

Effect of Collaborative Learning on Learning Outcomes of Students with Special Needs in Inclusive School in Gurugram, Haryana

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Abstract

Collaborative learning in inclusive setup is one of the benchmarks to ensure the success of the implementation of inclusive education. Collaborative learning is one of the successful novel ways to deal with the need of children from diverse background and allow students to be more engaged and involved in learning process, instead of just being passive learners. Students can learn about their strengths and weaknesses as they work through and accomplish a task in small group. For the better learning outcome, it is important that schools systematically design and implement more effective inclusive practices school wide. The benefits of collaborative learning include development of higher-level thinking, oral communication, self-management and leadership skills. The objective of this research is to find out the effect of Collaborative Learning in enhancing the learning of children in inclusion. Sample: A total of 256 children and among them 60 were Students with Special Needs under the vi and viii grade which was categorized into movement impaired, cognitive impaired group and non-disabled group. Quasi- experimental design was adopted in the Research study. The For comparing Mean scores of academic performance students before and after introduction of Collaborative Learning, *t* test was used. The outcome of study is the better performance of students in posttest stage, compared to pretest, this indicates that collaborative learning has impact among Students with Special Needs enhancing their learning. This study provided the base to improve and enhance the learning input of students with special needs and thus leading towards successful inclusion in all dimensions. Collaborative strategy is a learning paradigm and it assures that every member in the group has learnt something.

Keywords: Collaborative learning, learning outcomes, inclusive education, Academic performance

Introduction

The traditional classroom is structured as an instructional paradigm centred on efficiently covering subject content, where typically students 'learn about' by passively listening to lecture given by experts in the field (Bass, 2012).

Collaborative learning has been widely recognized as a significant educational paradigm for its promotion of student achievement and collaborative skills (Slavin, 1995; Thousand, 1994). The present study attempted to find the effectiveness of collaborative learning on learning outcomes of students with special needs in inclusive school. In addition, the study has brought out how collaborative learning helped all children learning in the classroom.

Collaboration in virtual learning communities characterizes itself by heavily relying on interaction among the collaborators (Edwards, 2002; Bistrom, 2005). The collaborators can be instructors and learners, the interaction can be resources discovery, access, and sharing, as well as group communication and discussion, or simply any collaboration which has occurred among the instructors and learners. In addition, the collaboration should be enacted inside and outside of classrooms without limitation of space and time; it can be over the Internet and beyond the geographical boundary.

Collaborative learning ensures to every group member contributes to the work of their group:

- Making group member responsible for a unique portion of the project as in jigsaw activities (Slavin, 1995).
- Assigning interdependent group roles (Johnson, Johnson, & Holubec, 1993).
- Labelling on random group members to report a group's conclusions,
- Administering individual tests or composition, increasing motivation through Peer tutoring and
- Providing Feedback to each group member individually (Putnam, 1997).

Hernandez (2002) reported that team learning improved students' motivation and additionally reported that promotes active and higher level of thinking.

Method of Selecting Collaborative Learning Groups

Collaborative groups can be either homogenous or heterogeneous. Homogenous groups consist of students at similar levels of readiness with regard to a particular task or skill. Beware the negative effects of homogenous groups on students deemed less proficient; studies show that long-term homogenous groupings can compromise motivation and negatively impact learning in lower-level groups (Allington, 1980, Schell &

Collaborative Learning Promotes Social Skill Development

Collaborative learning promotes social skills among the group and their classmates. Many of the researches noted most social psychology text books contain considerable discussions about conflict, sometimes instigated by individual or inter-group competition, and its resolution and/or reduction through the use of cooperative techniques (Sherman, 1991).

Challenges and Opportunities in Collaborative Learning

Collaborative learning can be an opportunity rewarding to learn in groups but it has also full of challenges. Stepping out of the center and engaging students in group activity is difficult at the beginning of the classroom. Designing group work requires a demanding yet important rethinking, in terms of course content and time allocation. The classroom is no longer solo teacher and individual students. It becomes more an interdependent community with all the joys and tensions and difficulties that attend all communities.

Collaborative Learning for Inclusive Classrooms in this Context

The gap between research evidence and classroom practices persists in both general and special education (Cook et al., 2008). And it seems that teachers with more negative attitudes toward inclusion report less frequent use of the instructional strategies believed to facilitate the effective inclusion of children with disabilities (Campbell et al., 2003). The learners involved in collaborative teaching must perceive each other as equal professionals and understand that they can learn from each other.

