EFFECTS OF CO-OPERATION AND COMPETITION ON ELEMENTRY PUPILS' ACHIEVEMENT SCORES ON ENGLISH LANGUAGE CONCEPTS.

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Abstract

This study investigated the effects of cooperation and competition on pupils' achievement scores on some English Language concepts. A total of 90 pupils (52 males 38 females), randomly sampled from primary 5 in Our Lady of Fatima Primary School, were involved. The 90 pupils were randomly assigned to control, co-operative and competitive groups. The research design was the pre — test — post test control group type**.** Pupils' scores were compared the use of a 2 tailed t — test and one - way analysis of variance. Result shows that pupils who studied under a competitive goal structure had the highest mean achievement scores, while the pupils who were taught under a cooperative goal structure occupied an intermediate position in terms of achievement scores**.** However, there was more inter — group rivalry and conflict in the competitive group than in the cooperative or group control group. Suggestions for further research are given.

An important and often neglected ingredient in an instructural system is the kind of environment in which learning takes place (Kniep and Grossmen, 1997). Johnson and Johnson (1995) made a review of researches on the effects of student co-operation and competition on learning outcomes. They concluded that co-operation is more effective than competition for certain cognitive and effective outcomes. They identified theses outcomes as problem — solving, group productivity, positive attitudes, appreciation of individual and cultural differences moderated levels of anxiety, development of inter — personal skills, maintenance of open communication and development of trust relationship in the classrooms. In a related study, Johnson (1986) concluded that a cooperative structure is most appropriative for equity — based activity.

Johnson and Johnson (1995) have developed an identified essential element for co-petamre and competitive environmental structure. These essential elements and their definitions of them were derived from researches of their own and those of other researches. According to them and Kniep, a co-operative structure exists when students perceive that they can obtain their goals, if and only if, the other students with whom they are linked can obtain their own as well. In a co-operatively, expected outcomes are communicated by the teacher to the students as goals; the class work as a team in small groups; the number of materials available is shared on group or individual basis, and rewards are administered to groups rather than to individuals.

In a competitively structured environment, outcomes are communicated as individual goals (emphasis on individual students' doing better than other). Students have each of their own sets of materials. Interaction or sharing of ideas is discouraged by the teacher. Individual students are rewarded on basis of how well they do as compared to how well other students do.

In a study conducted in Phoenix Arizons, on 96 Fifth grade students, Kniep and Grossman (1999) explored the relationship between co-operative and competitive instructional environments on students* achievement of selected social studies concepts.

The experimental design was only the post that control group design. Results of the study showed that students who learned in a competitive environment had significantly higher mean achievement scores than did those in the co-operative and control groups. In their conclusion, Kniep and Grossman stressed that before the implication of their study could be safety drawn, further research needed to be undertaken on the effects of co-operation and competitive on learning.

Method

Sample:

The Primary 5 pupils of Our Lady of Fatima School, Lagos formed the population for this study. There were three of primary 5 in the school. Each one contained 40 pupils. Thus, our of the total of 120 pupils of primary 5, a total of 90 were randomly selected for the study. This sampled consisted of 52 males and 38 females. The ages of the pupils involved ranged between 11 and 15 years.

The 90 pupils were again randomly distributed into one control group and two experimental groups. The control group consisted of 30 pupils who were made up of 16 males and 14 females. The co-operative and competitive group both formed the experimental groups. The cooperative groups were made of 30 students made up of 17 males and 13 females. The 30 pupils of the competitive group consisted of 19 males and 11 females.

Experimental Design:

The experimental design was the pre - test post - test control group design (Campbell and Stanley, 1996). The Students were randomly assigned to one of three groups; control group (C),co-operative group (Co) and competitive groups (Cm). Campbell and Stanley stressed the suitability of this design for controlling possible interaction between treatment and testing.

Instrument:

A lesson plan covering all the concepts to be taught to the pupils was developed jointly by the researcher and the subject teacher who was teaching English Language to the pupils. An objective test, covering all the concepts and items, was developed by the researcher and validated by a team of experts in language and evaluation techniques. The reliability of the test (0.65) was determined by the equipment — forms techniques. This test was given to each of the three groups of pupils as pre — test before the actual instruction commenced. The test was a suitable choice problem of 50 items. Pupils were required to complete them in 60 minutes. Each of three groups worked in separate classrooms located far apart.

The study was conducted to find out the effects of co-operation and competition on pupils' achievement scores on English Language concepts.

Hypothesis:

The null hypothesis for this study is: There will be no significant differences between the mean achievement scores of pupils who are taught English Language concepts in a cooperative environment and those who are taught in a competitive environment.

Procedure:

The instructional programme for the control and experimental groups (C, Co and Cm) consisted of a two - day unit of instruction on the correct use of prepositions in the English Language. The unit was chosen from Banjo Millet and Solaru (1984: 34 -36). This was the main English Language textbook recommended by the school for the pupils. The topic chosen for the study had not been previously taught in any classes involved. The normal subject teacher was engaged to give the instructions and administer the tests.

Supplementary materials and methods (such as diagrams, specimen, object and demonstrations) were used in each group throughout the instruction. The content and basis instructional strategies were the same for the control and experimental groups.

The treatment of the control and experiments was differentiated by 'goal structure'. Instruction in the control group took place under a normal conventional goal structure. The entire class of 30 was given instructions by die teacher without being told to engage in any interpersonal or inter — group competitions or co-operation.

