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Research Studies on Effect of Cooperative Learning on Academic Achievement

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Abstract*: cooperative learning is an approach to group work from pre-school through to tertiary level and across different subject domains cooperative learning is widely recognized as a pedagogical practice, cooperative learning also promotes socialization and learning among students.Cooperative learning includes five main components that increase learning. The first and most important element is positive interdependence the second element is individual and group accountability, Thethird element is face to face promotive interaction, The fourth element is teaching the students the required interpersonal and small group skill and The fifth element is group processing. Extensive research has shown that related to traditional individual and competitive modes of interaction instruction properly implemented cooperative learning leads to greater learning and superior development of communication and teamwork skills like leadership, project management, etc. This paper focuses on the studies which have been conducted by various researchers that showed the effectiveness of cooperative learning on academic achievement.*

Keywords: Cooperative learning, Academic achievement

Introduction:cooperative learning has emerged as the leading new approach to classroom instruction over a past decades cooperative learning is an educational approach which aims to organize classroom activities into academic and social learning experiences cooperative learning as an approach to group work to achieve common goals or complete group tasks-teamwork that minimizes the occurrence of those unpleasant situations and maximizes the learning and satisfaction that results from working on a high performance team. Goals and task that students would be unable to complete by themselvescan be achieved easily by cooperative learning cooperative learning is well known as an instructional approach for special and remedial students also. It is widely used in elementary classrooms.Cooperative learning help students or children learns to cooperate and to value cooperation. its most salient idea is related to social learning researches says cooperative learning lead to learning specific skills like- listening and responding respectfully to peer's contributors and learning to work with non preferred classmates. So it can conclude that cooperative learning is a worldwide well-documented pedagogical practice that promotes socialization and academic achievement.

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Various techniques of cooperative learning: There are over 50 forms of cooperative learning strategies out of them following of these have gained most empirical attention:- STAD: students teams achievement division, TGT: Teams games tournaments, JIGSAW, JIGSAW-2, TAI: Team-Assisted-Individualization, constructive controversy, Group investigation, learning together, cooperative structures, complex instruction, cooperative learning structure, CIRC: cooperative integrated reading and composition, Think-pair-share, Three step interview, Round table or rally table, Round Ribbon brain- storming orRally Robin and Three minute review. From these cooperative learning techniques some techniques utilizes small groups of four or five students while other techniques utilize students pairing.

Studies Related to Cooperative Learning and Academic Achievement:

Jhonson, maruyama,Johnson, Nelson & Skim (1981)Reviewed 122 studies and compared the relative effectiveness of cooperation, cooperation with intergroup competition, interpersonal competition, and individualistic goal structures in promoting achievement and productivity in North American samples and concluded that cooperative learning experiences tend to promote student's achievement more than they do under the traditional setting.

Perreault (1983) made an investigation on the study to experimentally comparing cooperative learning to non cooperative learning with regard to their effect on cognitive achievement at the knowledge, comprehension and application level of Bloom's taxonomy with grade industrial art classes and found significant treatment effects in favour of cooperative learning for enhancement of achievement of the students.

Hall, Lee Elhs (1988) while working on the effects of cooperative learning on achievement via vote analysis, and meta-analysis of the effects of cooperative goal structures on academic achievement, revealed as a major finding that the effect of cooperative learning on achievement differed in regard to the length of study, grade level and subject.

Watson, Scott and Marshal (1988) on the effects of the cooperative learning technique on the achievement of high school students with the main findings that there is an additive effect in using the components of cooperative learning, and that heterogeneous grouping and group incentives appear necessary to maximize students' achievement.

Slavin's (1990) reviewed of more than 70 high quality studies found that in most of these studies, the measured effects of cooperative learning on student achievement vis-à-vis those of traditionally taught control groups on the same objectives were significantly greater in cooperative learning groups than in control classes.

Eugene (1990) studied the effects of cooperative learning in the 149 traditional classroom on student achievement and attitude, too, indicated that the experimental group improved more than the control group academically.

Kumar and Susumu (1996) investigated the effectiveness of cooperative learning on achievement and metacognition in maths. Major findings of the research included that there was significant difference between the experimental and control groups' scores at pre-test and

post-test stages. The effectiveness of cooperative learning based approach in the improvement of metacognitive knowledge of the students was found to be more than that of the conventional approach of teaching-learning.