Rationale of the Study

Government initiatives in India for Inclusive Education can be traced back to National Educational Policy (1986) which recommended, as a goal, 'the integration of the handicapped within the general community at all levels as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence'. The PWD Act (1995) directs Government and Local Authorities to ensure that every child with a disability has access to free education in an appropriate environment until he attains the age of eighteen-years and promotes the integration of students with disabilities in the normal school. The Right to Education Act (2009) advocates an inclusive environment for all children, including those with disabilities.

The Government of India implemented a comprehensive Education for All (EFA), the *SarvaShikshaAbhiyan*(SSA) in 2003. This inclusive approach was not only regarded as conducive to children's development and education but also critical from an **economic perspective** as the regular system of education was transformed to respond to needs of students of all ability levels.

Objectives

The objectives of the study were to:

- Study the Academic Performance of students before and after introduction of Collaborative Learning.
- Examine Academic gain and the level of Retention of students before and after introduction of Collaborative Learning.
- Find out the Academic Performance of different groups of students viz., Non-Disabled Peers, Students with Special Needs and Students with Cognitive Impaired separately.

Hypotheses

There is no significant difference in the Academic Performance of students before and after introduction of Collaborative Learning

Scope of this Study

- The study attempts to investigate effect of collaborative learning for students with special needs to improve their learning and social skills.
- The study will be benefited to students with special needs and cognitive impaired, non disabled peers to learn through collaborative learning in regular classroom and in inclusive settings.

- The study will be creating awareness among regular and resource teachers for updating their knowledge to make classroom learning is very constructive.
- The study may be model to incorporate collaborative learning in a inclusive settings.
- The research will be helpful to the policy makers to re-examine the present policy structure and to update their teaching and learning aspects to students with special needs and cognitive impaired.

Delimitations of the Study

- The present study is limited to small sample of students with Special Needs in inclusive schools under SSA Programme.
- The study was limited to students in Grade VI and VIII concerning learning science.
- Due to Paucity of time, it was not possible to compare the experimental study with the control group of collaborative learning in inclusion for longer duration.

Review of Literature

The present study is devoted to reviewing researches related to different aspects of Inclusive Education, Collaborative Learning and it various aspects

Alquraini (2012) In Saudi Arabia, the majority of students with severe intellectual disabilities are still educated in special schools that do not meet their unique needs for interaction with their typically developing peers in public school's settings where they could improve social, communication and academic skills. One of the most significant obstacles to inclusion of this group of students is teachers' perspectives regarding inclusive education for this category of students. As a result, this study examined teachers' perspectives regarding the inclusion of students with severe intellectual disabilities using a quantitative approach.

Laal (2015) studied on Positive Interdependence in a Collaborative Learning settings. The success of one person is dependent on the success of the group; this is referred to as positive interdependence. All members should rely on one another to achieve the goal and need to believe that they are linked together to succeed. Positive interdependence is the belief of anyone in the group that there is value in working together and that the results of both individual learning and working products would be better when they are done in collaboration. This article aimed to describe the basic concept of collaborative learning and also to present diverse forms of structuring positive interdependence in a collaborative setting.

Mercendetti (2010) investigated how social skills contribute to successful cooperative learning within the classroom. Six students participated in this study. They were selected from a suburban school district in western New York. The rating scale was adapted for the questionnaire used to assess the perception of social interaction critical to sixth graders in a cooperative group setting. The results reveal that there was ten percent decrease with the social skill of listening. The study showed the social skill of problem solving did not have a significant change from the pre to post questionnaire.

Jenkins, Laurence, Wayne & Vadasy (2003) reported teachers' perceptions of how cooperative learning benefits special education and remedial students, the percentage of these students who consistently participated in classroom cooperative learning activities, its efficacy for these students, and the kind of modifications teachers made for students with special needs. Teachers were generally positive about cooperative learning's efficacy for students with learning problems, while acknowledging that it worked better for some students than others. Major benefits were improved self-esteem, a safe learning environment, and better classroom success rates and products. The primary modification for special and remedial education students was selecting suitable partners for them.

Methodology

The rationale of the present study along with its objectives & hypotheses has been presented in Chapter I. The Second chapter deals with the review of related literature studies. This chapter is devoted to description of site, sample, design, tool, procedure of data collection and data analysis. The details are given below.

