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Collaborative Learning for Educational Achievement

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Abstract: Collaboration is a way of interaction and personal attitude where individuals are responsible for their actions, learning, their abilities and contributions of their peers as well. This paper clarifies the concept of collaborative learning by presenting and analyzing the educational benefits of Collaborative learning techniques. Collaborative learning is more students centered. The collaborative tradition takes a more qualitative approach, analyzing student talk in response to a piece of literature. This paper clarifies the differences between collaborative and individual learning. The paper also highlights teacher's perspective for individual and collaborative learning. The paper concludes with a discussion about the implications of these issues with respect to achievement of undergraduate students in English. T-test is used to study the difference in means in achievement in English by using collaborative learning and individual learning. The sample comprises of 40 students (males 30, females 10) of undergraduate program. Purposive sampling has been used. The final achievement scores in English have been used for the purpose of the study.

Keywords: Collaborative Learning, individual Learning, Classroom techniques, Student centric approach, Peer Teaching, T-test

I. Introduction:

Coming together is the beginning, Keeping together is progress. Working together is success—Henry Ford. Collaborative learning (CL) is a personal philosophy, not just a classroom technique. In all situations where people come together in groups, it suggests a way of dealing with people with respect to highlight individual group members' abilities and contributions. There is a sharing of authority and acceptance of responsibility among group members for every group action. The underlying principle of collaborative learning is based upon cooperation by group members. For the effective implementation of Education for sustainable development, appropriate teaching learning strategies need to be selected and used, Collaborative learning is an educational approach to teaching and learning that involves groups of learners working together to solve a problem, complete a task, or create a product. The main characteristics of collaborative learning are: a common task or activity; small group learning, co-operative behaviour; interdependence; and individual responsibility and accountability (Lejeune, 1999).

Collaborative learning is similar to, but not the same as, cooperative learning. In cooperative learning the task is divided vertically (i.e., members work more or less concurrently on different aspects of a project), whereas in collaborative learning the task is divided horizontally (i.e., members work together more or less sequentially on different aspects of a project) (Dillenbourg, 1999). Collaborative learning is based on the view that knowledge is a social construct. Collaborative activities are most often based on four principles:

- The learner or student is the primary focus of instruction.
- Interaction and "doing" are of primary importance
- Working in groups is an important mode of learning.

Structured approaches to developing solutions to real-world problems should be incorporated into learning. Collaborative learning can occur peer-to-peer or in larger groups. Peer learning or peer instruction is a type of collaborative learning that involves students working in pairs or small groups to discuss concepts, or find solutions to problems. This often occurs in a class session after students are introduced to course material through readings or videos before class, and/or through instructor lectures. Similar to the idea that two or three heads are better than one, many instructors have found that through peer instruction, students teach each other by addressing, misunderstandings and clarifying misconceptions.

The impact of collaborative learning or group work

Research shows that educational experiences that are active, social, contextual, engaging, and student-owned lead to deeper learning. The benefits of collaborative learning include:

- Development of higher-level thinking, oral communication, self-management, and leadership skills.
- Promotion of student-faculty interaction.
- Increase in student retention, self-esteem, and responsibility.

- Exposure to and an increase in understanding of diverse perspectives.
- Preparation for real life social and employment situations.

Benefits of collaborative learning

Benefits from small-group learning in a collaborative environment include:

Celebration of diversity. Students learn to work with all types of people. During small-group interactions, they find many opportunities to reflect upon and reply to the diverse responses fellow learners bring to the questions raised. Small groups also allow students to add their perspectives to an issue based on their cultural differences. This exchange inevitably helps students to better understand other cultures and points of view.

Acknowledgment of individual differences. When questions are raised, different students will have a variety of responses. Each of these can help the group create a product that reflects a wide range of perspectives and is thus more complete and comprehensive.

Interpersonal development. Students learn to relate to their peers and other learners as they work together in group enterprises. This can be especially helpful for students who have difficulty with social skills. They can benefit from structured interactions with others actively involving students in learning. Each member has opportunities to contribute in small groups. Students are apt to take more ownership of their material and to think critically about related issues when they work as a team.

More opportunities for personal feedback. Because there are more exchanges among students in small groups, students receive more personal feedback about their ideas and responses. This feedback is often not possible in large-group instruction, in which one or two students exchange ideas and the rest of the class listens.