Suyanto (1998) investigated the impact of the Student Teams-Achievement Division (STAD) A cooperative learning strategy on students' mathematics achievement and their perceptions of classroom environments in rural primary schools. The sample
consisted of 664 third, fourth and fifth-grade students and their teachers who were trained in the use of STAD. The findings indicated that the STAD classes in third and fifth-graders performed significantly higher on tests of mathematics knowledge than the traditionally instructed classes. No significant differences in mathematics achievement were found between the fourth-grade students in the STAD group and those who were in the control group. Students in STAD group had significantly higher attitudes towards classroom environment.

Nancy Armstrong Melser (1999) has studied on gifted students and cooperative learning: A study of grouping strategies. she included six classrooms of 4th grade students in her study and find out that both the heterogeneous group and the homogenous group did improve in reading achievement.

Johnson et al. (2000) made a comprehensive review of the researches with a purpose to examine the empirical support validating the effectiveness of the different methods of cooperative learning in maximizing achievement. The studies yielded 194 independent effect-sizes representing academic achievement. The results of this meta-analysis provide evidence that considerable research has been conducted on cooperative learning methods, that eight diverse methods have been researched, all methods have produced higher achievement than competitive and individualistic learning, and the more conceptual approaches to cooperative learning may produce higher achievement than the direct methods.

Blair and Millea (2004) studied the impact of cooperative education on student Academic performance specifically; the study examined the effect of cooperative education on grade point average, length of time in school, and starting salary. Statistical analysis revealed that cooperative education programs have significant effects on all three measures. These measurements were useful not only to students deciding whether to participate in cooperative education programs, but also to universally administrators seeking to assess program effectiveness.

Pandey and Kishore (2004) examined the effect of cooperative learning – STAD – on achievement in science in an Indian context. The study used two intact classes of 9th grade students with 36 students in each class. Both the classes were taught the same content for duration of twenty five instructional days. Data analyzed through ANCOVA revealed that STAD (students teams achievement devision) was more effective than traditional method for knowledge level as defined by Bloom's taxonomy. However, both the methods were found to be equally effective for comprehension level.

Ghina Hassan (2005) investigated the question of whether Jigsaw is more effective than whole class instruction in improving learners' reading achievement and motivation. The participants were 44 grade five students in a private school in
Lebanon. The students were randomly assigned to control and experimental conditions and a post-test only control group design was employed. A multivariate analysis of variance (MANOVA) was conducted to compare the results of both groups. Results indicated that Jigsaw had a significant effect on students' self-concepts as reader, the value they place on reading and their reading motivation. However, no significant differences were found in favor of Jigsaw II on the variables of vocabulary acquisition and reading comprehension.

Murphy *et al* (2005) reviewed existing literature on co-operative learning in the classroom. In their article, they identified four models of co-operative learning and specified the various components characteristic of each model. They reviewed studies on co-operative learning with the aim of determining effectiveness. They found that these studies generally indicate that co-operative learning appears to be more effective when assessed on measures of social engagement rather than academic performance. They also presented their account of the factors that contribute to the successful implementation of co-operative learning for students with difficulties in learning.

Mohammad Iqbal majoka and other (2007)have studied on the topic effect of cooperative learning on academic achievement and retention of secondary grader mathematics students in Pakistan. The study was experimental in nature and was carried out in district Rawalpindi in 2006. Data analysis of the research revealed that both the groups as experimental and control was almost equal in mathematical knowledge at the beginning of the experiment but in retention it was significant in the low achiever of experimental group and the control group hence cooperative learning appeared to be more favorable for low achievers then high achievers.

Pushpanjali and Satyaprakasha (2010) investigated that cooperative learning is a broad phrase for an effective approach to education and it was a classroom learning environment in which students could learn in mixed ability heterogeneous groups on academic tasks. An attempt was made to find out the effectiveness of cooperative learning strategy on achievement motivation and anxiety of class 8^{th} students of Bangalore city. The findings revealed that: Cooperative learning strategy was more superior to conventional method in significantly promoting achievement motivation.

Tsay M. and Brady M. (2010) has conducted a case study which explores the relationship between cooperative learning and academic performance in higher education, specifically in the field of communication. Findings from a questionnaire administered to undergraduate students in a communication research course indicate that involvement in cooperative learning is a strong predictor of a student's academic performance. A significant positive relationshipwas found between the degree to which grades are important to a student and hisor her active participation in cooperative learning. Further, the importance ofgrades and sense of achievement are strong predictors of performance onreadiness assessment tests.

Micheal M Van Wyk (2011) has tried to determine the effects of the cooperative learning techniques of Team-Games-Tournaments (TGT) on theachievement, retention, and attitudes toward Teams-Game-Tournament as a teaching method. A pretest-posttest, quasi-experimentaldesign was used and the following conclusions were drawn by the researcher 1. The TGT technique is more effective than the lecture method with regard to economicsstudent achievement and student retention of economics content. 2. The TGT technique is more effective than the lecture method with regard to economics students' attitudes toward the method of instruction.

