THINK INDIA (Quarterly Journal)

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

Effect Of Online And Face To Face Collaborative Learning Strategies On Achievement In English

[1]Suruchi and [2]Sunil Dutt

[1]Ph.D. Scholar, Department of Education, Panjab University, Chandigarh

[2]Professor & Head, Department of Education& Educational Management, National Institute of Technical Teachers Training & Research, Chandigarh

ABSTARCT

The emergence of constructivist approaches to learning and the accessibility of the Internet has led to the integration of online learning in classroom teaching. In the present study, an attempt was made to determine the effect of Online and Face to face collaborative learning strategies on achievement of 9th class students in English. Initially, a sample of 99 students was randomly distributed to the two groups: 40 students in Experiment group I (online collaborative learning strategy; OCLS) and 59 students in Experiment group II (Face to face collaborative learning strategy; F2FCLS). Both the groups were exposed to treatment for a period of 40 days in the selected topics in English. Descriptive statistics was computed to study the nature of distribution of data. The one-way ANOVA for inter group differences among the groups having different instructional strategies on gain scores obtained "F" ratio as 7.43 and p-value 0.0075(<.05), hence the gain score between to instructional strategies is significant at 5% level of significance. Thus, it may be concluded that teaching through online collaborative learning strategies gives better results than teaching through face to face collaborative learning strategies.

Keywords: Online collaborative learning; Face to face collaborative learning; Achievement in English.

INTRODUCTION

One of the frontier areas of education in twentieth century that psychologists and educators were beginning to explore was the use of the classroom group in promoting some major goals of education, such as ability to think critically and constructively, the development of self-discipline, the ability to work with others cooperatively and effectively, and willingness to accept responsibility for oneself and others (Lindgren, 1956). Thus collaborative learning is not a new

 Copyright ⓒ 2019Authors

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

concept in education, but using it effectively in an online environment is yet a matter of further exploration for psychologists and educationalists.

Collaborative learning takes place while small sets of learners help one another to gain knowledge (Klemm, 1994). Collaboration is an interactive arrangement of contributors in a coordinated undertaking to resolve an issue conjointly. Collaborative discussions have the key features of shared objectives, uniformity of structure, and an intense dialogue and discussion which is mutually influencing, and seeking affiliation from each other. Interactions involving detailed explanations are specifically important to boost student learning. As Lai (2011) puts forth, it faciliates development of skills such as communication, conflict resolution, problem-solving &decision-making, coordination and negotiation. On the other hand, nonresponsive feedback can be detrimental to student learning in collaborative situations. Lindgren (1956) says that collaboration "gives opportunity to students to learn from each other rather than from the teacher."

Thus, collaborative learning as an instruction method involvesworking of students in groups toward achieving a common academic goal. Gokhale (1995) asserts that the collaborative learning modeoffers opportunities to students for analysis, synthesis, and evaluation of ideas cooperatively. The informal setting encourages discussion and interaction amongst students. Students provide not only the opinions but reasons also for their judgments and reflecting upon the criteria employed in making these judgments. Thus, each opinion is subject to careful scrutiny. What is more valuable is the ability of students to admit that one's initial opinion as incorrect or partially flawed.

According to Belanger (2006), collaborative learning can take the form of online collaborative learning when it occurs via computer communication systems, usually internet. It involves the use of asynchronous networks through computer communication to provide social spaces for communities to collaboratively participate in the construction of knowledge.

Kaplan (2013) described eLearning communities as groups of people networked together entirely through technology. These communities never convene physically, i.e., as such their interactions

 Copyright ⓒ 2019Authors

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

and learning begin, and are carried out entirely through technology (on the web may be through conference calls, discussion forms via video conferencing, etc.).

Harasim (2012) gave the OCL theory which addresses the needs and opportunities of the knowledge age. We are learning in a knowledge building age. Knowledge building is a term widely used. The authors distinguish the knowledge building as distinct in important ways from such terms as "active learning," "self-regulated learning" and "learning by doing." OCL theory renders a framework of learning in which students are buoyed up and supported to perform the tasks in partnership to generate knowledge: to invent, to explore ways to innovate and, thereupon, to pursue the conceptual knowledge required to resolve problems rather than recount what they believe is the correct answer. She elucidates that in the OCL theory, the teacher gets engaged in a crucial role not as a co-worker, rather as an association to the knowledge community, or latest updations in that community.