Study Conducted

The study was conducted in five schools under Gurugram Educational district, Haryana, India.

Sample

The sample consisted of children in Grade VI and VIII. A total of 256 children were involved in the study and among them 60 were Students with Special Needs. Purposive sampling technique was used to select the inclusive schools wherein children with special needs were enrolled. A survey was made to find out students with Special Needs in the schools. Among the 5 Blocks in Gurugram Educational district, 5 schools have been selected using Purposive sampling technique. The categories of Students with Special Needs include Movement Impaired and Cognitive Impaired.

The Inclusive schools have been selected on the basis of enrolment of at least 5 Special needs students in the school. The Special Needs Students in VI and VIII Grades were selected considering their nature of disability viz., Movement Impaired and Cognitive Impaired using the medical record available in the school. This phase was stretched up to one full month. The students with

Cognitive Impairment was considered as a separate group because of their difficulties in cognition and in learning. All other, Special Need Students were grouped as one variable.

Distribution of Sample

S. No	Categories	Grade		
		VI	VIII	Total
1	Movement Impaired	22	22	44
2.	Students with Cognitive Impairment	8	8	16
	Total	30	30	60
3	Non Disabled Peers	88	108	256

Inclusion Criteria

Three categories of Special Needs Students viz., and Movement Impaired (MI) were included in the study as the study objectives were to assess the Effect of Collaborative learning for Students with Special Needs. The above mentioned categories of the disabled can independently work and earn their livelihood with or without assistive devices. Another category of disability namely Cognitive Impaired having Mild and Moderate level enrolled in the inclusive classroom were included in the study as a separate variable. Collaborative Learning has to be done to the whole classroom, as it benefits all students, and hence the study involved the non-disabled peers of the selected Grades.

Other than Sensory disabilities, developmental disabilities such as autism and learning disabilities were not identified separately. If any such invisible category was there he/she may come under non-disabled category.

Design of the Study

Quasi-experimental design was adopted in the Research study. The design is as follows:

Q1 x Q2

Here, the **Q1** and **Q2** denote pretest and posttest respectively and **x** means treatment (Collaborative Learning).

Variables

The variables selected for the study and the levels are given below:

- Independent -Categories of Students with Special Needs : Movement Impaired (MI)
 - Cognitive Impaired (CI)
 - Non-Disabled Peers (NDP) Grade - i) VI ii) VIII
- Dependent - i) Academic Performance

Tools Selected for the Study

The investigator developed tools to assess the academic outcomes and social skill of students involved in the study. The below mentioned are the details of the tools:

- **Personal Data Sheet** includes the demographic details of the samples such as Gender, Type of disability and details of school placement (Appendix I)
- **Curriculum Based Assessment:** Questions were framed based on Science Curriculum in the respective Grade. The questionnaire had:

Part I - Fill in the blanks (10x1=10)

Part II - Find the odd ones out (5 x 1=5) (Grade VI as per measurement procedure in the textbook)

Match the following (5 x 1=5) (Grade VI as per measurement procedure in the textbook)

Part III -Short Questions (5 x 2 =10) The total score was 30.

Determining Item Difficulty

Based on the scores obtained by the pupils in the Pilot study tests, the high and the low groups were defined using cutting point. The top per cent of the pupils formed the high group and the bottom per cent of the pupils formed the low group.

As the item - analysis proceeds; four figures were recorded for each item:

H	-number of highs who answered correctly.
L	-number of lows who answered correctly.
H+L	-total number who answered correctly (success)

H-L	-how many more highs than lows answered correctly
	(discrimination)

Item - wise analysis was made to find out the proportion of the pupils answered each item correctly in the high and the low groups. PH and PL. Use these values, the item difficulty level P was obtained by the formula:

$$P = \frac{PH-PL}{H-L}$$

Determining Item Discrimination

The item discrimination D was obtained by using the formula:

$$D = \frac{PH-PL}{H-L}$$

Ebel (1979) is of the opinion that an item with the Index of discrimination 0.35 and up can be considered a very good item. Taking into account of these facts, items having highest discrimination indices and difficulty levels between 0.40 and 0.60 were selected. The survived items were arranged according to their difficulty and discrimination indices.