Qaisara Parveen,Batool Sadia (2012) study was to explore the effects of cooperative learning on General Science achievement among 9th class students. The material was used such as lesson plans, worksheets and quizzes, designed to implement cooperative learning methodology. The data were analyzed through mean, standard deviation and t-test and .05 was the selected level of significance. The main result of the study was that cooperative learning method is superior to traditional method in general science achievement of 9th grade students.

Santosh (2012). Has researched on the topic: A Cooperative Study of The students-teams achievement divisions (STAD) and Jigsaw methods of cooperative learning and concluded from the research findings that Student-Teams Achievement Divisions and Jigsaw methods under cooperative learning improves the scores of students of the respective experimental groups in their Academic Achievement and Self-Concept. It can be drawn that the methods of cooperative learning like STAD and Jigsaw prove more meaningful and effective than the conventional methods of teaching and learning. And at the end of experimental treatment the effects may be relatively small, and even then it reflects significant differences on the measure of academic achievement and self-concept which indicated that students in cooperative learning strategies like Student-Teams Achievement Division and Jigsaw out-performed those in the traditional methods of teaching. This study is focused on the use of cooperative learning methods in the area of academic achievement and self-concept at the elementary school stage and is delimited to the seventh grade level.

Effandi Zakaria, Titi Solfitri, Yusoff Daud, Zulkarnain Zainal Abidin (2013) has studied to determine the effects of cooperative learning on students' mathematics achievement in secondary school students in Pekanbaru, Indonesia. The pre-test and the post-test data were analyzed using t-test. Content analysis was used for the open-ended questions on cooperative learning. The results showed that there was a significant difference of mean in students' mathematics achievement between the cooperative group and the traditional group. Content analysis data revealed that students in the cooperative group were able to increase their under-standing and to develop their self-confidence.

Van Dat Tran (2014) has worked on the topic: The effect of cooperative learning on academic achievement and knowledge retention. Tran used a convenience sample of 110 primary education students where two intact classes one as experimental group and another as control group. A pretest-posttest non equivalent comparison-group design. The study

concluded that cooperative learning stimulated cognitive activities, promoted higher levels of achievement and known large retention.

Fariah gull and Shehzad s. (2015) Study was an effort to determine effect of cooperative learning methods on student's achievement in subject of education. They used quasi experimental design,with pre post test of control and experimental group was used for this purpose. t-test was applied to find the difference in scores of controlled and experimental group in post test. and it was concluded by the result that cooperative learning activities had a positive effect on academic achievement of students enroll in the subject of education.

Conclusion: Review of the studies to effect of cooperative learning on Academic Achievement revealed that here are many strategies of cooperative learning and many studies has been conducted at different grade levels in this regard using different methods of cooperative learning.And there is a range of researches conducted on its various aspects and their effects are quite considerable. Although there is no complete unanimity of opinion, a vast majority of researchers agree that cooperative learning can provide answers to many of the questions faced by educators, parents, students and provide evidence of the effectiveness of cooperative learning in raising the achievement level of the learners. The claims of the advocates of cooperative learning that students can achieve higher if they receive education through cooperative learning procedure seem to stand vindicated by a large number of the researchers.Hence Based on the results of the studies, it can be concluded that cooperative learning strategies has a positive effect on academic achievement in different grades and subjects.

References

Blair, B. F. & Millea, M. (2004). Student academic performance and compensation: The impact of cooperative education. *College Student Journal*, *38(4)*, 643-652.

Effandi Zakaria, Titi Solfitri, Yusoff Daud, Zulkarnain Zainal Abidin (2013). Effect of Cooperative Learning on Secondary School Students' Mathematics Achievement. *Creative Education*, Vol.4, No.2, 98-100.

Eugene, Alien (1990). Effects of cooperative learning in student achievement. New York: Macmillan Company and the Free Press.

Ghina, H. (2005). *The effect of Jigsaw II versus whole class instruction on EFL students' reading motivation and achievement.* Unpublished master's thesis,
American University of Beirut.

Gull F., Shehzad S. (2015). Effects of Cooperative Learning on Students' Academic Achievement. *Journal of Education and Learning.* Vol. 9(3) pp. 246-255.

Hall, Lee Elhs (1988). Effects of cooperative learning on achievement via vote analysis, and meta-analysis of the effects of cooperative goal structures on academic achievement *American Educational Research Journal*, 14, 177-183.