In the view of Smith &MacGregor (1992), collaborative classrooms excite both students and teachers. The collaborative learning process models what it means to question, learn and understand in concert with others. Learning collaboratively demands sharing responsibility, showing persistence and sensitivity, but the result can be a community of students in which everyone is welcome to join, participate and grow.

Online collaborative learning is a new concept in the field of education, which needs to be understood by students, teachers, parents, school management and all the concerned people. Then it needs to be implemented effectively, not the advancement for just show off but authentic and practical to the core.

Thus, the present study is focused to study the effect of online collaborative learning while comparing it with traditional collaborative learning or face to face collaborative learning. The statement of the problem, operational definitions, delimitations, hypothesis, are given in the subsequent headings:

STATEMENT OF THE PROBLEM

 Copyright ⓒ 2019Authors

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

EFFECT OF ONLINE AND FACE TO FACE COLLABORATIVE LEARNING STRATEGIES ON ACHIEVEMENT IN ENGLISH

OPERATIONAL DEFINITIONS OF THE VARIABLES

(i) *Online Collaborative Learning Strategy:* In the present study, online collaborative learning strategy stands for a learning situation where each collaborative group was comprised of two students (dyads), each of them selected from different school having never met in person and prepared their assignments, convening through online network, with their group members and the researcher also communicated with all the online collaborative groups through online network only.

(ii) *Face to Face Collaborative Learning Strategy:* Face to face collaborative learning strategy is a learning situation where groups of students (two students in each group), are formed in the classroom, who work in collaboration to prepare the given assignment. Here, the groups of students met face to face in the presence of the researcher.

(iii) *Achievement:* For the purpose of present study, achievement means achievement of students in English in the selected topics of English language.

DELIMITATIONS

The study was delimited with respect to:

(i) 99 students of 9^{th} class studying English in the schools of Chandigarh, affiliated to Central Board of School Education, New Delhi only.

(ii) 20 lessons based on online and face to face collaborative learning strategy developed in English composition topics such as letter writing, story writing, article writing and speech writing from the prescribed syllabus of 9^{th} class.

HYPOTHESIS

The study was designed to test the following hypothesis:

There exists no significant difference between the achievement of groups taught through online collaborative learning strategy and face to face collaborative learning strategy in English.

SAMPLE

 Copyright ⓒ 2019Authors

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

The present study was carried out on the random sample of 99 students of class 9 of English medium private schools with facility to teach through computer and broadband connection of Chandigarh affiliated to Central Board of Secondary Education, New Delhi. Multi stage sampling was done as given below: In the first stage, ten schools were randomly selected. In the second stage, the intact sections were randomly selected out of the ten schools. Matching was made on the basis of pre- test in English writing skills. All the students were divided into two sections. These sections were renamed as experimental and control group.

DESIGN

In the present study, a pre-test and post-test experimental design was employed. In order to analyse the data, one-way ANOVA for inter group differences was used. Both the experimental groups were given the interventions, viz., online collaborative learning strategies and face to face collaborative learning strategies by the researcher.

TOOLS USED

The following tools will be used for data collection:

1. Writing Assessment and Evaluation Rubrics, Grade 9 by McGraw-Hill (2000) was modified and standardized by investigator to measure the performance of the students before and after the treatment.
2. An Achievement Test in English was developed by the investigators to measure the performance of the students before and after the treatment. It was also employed to check the homogeneity of the students.
3. Instructional material for online and face to face collaborative learning strategies in selected units of IX class English composition topics such as article writing, story writing, letter writing and speech writing were developed by investigator herself.
4. A website was developed to conduct the experiment.

PROCEDURE

Following the assemblage of the sample and allotment of the students in the groups for instructional strategies, the investigation was carried out in five phases. *Firstly,* pre-test in English achievement was administered for matching of the students of two groups. The answer sheets were scored to obtain the information regarding the previous knowledge of the students.