Determining the Effectiveness of Distracters

In the test items, which are of multiple - choice types, one further step was made in the item analysis namely inspecting the way each item distracter functioned. If an item contains a distracter, which attracted no one, not even the poorest test, it is a non-functioning distracter. If a “wrong” distracter attracted more high than low scores, it is a malfunctioning distracter. Retaining such a

distracter will actually harm the test. As non-functioning and malfunctioning distracters were not found in the analysis of all the items there was no need to make any alterations in the distracters. The usable items thus selected were assembled in a final form.

Establishment of Reliability and Validity of the Tool

For finding the reliability, test instruments were pilot tested. A group of 30 children of each Grade VI and VIII was formed from the sample. The children were administered the test instruments. The Cronbach's alpha coefficient was calculated. Cronbach's Alpha is mathematically equivalent to the average of all possible split-half estimates.

The reliability of the test Cronbach's Alpha is **0.838** used in the study. It reveals the results and was found reliable.

Validity of the Tool

Curriculum based Assessment was developed to validate content of each item in the test and was determined by the subject experts in the field of School Education.

The Jury's opinion was obtained from the subject expert. Thereby the Validity of the achievement test was established by the experts. The school subject teachers also analysed the relatedness of the test items to accomplish the goals of instruction.

Internal Validity of the Study

The school involved in the study was selected by the Purposive sampling method. Permission was sought from the Principal and subject teachers in advance to implement the strategy among sixth and eighth Grade children in groups. The effect of instrumentation in implementing the Collaborative learning strategy to the selected sample was done carefully by the investigator without any bias.

Data Collection Procedure Phase I Pretesting and Grouping

The students were tested of their academic performance with the lesson 'Types of energy' in Grade VI and 'Electricity and Heat' in Grade VIII. Since these lessons were just completed by the classroom teachers, the questions were framed to test the understanding of the lesson. This test was considered as pre-test and the score pre-test score.

Grouping was a crucial step in implementing Collaborative learning. Heterogeneous grouping was done with 4 to 5 children in a group. For instance, in a class of 20 children, there were 5 groups. A group consisted of high achiever, low achiever, a disruptive child, a special need child and an average child.

Phase II. Implementation of Collaborative Learning and Post Testing

The implementation of Collaborative Learning was stretched up to six months, 3 months for Grade VI and another 3 Months for Grade VIII. The Collaborative Learning implemented in Science

Lesson is detailed below:

Grade VI - 'Separation of Substances' Grade VIII - 'Light and Sound'

Each intervention session was of 45 minutes. The intervention steps are as follows:

- Explanation of specific academic task of learning (5mts)
- Collaborative learning instruction and process by assigning the responsibility of the roles to the group members (5mts)
- Students are motivated to do group lesson/experiments and then to discuss
- "why" regarding solutions to the problems (25mts)
- Sharing opinions of each member of the group and recapping the particular topic of the lesson. (10mts)

Group members were given an opportunity in turn to assign roles and contribute his or her ideas to the whole group.

Collaborative Learning was implemented for a period of four weeks for each Grade in a school. All the five schools have been visited on rotation for implementation. A total of 8 sessions with 45 mts each session were given to the students in VI and VIII Grade in the selected five schools. Classroom setting was changed as a collaborative Learning session. The Five schools have been monitored on rotation basis for a period of 3 months for Grade VI and 3 Months for Grade VIII and thus making a total of six months to introduce Collaborative learning. After Collaborative learning method, posttest was administered using the questionnaire developed.

Statistical Techniques used

Academic performance was calculated to find out the effect of Collaborative Learning in enhancing the learning of children in inclusion.

Academic Performance

Academic Performance was calculated using pre-test and post-test score.

Data Analysis Procedure

For analysing the data, the following statistical techniques were used.

The For comparing Mean scores of academic performance students before and after introduction of Collaborative Learning, '**t**' test was used.

Data Analysis and Interpretation

In this chapter, the statistical techniques used for analyzing the data to determine the results and discussion made have been presented.

1. Academic Performance of Students before and after Introduction of Collaborative Learning

A. Academic Performance of all Students before and after Introduction of Collaborative Learning

An Analysis was made to compare the academic performance of students in the whole class using t test. The following table depicts the results.

Table 1.1: Testing-wise Mean, SD and ‘t’ value for Academic Performance of Students

Test	N	Mean	SD	t-value
Pretest	256	64.2	16.2	10.9**
Posttest	256	69.3	15.4	

****Significant at 0.01 level**

From the above table, it is evident that the ‘t’ value for pre and post mean score is 10.9 which is significant at 0.01 level. It indicates that there is significant difference in the mean scores of students before and after introduction of Collaborative Learning. Hence the null hypothesis stated that ***there is no significant difference in the Academic performance of all students before and after introduction of Collaborative Learning is rejected.*** Therefore it is concluded that Collaborative Learning has impact among students and thus enhancing their learning.