Johnson, D.W., Maruyama, G., Johnson, R., Nelson, E., & Skon, L. (1981). The effects of cooperative, competitive and individualistic goal structures on achievement: A meta-analysis, *Psychological Bulletin*, 89, 47-62.

Micheal M Van Wyk (2011).The Effects of Teams-Games-Tournaments on Achievement, Retention, and Attitudes of Economics Education Students,*Journal of Social Sciences* 26(3) pp.183-193.

M. I. Majoka, M. Saeed, and T. Mahmood,(2007) "Effect of cooperative learning on academic achievement and retention of secondary grader mathematics students," *Journal of Educational Research*, vol. 10, no. 1, pp. 44–56,.

Nancy Armstrong Melser(1999). Gifted students and cooperative learning:A study of grouping strategies. *Journal roeper Review* volume21,issue-4

N. N. Pandey and K. Kishore,(2003). "Effect of cooperative learning on cognitive achievement in science," *Journal of Science and Mathematics Education in S.E. Asia*, vol. 26, no. 2, pp. 53–60.

Parveen, S. (2010). Effect of Cooperative Learning on Academic Achievement of 8th Grade Students in the Subject of Social Studies. *International Journal of Academic Research*, Vol. 3, No1, pp. 950-955.

Perreault, R.J. An experimental comparison of cooperative learning to noncooperative learning and their effects on cognitive achievement in junior high industrial arts laboratories. (Doctoral dissertation, University of Maryland, 1982). *Dissertation Abstracts International*, 43, 3830A.

Pushpanjali, B. S., &Satyaprakasha C. V. (2010). Effect of cooperative learning on achievement, motivation and anxiety. *Edutracks*, 9(10), 32-37.

Qaisara P,,Batool S.(2012), Effect of Cooperative Learning on Achievement of Students in General Science at Secondary Level, *International Education Studies*, Vol. 5, No. 2.

Santosh(2012) A Cooperative Study of The students-teams achievement divisions (STAD) and Jigsaw methods of cooperative learning. Department of Education, Maharshi Dayanand University.http://hdl.handle.net/10603/7943.

S. K. Joshi and S. Bhatnagar,(2015) "Effect of cooperative learning oriented teaching on the academic achievement of secondary level students," *An International Peer reviewed and Refereed Scholarly Research Journal for Interdisciplinary Studies*, vol. III/XVII, pp. 3015–3023,.

Slavin, R. (2014). Cooperative learning and academic achievement: Why does groupwork work? *Anales De Psicologia, 30*, 785-791.

SatyaprakashaC.V.Research Studies on Effect of Cooperative Learning on Social Relations,*International Journal of Education and Psychological Research (IJEPR)* Volume 4, Issue 1, March 2015.

Singh Yashpal, agrawal anju (2011). Introduction to cooperative learning,*Indian Streams Research Journal.*Vol.1, Issue-2

Slavin, R.E. (1985). *An introduction to cooperative learning research*. New York: Plenum Press.

Slavin, R.E. (1989). Cooperative learning and achievement: Six theoretical perspectives. In C. Ames and M.L. Maehr (Eds.), *Advances in motivation and achievement*. Greenwich, CT: JAI Press.

Slavin, R.E. (1990). Ability grouping and student achievement in secondary schools: A best-evidence synthesis. *Review of Educational Research*, 60 471-499.

Slavin, R.E. (1990). *Cooperative Learning: Theory, Research, and Practice*. Englewood Cliffs, NJ: Prentice Hall.

Slavin, R.E. (1995). *Co-operative Learning: Theory, Research, and Practice*. (2nd edition), Boston: Allyn and Bacon.

Slavin R. (1996). Research on Cooperative Learning and Achievement: What We Know, What We Need to Know. *Contemporary Educational Psychology*, 21(1), 43-69.

Slavin, R.E. (1980). Cooperative learning. *Review of Education Research*, 50(2), 315-342.

Suyanto, W. (1998). The effects of Student Teams-Achievement Divisions on Mathematics achievement in Yogyakarta rural primary schools. *DissertationAbstracts International* - A 59/ 10, P. 3766.

Tran V. Dat(2014). The Effects of Cooperative Learning on the Academic Achievement and Knowledge Retention. *International Journal of Higher Education* Vol. 3, No. 2; 2014 .

Tsay M. and Brady M. (2010). A case study of Cooperative Learning and communication pedagogy: Does working in Teams Make difference? *Journal of the scholarship of Teaching & Learning*,vol-2,no-2,p-78-89.

Watson, W.E., Scott, B., & Marshall, J. (1988). Heterogeneous grouping as an element of cooperative learning in an elementary education science course. School science and mathematics, 95(8), 401.