 Copyright ⓒ 2019Authors

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

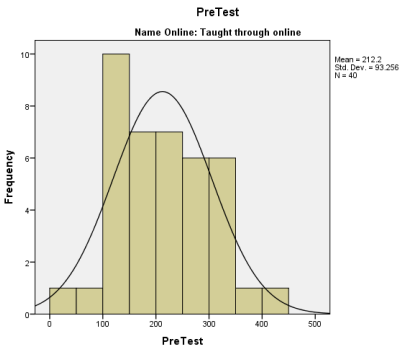
Secondly, treatment was given to both the experimental groups, one group was instructed through online collaborative learning strategies, and the second group was rendered with instruction using face to face collaborative learning strategy. 20 lessons based on online and face to collaborative learning strategies in English on topics such as article writing, story writing, letter writing and speech writing were developed by investigator were taught to the students. The two groups were taught for about 40 working days. In the *third* phase, subsequent to the end of the course, same achievement test was employed simultaneously as post-test to the students of each set of students. The answer sheets were assessed using the evaluation rubrics. The output scores of both the experimental groups were compared as per their pre-test and post-test scores.

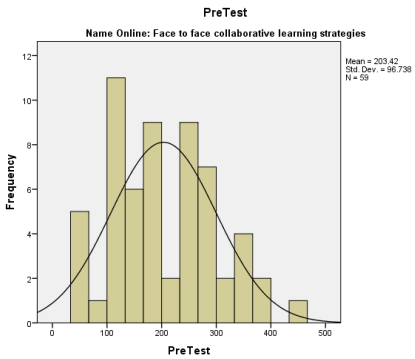
ANALYSIS OF ACHIEVEMENT IN ENGLISH

In the present study, pre-test scores and gain scores of achievement in English for total 99 participants were analyzed. For description of data; mean, standard deviation, skewness and kurtosis (descriptive analysis) were used. Descriptive statistics gives an overall view of data in form of tables or visuals like graphs. Inferential statistical analysis was employed on a random sample to obtain inferences about the population.

Table 1: Overview of Descriptive Statistics of Pre-test Scores fordifferent Instructional Strategies

Pre-Test	OCLS	F2FCLS
N	40	59
Mean	212.20	203.42
Std. Deviation	93.26	96.74
Skewness	0.38	0.32
Std. Error of Skewness	0.37	0.31
Kurtosis	-0.57	-0.51
Std. Error of Kurtosis	0.73	0.61





Copyright ⓒ 2019Authors

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

FIG. 1.Histogram showing Pre-test Scores Experimental group1 (OCLS) FIG. 2.: Histogram showing Pre-test Scores Control Group1 (F2FCLS)

Descriptive statistics of variables OCLS and F2FCLS for pre-test is given in the Tables 1 to 2 and in Figures 1 to 2.

Table 2: Frequency Distributionof Pre-test Scoresfortwo Experimental Groups

Pre-test	Name Instructional Strategies				
	Mid-Value	OCLS		F2FCLS	
		N	%	N	%
40 – 100	70	2	5.0%	10	16.9%
100 – 160	130	13	32.5%	13	22.0%
160 – 220	190	10	25.0%	10	16.9%
220 – 280	250	4	10.0%	13	22.0%
280 – 340	310	8	20.0%	6	10.2%
340 – 400	370	2	5.0%	6	10.2%
400 – 460	430	1	2.5%	1	1.7%
Total		40	100.0%	59	100.0%



Fig. 3: Frequency Polygondepicting Pre-test Scoresfortwo Experimental Groups

An examination of table 1 revealed that the mean and S.D. of group online collaborative learning strategy for pre-test is 212.20 and 93.25. Face to face collaborative learning strategy group for

 Copyright ⓒ 2019Authors

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

the pre-test has the mean and S.D. 203.42 and 96.73.The mean of the two groups is nearly placed to each other. Table 2 and figure 3 reveals that distribution of scores falls between the range of 70 to 430.

Table 1 gives the description of the values of skewness and kurtosis for the pre-test scores of different instructional strategies. Skewness for two groups depicts the positive value 0.38 and 0.32, respectively, which indicates that the distribution is positively skewed. Similarly the negative value of kurtosis for the two groups is -0.57 and -0.51 respectively, which shows that the distribution is platykurtic; however it falls under the acceptable range.