(B) Academic Performance of Non-Disabled Peers before and after Introduction of Collaborative Learning

An Analysis was made to compare the academic performance of non disabled peers using ‘t’ test. The following table depicts the results

Table 1.2: Testing-wise Mean, SD and ‘t’ value for Academic Performance of Non Disabled Peers

Test	N	Mean	SD	t-value
Pretest	196	67.4	15.3	9.00**
Posttest	196	72.2	14.3	

****Significant at**

0.01 Level

From the above table, it is evident that the ‘t’ value for pre and post mean score is 9.00 which is significant at 0.01 level. It indicates that there is significant difference between pretest and posttest

mean scores of students of Non disabled peers before and after introduction of Collaborative Learning. Hence the ***null hypothesis stated that there is no significant difference in the Academic performance of Non disabled peers before and after introduction of Collaborative Learning is rejected***. Therefore it is concluded that Collaborative Learning has impact among Non disabled peers enhancing their learning.

C. Academic Performance of Students with Special Needs before and after Introduction of Collaborative Learning

An Analysis was made to compare the academic performance of special need students involved in the study. The results are given in the following table.

Table 4.3: Testing-wise Mean, SD and ‘t’ value for Academic Performance of Students with Special Needs

Test	N	Mean	SD	t-value
Pretest	44	58.6	13.9	5.81**
Posttest	44	63.3	12.5	

****Significant at 0.01 level**

From the above table, it is evident that the ‘t’ value for pre and post mean score is 5.81 which is significant at 0.01 level. It indicates that there is significant difference between pretest and posttest mean scores of students with Special Needs before and after introduction of Collaborative Learning. Hence the ***null hypothesis stated that there is no significant difference between in the Academic performance of Students with Special Needs before and after introduction of Collaborative Learning is rejected***. Therefore it is concluded that Collaborative Learning has impact among Students with Special Needs enhancing their learning.

D. Academic Performance of Students with Cognitive Impaired before and after Introduction of Collaborative Learning

An Analysis was made to compare the academic performance of students with Cognitive Impaired using t test. The following table depicts the results.

Table 4.4: Testing-wise Mean, SD and‘t’ value for Academic Performance of Students with Cognitive Impaired

Test	N	Mean	SD	t-value
Pretest	16	40.9	9.62	

				4.3**
Posttest	16	45.6	10.6	

****Significant at 0.01 level**

From the above table, it is evident that the 't' value for pre and post mean score is 4.3 which is significant at 0.01 level. It indicates that there is significant difference between pretest and posttest mean scores of students with Cognitive Impaired before and after introduction of Collaborative Learning. Hence the **null hypothesis stated that there is no significant difference between in the Academic performance of Students with Cognitive Impaired before and after introduction of Collaborative Learning is rejected**. Hence it is concluded that collaborative learning has impact among Students with Cognitive Impaired enhancing their learning.