Advances in technology are making an increasing impact on educational curricula, learning materials and instructional practice. Emphasis is placed on the interactions as common understandings are negotiated and developed across differences of knowledge, skills, and attitudes. Indeed, collaborative learning should thrive on these differences. Motivation and confidence to participate are clearly important if these benefits are to emerge, and interchanges that require question-answering and explanation, and are open to challenge and justification, will require participants to assume a variety of functional roles. The conversational skills of a collaborative group committed to their teammates' learning is compared to that of an unfocused, individual group. The results suggest that knowledge of student conversation and activity appears to be better to assess the quality of group interaction, furthering the possibility of a system that can support and enhance the group learning process. The broad objectives of this paper are as follows:

To study the influence of Collaborative learning & Individual learning on the achievement of English scores of undergraduate students.

To study the correlation between Learning Methodology and Achievement in English of undergraduate students.

Hypotheses of the Study

There is no significant difference between the achievement scores in English of undergraduate students using Collaborative learning and individual learning.

There is no correlation between Learning Methodology and Achievement in English of undergraduate students.

Justification of the Study

The process of education is aimed at enhancing the academic performance of the students. Only a holistic approach can yield result to improve learning outcomes of the students. Although Academic performance is dependent on many variables like intelligence, socio economic status, personal characteristics, attitude, values, environment, teaching-learning techniques etc. The learning methodology adopted for teaching enhances and affects the achievement of the students.

To optimize the educational opportunities, it is necessary to find out the relation between the teaching methodology and academic achievement and to what extent collaborative learning and individual learning influences the academic achievement in English so that the academic achievement of undergraduate students could be increased.

II. Methodology

The descriptive method of research was adopted for this study. A sample of 40 undergraduate students (male 30, female 10) was collected. Purposive sampling was used to collect the sample of the study. The sample age ranges from 17-22 years both males and females.

Tools

The final Results of students from record for measuring their academic achievement in English were used.

III. Result and Analysis

Table1

Descriptive Statistics^a

	N	Minimum	Maximum	Mean	Std. Deviation
English Achievement	20	66	90	78.05	7.633
Valid N (listwise)	20				

a. LM = collaborative learning

Table2

Descriptive Statistics^a

	N	Minimum	Maximum	Mean	Std. Deviation
English Achievement	20	34	63	50.25	9.049
Valid N (listwise)	20				

a. LM = individual learning

Table3 Significance of the Difference Between Means of Achievement in English using collaborative learning and Individual learning

Learning Methodology	N	Mean	S.D.	S.Em	t-value
Collaborative learning	20	78.05	7.633	1.707	10.502*
Individual Learning	20	50.25	9.049	2.023	

df=38, $p < 0.05$, significant at 5%

In Table 1 & 2, descriptive statistic is shown for achievement in English using collaborative learning and individual learning. The students are divided in groups of 20 students each. One group is given tasks using collaborative learning. Other group uses individual learning technique for the same activities. Minimum marks achieved by CL are 66 and maximum marks using CL is 90, whereas minimum marks achieved using individual learning is 34 and maximum marks are 63. In table 3, the difference in mean of achievement in English using CL is 78.05 as compared to Individual learning which is 50.25. The standard deviation for CL is 7.633 and for individual learning is 9.049. The standard error of mean for CL is 1.707 and for IL is 2.023. The t-value 10.502 is significant at 0.05 level. Hence the hypothesis that there is no significant difference between the achievement scores in English of undergraduate students using Collaborative learning and individual learning is rejected. That is there is a significant difference between the means of achievement in English by using Collaborative and Individual learning techniques. The achievement is higher for collaborative learning methods as compared to individual learning methods.

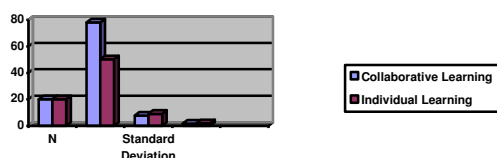


Figure1 Difference Between Means of Achievement in English using Collaborative learning and Individual learning

Table 4 Relationship between Achievements in English of undergraduate students and the learning methodology

Correlations

N=40

	Learning Methodology	
English achievement	Pearson Correlation	-.862**
Sig. (2-tailed)	.000	

** . Correlation is significant at the 0.01 level (2-tailed).

The table 4 clearly shows a high degree of positive correlation between Learning Methodology and English achievement of undergraduate students. ($r=0.862$)*. Therefore the null hypothesis that there is no correlation between Learning Methodology and Achievement in English of undergraduate students is rejected and alternative hypothesis is accepted at $p<0.01$

IV. Findings and Conclusions

The results of the study show that learning methodology influences the achievement in English. There is a significant difference between the achievement scores in English of undergraduate students using Collaborative learning and individual learning methods. A high degree of positive correlation between Learning Methodology and English achievement of undergraduate students. ($r=0.862$)* is observed.

V. Limitation of the Study

The study is limited to Lucknow city of Uttar Pradesh in India, hence the results cannot be generalized. In a short span of time it is not possible to cover all the variables. Due to shortage of resources the study was limited to 40 students only.

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