooperative learning in raising the students’ academic achievements. The results also showed the effectiveness of cooperative learning on reducing the academic anxiety and raising social competence among students. These findings certainly have a number of important implications for teachers, teacher-educators, curriculum makers and planners and for the society at large.

**SUGGESTIONS FOR FURTHER STUDY**

(1). The present study can be replicated to explore how cooperative learning affects the various abilities of students such as cognitive, emotional and motivational dimensions.
(2) The present study was conducted on 9th class students only. For generalizations of the findings, the study could be extended to students of other educational levels - primary, secondary and higher education.

(3) The study may be conducted using other methodology, population and settings.

(4) There is need to compare cooperative learning with other methods of instructions at different grade levels.

(5) Such a study can be conducted using sample groups and schools with different socio-economic status.

(6) Test standardized by other authors for the same variables may also be used for the study.

(7) Studies on cooperative learning strategies should be conducted for the entire year or for long period to determine if student achievement is increased with additional experiences in using cooperative learning.

(8) The present study has been conducted on teaching Hindi Grammar only. Further research is needed in other areas of school curriculum which consists of a number of subjects such as Science, Maths etc.

(9) The study can be repeated on a large sample for validation and for a longer duration to examine the effects on non-cognitive variable like Physics, Chemistry, Mathematical skills or some personality variable which take more time to bring about a change.

(10) Research is needed to compare other methods of cooperative learning in various subjects i.e. upto what extent on method is superior to others.

(11) There is need to study the integrated effect of cooperative learning with other institutional treatments.

(12) Research is needed to study the effect of cooperative learning on special groups of children such as the gifted, learning disabled and other mildly handicapped students.

(13) A co-operative learning model can be evolved for the elementary school learners for catering to the Four Pillars of Education based on the findings of this study.
Different school systems are characterized by different standards of excellence in student morale. It will be a useful research endeavour to compare different school systems such as Navodaya & Central, and Public & Ordinary in respect of the variables used in this study.

The investigator concludes the study with the hope that the findings would help improve optimum utilization of classroom morale of high school students to a great extent. It is also hoped that the studies suggested here would be carried out by others. Research must continue to provide the practical, theoretical and intellectual underpinnings to enable educations to achieve this potential.