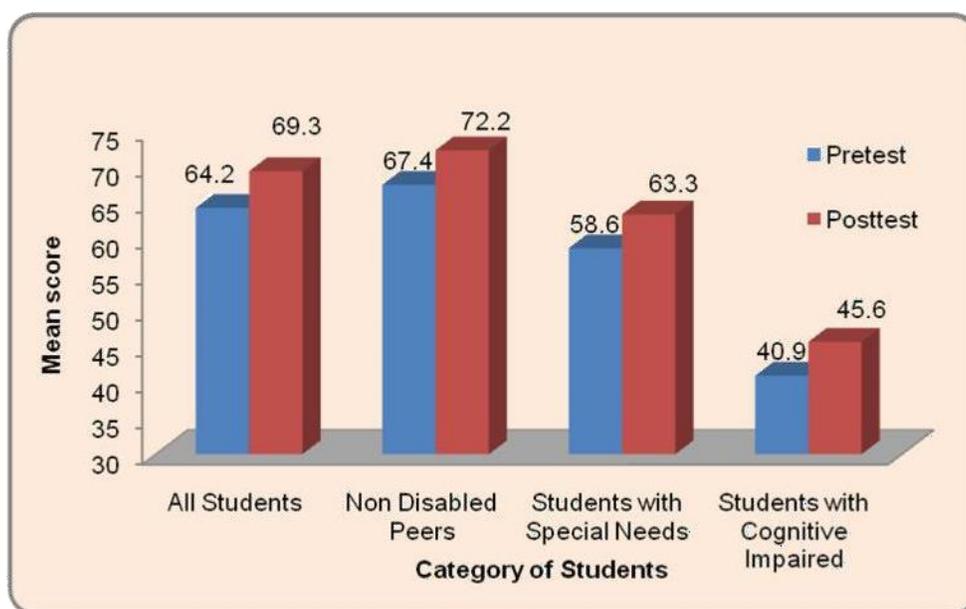


Figure 1.1: Pre test & Post test with Respect to Category of Students

2. Academic Performance of Students with regard to Grade before and after introduction of Collaborative Learning

A. Grade-wise Analysis of Academic Performance of all Students

Comparison of Pre and Post scores of all students in each Grade separately.

Table 2.1: Testing-wise Mean, SD and 't' value for Pre and Posttest scores of all Students in the whole class

Testing	Test	N	Mean	SD	t-value
	Pretest	118	63.45	16.5	

Grade VI	Posttest	118	69.03	15.6	9.23**
	Pretest	138	64.8	16.1	
Grade VIII	Posttest	138	69.5	14.5	6.42**
	Pretest				

****Significant at 0.01 level**

From the above table, it is evident that the 't' value for pre and post mean score for Grade VI is 9.23 which is significant at 0.05 level. It indicates that there is significant difference between pretest and posttest mean scores of all students in Grade VI before and after introduction of Collaborative Learning. Hence the ***null hypothesis stated that there is no significant difference between pre and posttest scores in the Academic performance of all Students before and after introduction of Collaborative Learning is rejected.*** Therefore it is concluded that Grade influence the academic performance of all students. Similarly pre and posttest scores for Grade VIII is 6.42 which is also significant. It indicates that there is significant difference between pretest and posttest mean scores of all students in Grade VIII before and after introduction of Collaborative Learning. Hence the ***null hypothesis stated that there is no significant difference between pre and posttest scores in the Academic performance of all Students before and after introduction of Collaborative Learning is rejected.*** Therefore it is concluded that Grade influence the academic performance of all students.

(B) Grade-wise Analysis of Academic Performance of Non Disabled Peers

An Analysis was made to compare the Academic Performance of Non Disabled Peers with respect to Grade using t test. The following table depicts the results.

Table 2.2: Testing-wise Mean, SD and 't' value for Pre and Posttest scores of Non disabled peers

Testing	Test	N	Mean	SD	t-value
Grade VI	Pretest	88	66.2	16.3	7.5**
	Posttest	88	72.0	14.8	
	Pretest	108	68.3	14.4	

Grade VIII					5.42**
	Posttest	108	72.3	13.9	

****Significant at 0.01 level**

From the above table, it is evident that the ‘t’ value for pre and post mean score for Grade VI is 7.5 which is significant at 0.01 level. It indicates that there is significant difference between pretest and posttest mean scores of Non disabled students in Grade VI before and after introduction of Collaborative Learning. Hence the **null hypothesis stated that there is no significant difference between pre and posttest scores in the Academic performance of Non disabled Students before and after introduction of Collaborative Learning is rejected**. Hence it is concluded that Grade influence the Academic performance of non disabled peers before and after collaborative learning.

Similarly pre and posttest scores for Grade VIII is 5.42 which is also significant. It indicates that there is significant difference between pretest and posttest mean scores of Non disabled students in Grade VIII before and after introduction of Collaborative Learning. Hence the null hypothesis that there is no significant difference between pre and post scores in the Academic performance of Non disabled Students before and after introduction of collaborative learning.

(C) Grade-wise Comparison of Academic Performance of Special Need Students An Analysis was made to compare the academic performance of Special Need Students with respect to Grade using t test. The following table depicts the results

Table 4.7: Testing-wise Mean, SD and ‘t’ value for Pre and Posttest scores of Students with Special Needs

Testing	Test	N	Mean	SD	t-value
Grade VI	Pretest	21	61.1	12.3	5.17**
	Posttest	21	66.2	11.4	
Grade VIII	Pretest	22	56.1	15.3	2.8 ^{Ns}
	Posttest	22	63.9	9.9	

****Significant at 0.01 level**

sNs-Not Significant

From the above table, it is evident that the ‘t’ value for pre and post mean score for students with special needs with respect to Grade VI is 5.17 which is significant at 0.01 level. It indicates that there is significant difference between pretest and posttest mean scores of all students in Grade VI before and after introduction of Collaborative Learning. Hence the **null hypothesis stated that there is no significant difference between pre and posttest scores in the Academic performance of Special Need Students in Grade VI before and after introduction of Collaborative Learning is rejected.**

Hence it is concluded that Grade influence the academic performance of Students with special needs.