Descriptive statistics of variables OCLS and F2FCLS for gain scores is given in the Tables3to 4 and in Figures 3 to4.

Table 3: Descriptive Statistics on Gain Scores for different Instructional Strategies

	OCLS	F2FCLS
N	40	59
Mean	71.95	50.37
Std. Deviation	22.00	23.37
Skewness	-0.43	-0.40
Std. Error of Skewness	0.37	0.31
Kurtosis	-0.23	-1.15
Std. Error of Kurtosis	0.73	0.61

Descriptive statistics of variables online collaborative learning strategy and face to face learning strategy for gain scores is given in the above table.

Table 4: Frequency Distribution of Gain Scores fortwo Experimental Groups

Gain Scores	Name Online				
	Mid-Value	OCLS		F2FCL	
		N	%	N	%
<= 10	5	0	0.0%	3	5.1%
10 – 30	20	2	5.0%	13	22.0%
30 – 50	40	5	12.5%	10	16.9%
50 – 70	60	12	30.0%	21	35.6%
70 – 90	80	15	37.5%	12	20.3%
90 – 110	100	6	15.0%	0	0.0%
Total		40	100.0%	59	100.0%

Copyright ⓒ 2019Authors

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

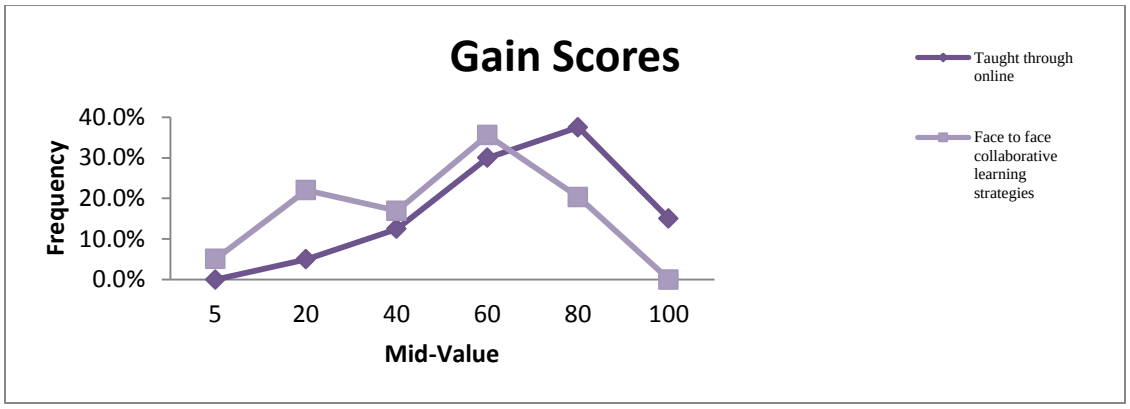


Fig. 4: Frequency Polygon depicting Gain Scores for two Experimental Groups

An examination of Table 3 revealed that the mean and S.D. of group online collaborative learning strategy for gain scores is 71.95 and 22. Face to face collaborative learning strategy group for the gain scores has the mean and S.D. 50.37 and 23.37. Thus, the group which is online collaborative learning strategy has the higher mean than the group getting face to face learning strategy in English for gain scores. This means that teaching through online gives better results than the other method of teaching.

From the Table 4 and Figure 4 it is observed that the frequency polygon extends from 5 to 100. The gain scores of maximum students lies in the range of 50-70.From the table 2 it is observed that the value of Skewness in negative -0.43 and -0.40 which means the distribution of gain scores is negatively skewed. The value of Kurtosis is -0.23 and -1.15, which is negatively skewed and platykurtic; however it comes under the allowable range of a normal distribution.