In the co-operative group, instruction took place under a co-operative group structure. Pupils in the co-operative groups were assigned to two sub — groups. The individuals in one Sub — group were co-operatively linked to the other sub - group members by the teacher. This was done by the students' being told that each individual student's success was also the success of the sub-group and that the success of each group meant the success of the other, and vice versa. Before the instruction was given, the teacher encouraged all members of each sub — group and also the entire

group to work together through mutual trust, honesty and sharing of ideals and instructional materials. Throughout the giving of instructions, rewards in the form of marks, praises and clapping of hands were given to the entire class rather than individual or sub — groups. Questions and projects were directed to the entire class rather than to individual or Sub - groups.

In the competitive group, instruction took place in a competitive goal structure. The entire groups of 30 pupils were divided into two by their teachers. The teacher encouraged group identification between each group. The sharing of ideas, information or instructional materials among students between the sub — groups was strongly discouraged. Each group was instructed to be the better group in the class. Questions and marks were scored in a tabular form on the blackboard in front of the class. Other rewards in form of clapping or praises were given to the specific sub - groups which did better than the other.

After the different treatments, each group was again given the same test items which had been given to them as pre — test before instructions commenced. This was the post - test. The data obtained from the pre - tests and post — test for each group was subjected to statistical analysis.

Results:

Mean Standard Deviation and t - test results for the pre - test and post - test of the Control, Cooperative and Competitive Groups.

Table 1

		PRE -TEST		POST -TEST		
Group	N	Mean	SD	Mean	SD	t
Control	30	17.33	15.30	26.33	15.52	4.38
Co-operation	30	19.00	13.98	47.33	12.54	12.87
Competitive	30	19.67	15.52	64.33	20.29	14.97

P0.05

Table 1 shows the mean and standard deviation for the pre — test and post — test scores for the control, co-operative and competitive groups of students involved in the study. A 2 tailed t — test has been used for comparing the mean scores of the pre — tests for each group. Results in the table shows that the group of students with the highest gain scores in the competitive group. This is the group which was taught under a competitive goal structure. This score is followed by the co-operative group, and thirdly by the control group. The pattern of achievement follows a sort of linear pattern, with the smallest score for the control, followed by the co-operative group which occupies an intermediate position, while the comparative group has the best result in terms of gain scores and t — value. The small range among the mean scores of the pre — tests of the three groups shows the randomness for assigning the students into the control or experimental groups. The t — value of each group is significant at the 0.05 level.

Table 2
Summary of Analysis of Variance

Source	Sum of Squares	DF	Mean Square	F
Between Groups	31.65	9	3.52	9.93
Within Groups	28.34	80	35	

Table 2 shows the summary of a one way analysis of variance which was used for

Comparing the post - test scores of the three groups of students who were taught under the control, co-operative and competitive learning environments. This was done in order to test if there was any significant difference in the post — test mean scores of the groups. The result shows that the variation of scores which exists between the groups is greater than that which exists within each of the groups. This means that the difference in terms of mean scores which exist from one group to another is very high. The ration F- ratio (9.93) also shows that this variation is significance and not by chance.

Discussion and Conclusion

The results of this study, as indicated in table 1, shows that students who were taught under a competitive goal structure did better than the control group and those who learnt a co-operative goal structure. The result is consistent with the findings of Kniep and Grossman.

One important observation made by the researcher and the subject teacher during the study was the tense atmosphere which prevailed between the two sub - groups of the competitive group. It was observed that each sub - groups of the competitive group made charges and counter charges of dishonesty against the other. This led to serious arguments**,** noise making and indiscipline which almost disrupted the lesson on two occasions. This problem was not observed in the control or Co-operative group.

One possible explanation for the high performance and the antagonistic behaviour between the sub — groups of the competitive helps to motivate people to high aspiration and achievement. This high aspiration reaches a point at which it generated inordinate ambition, conflict and excessive rivalry. Another possible explanation is that students in a competitive environment see other individuals or sub — groups as co-contestants for or threat against, the threats. Thus, since the reward was meant for the entire group in co-operative group, and non — existent for the control group, this rivalry was not conspicuous.

Results in table 2, shows that the inter-group variation of scores is greater than the intra-group variation of scores. The reason for this higher variation between the different groups is the different treatment to which such was subjected. The F – ratio which is an index for measuring this variability is significant (F.9.93). This means that the differences in goal structure under which each group was taught were crucial factors in the determination of the differences in gain scores. With the results, the null hypothesis for this study is rejected.

According to Blair, James and Simpson (1995), neither co-operation nor competitive is necessarily either desirable or undesirable. Each may either be effective or ineffective, depending on goals and how relationships are perceived (P.311). There are situations which call for co-operation in carrying out projects and solving other difficult problems in the class and society. There are also situations which demand competition through healthy rivalry and which can be controlled to prevent hostility and aggression. The teacher's role should be to encourage students to work hard and succeed through fair play and such tolerance for others as will enable them to succeed also.

Suggestion/Recommendation

Although the competitive group of pupils obtained the highest achievement, there still remain some unanswered questions. For instance, if this study had used students in the Secondary School or University as sample, would the reactions in each of the three ups have been the same as those observed in this study. Also, it is possible that, apart m age, factors like cultural, educational and socio — economic backgrounds, temperant, sex, level of intelligence and other human variables may have some negative effects on the way in which a person behaves in a co-operative or environment. All these are areas in which further research can be conducted in future.

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