Similarly pre and post test scores for Grade VIII is 2.8 which is not significant. It indicates that there is significant difference between pre test and post test mean scores of special need students in Grade VIII before and after introduction of Collaborative Learning. Hence the **null hypothesis stated that there is no significant difference between pre and post test scores in the Academic performance of Special Need Students in Grade VIII before and after introduction of Collaborative Learning is not rejected.** Therefore, it may be concluded that Grade VIII did not influence academic performance of special need students when compared the pre and post scores separately.

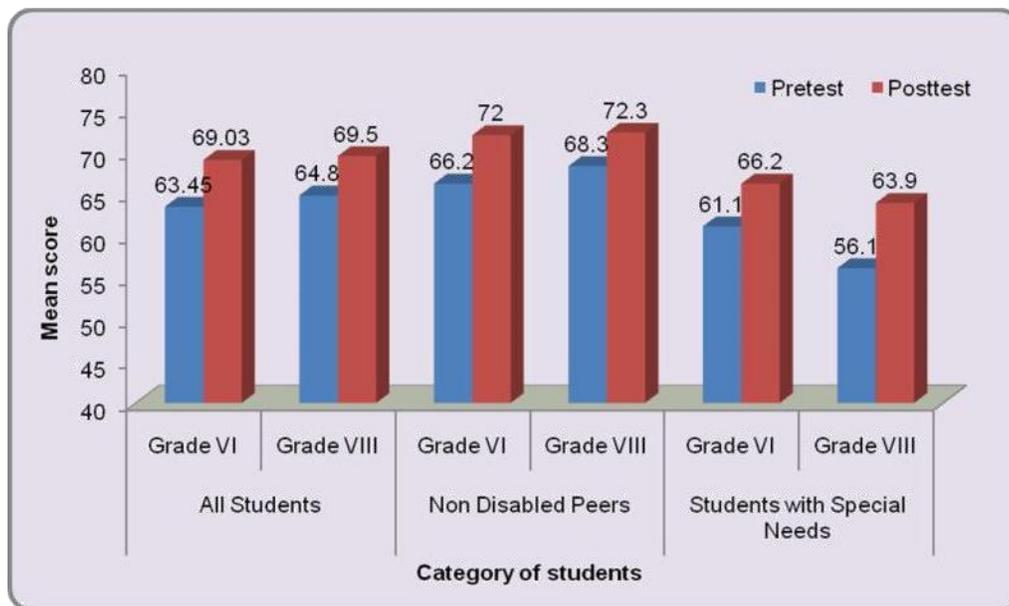


Figure 4.2: Academic Performance of Students with respect to Grade

Summary and Conclusion

Major Findings

The major findings emerged and in the study are listed below:

- Collaborative Learning strategy enhanced the academic performance of students in different categories viz., Non disabled peers, Students with Special Needs & Students with Cognitive Impaired.

- Collaborative learning was found to be effective in enhancing the academic performance of students with special needs (pre mean =58; post mean=63)
- Pertaining to the analysis made to compare the academic performance of cognitive impaired, the results indicate that collaborative learning was found to be efficacious in improving their academic performance (Premean:41; Postmean 45.6)
- Grade-wise analysis showed that students in both Grade (VI & VIII) showed improvement in their academic performance after Collaborative learning. All categories of children in both Grade showed improvement in academic performance

Conclusion

Collaborative learning, as an instructional strategy ensures to develop cognitive and social skills for students that are needed in today's school education system. This study provided the base to improve and enhance the learning input of students with special needs and thus leading towards successful inclusion in all dimensions. This method benefits at the Individual level has provided a sense of positive interdependence between students, improves interpersonal and social skills and for accountability. The study results represent that Collaborative strategy is a learning paradigm and it assures that every member in the group has learnt something. There is indeed a wider scope that collaborative learning can substantially contribute towards achieving the national goal of inclusive growth and development.

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