Table 5: ANOVA on Gain Scoresbetweentwo Instructional Strategies

Source of Variation	SS	df	MS	F-ratio	P-value
Between Groups	4789.861	1	4789.9	7.439	0.0075**
Within Groups	62451.78	97	643.83		
Total	67241.64	98			

** The mean difference is significant at the 0.05 level.

The one-way ANOVA for inter group differences among the groups having different teaching methods namely online collaborative learning strategy and face to face collaborative learning strategy for gain scores has been presented in table 5. The obtained “F” ratio was 7.43 and p-value 0.0075(<.05), hence the gain scores is significant at 5% level of significance. Thus, there is a significant difference between groups for the gain scores of the teaching strategies.

Copyright ⓒ 2019Authors

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

RESULTS AND DISCUSSION

From the above description, we may conclude that out of the two instructional strategies, i.e. OCLS and F2FCLS; the OCLS gave us the better results as in achievement in English composition test for the students of class 9.

However, the effect of F2FCLS can't be ruled out. The participants also gained from face to face collaboration, which has a traditional classroom setting. Thus, collaborative learning in general can prove productive in virtual and face to face environments. So, its use should be encouraged in the education sector.

Educational Implications

Following are the educational implications of the present study:

(i) Collaborative learning strategies should be included to advance quality of education at school level and college level.

(ii) Collaborative lesson plan needs expertise, but once it is prepared it can be used for several times.

(iii) It can facilitate in establishing a healthy student teacher relationship

(iv) Collaborative learning instigates the mental faculties among the participants, which otherwise lie dormant. Resulting, boosted attention and engagement and better learning outcomes

(v) Inclusion of varied approaches like collaborative learning should be encouraged by school administrators.

(vi) It builds up active learning environment and enhances interest among students for learning.

(vii) Individual potential of the participants is recognized through collaborative learning. Instructors/facilitators can push them to furnish their natural talents besides strengthening the less explored abilities.

(viii) The autonomous learning environment of collaborative learning inspires the subjects to grow into responsible and self-directed citizens. At the same time, it also grooms them to work in teams with a shared objective to be attained.

(ix) The skills such as, healthy discussions, debates; extracting the relevant and authentic information from the fake one; searching and researching; accepting criticism; agreeing on the differences; are learnt in process of collaborative learning activities.

 Copyright ⓒ 2019Authors

ISSN:0971-1260
Vol-22-Issue-4-October-December-2019

REFERENCES

Belanger, M. (2006). *A case study of online collaborative learning for union staff in developing countries.* Unpublished Ph. D. Dissertation, British Columbia, Canada: Simon Fraser University. Retrieved October 8, 2013 from http://radiolabour.info/phd/belanger-phd.pdf

Gokhale, A. A. (1995). Collaborative learning enhances critical thinking. *Journal of Technology Education, 7* (1). Retrieved July 9, 2013 from http://scholar.lib.vt.edu/ejournals/JTE/v7n1/gokhale.jte-v7n1.html

Harasim, L. (2012). *Learning Theory and Online Technologies.* New York, US: Routledge

Kaplan, S. (2013). *Building e-learning and blended learning communities.*California, US:iCohere Inc. Retrieved October 8, 2013 from http://www.icohere.com/collaborativeLearning.htm

Klemm, W. R. (1994). Using a formal collaborative learning paradigm for veterinary medical education.*Journal of Veterinary Medical Education, 21* (1). Retrieved September 17, 2013 from http://scholar.lib.vt.edu/ejournals/JVME/V21-1/Klemm.html

Lai, E. R. (2011). *Collaboration: A literature view*. Retrieved July 20, 2013 from http://www.pearsonassessments.com/hai/images/tmrs/Collaboration-Review.pdf

Lindgren, H. C. (1956). *Psychology in the classroom.* New York, US: John Wiley & Sons, Inc.

McGraw-Hill (2000). *Writer's Choice- Writing assessment and evaluation rubrics, Grade 9.* Ohio, US: The McGraw-Hill Companies, Inc. Retrieved from https://www.scribd.com/doc/316362718/writing-rubrics-writers-choice

Smith, B. L., & MacGregor, J. T. (1992).What is collaborative learning? In A. Goodsell, M. Maher, V. Tinto, B. L. Smith, & J. MacGregor (Eds.), *Collaborative learning: A sourcebook for higher education.* Pennsylvania, US: Pennsylvania State University.

 Copyright ⓒ 2019Authors