
EFFECT OF TEAM- TEACHING ON STUDENTS' ACADEMIC ACHIEVEMENT AMONG PRE SERVICE TEACHERS IN FEDERAL COLLEGE OF EDUCATION (SPECIAL), OYO

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Abstract

The study investigated the efficacy of team teaching as a tool to improve students' academic achievement in Educational Administration, Planning and Supervision. A General Education Courses in Federal College of Education (Special), Oyo. Quasi-Experimental research design was used for the study. The study thus has experimental and control groups whereby the experimental group received treatment. The population of the study consisted of One Thousand Five Hundred students who were in 200 levels. Eighty students were randomly assigned into control and experimental groups. The major instrument used for the study was the teacher made test (TMT). The hypotheses generated for the study were tested a 0.05 level of significance. The findings reveal that team teaching has a high potential for improving student's academic achievement. Among other things the study therefore recommends that team teaching should be encouraged.

Keywords: *Team teaching, Academic achievement, Pre Service Teachers*

Background to the Study

Teamwork has been one of the means modern day managers adopt to improve organizational performance. Work teams according to Williams (2006) consist of a small number of people who have complementary skills and who hold one another mutually accountable for pursuing a common purpose. Usage of teams has gained currency as a management tool to improve organizational productivity (Dubrin 2009). The widespread acceptance of work-teams as a management approach for optimum utilization of human and material resources in industrial and public organizations has led to its adoption in the education sector. Hence, the continuous search for improved teaching and learning in the educational system has resulted in the use of teamwork in the teaching process. Team

teaching results from application of principles and methods of teamwork to the teaching process.

In the recent times there are a number of pressures on the educational system in general and the educational administrators in particular to make education responsive to the needs of the society and the individuals concerned. Such reforms like Universal Basic Education in Nigeria (1999) Education For All Declaration (1991) and the No Child Left Behind (NCLB) in the United States of America demand for improvement and accountability from the teachers as well as school administrators. One of the approaches newly employed to improve teaching and learning is team teaching. Team teaching according to Taiwo (2014) was first developed in 1955 in Harvard University. Its success in Harvard University led to its adoption and usage in Britain. Similarly, it was also used in Chicago University. In recent time it is being used in a number of tertiary institutions. For instance, a form of team teaching is in practice in the Federal College of Education (Special), Oyo. A group of lecturers about three or four in number jointly teach a course in which students are located at different venues or at the same venue. They often develop the course content jointly with the leader of the group. In addition, evaluation of the students is jointly carried out with the leader drawing the questions which are scrutinized by other members of the team. In addition, in cases where two or three lecturers teach the same group of students, while one of the lecturers teach, the other lecturers supervise the students to maintain an orderly classroom because education courses usually have large classes between five hundred and one thousand six hundred students.

In spite of the fact that team teaching is acclaimed as a teaching approach that improves students learning outcome, there are scanty research evidences as to its real efficacy. For instance, Carpenter II, Crawford and Walden (2007) aver that empirical analysis of team teaching remains scanty. Hence, this study is riveted to contribute to the fuller understanding of the efficacy of team teaching as an administrative tool to enhance teaching and learning.

Statement of the Problem

Team teaching since its inception in Harvard University in the United States of America has gained widespread acceptance. However there is scant empirical evidence about its efficacy. Most of the acclaimed benefits of the concepts are from qualitative study sources. Therefore, this study investigated the effect of team teaching on student's academic achievement in Educational Administration Planning and Supervision a general education course in Federal College of Education (Special), Oyo.

Objective of the Study

Investigated the efficacy of team teaching as a tool to improve students' academic achievement in Educational Administration, Planning and Supervision.

Research Hypotheses

H₀₁: There is no significant difference in the academic achievement of students taught using team teaching and solo-teaching.

H₀₂: There is no significant difference in the academic achievement of male students exposed to team teaching and the control group.

H₀₃: There is no significant difference in the academic achievement of female students exposed to team teaching and the control group.

Review of Related Literature

The concept of team teaching has attracted differing nomenclatures such as co-teaching, collaborative teaching, parallel teaching etc. from scholars in the field (Witcher & Feng, 2010). Just as it has different names, its definitions also varied from scholars to practitioners of team teaching. Tijani and Oketunbi (2010) refer to team teaching as an

educational strategy where multiple teachers develop and present course materials to a class. Simplifying the definition of team teaching Uwameiye and Ojikutu (2008) aver that team teaching is an adapted team work between two or more qualified instructors who make presentations to an audience. The authors' definition underlies the collaborative efforts of the people involved. Hence it should be noted that team teaching is more of an administrative strategy to improve teaching service delivery.

Taiwo (2014) specifically defining the concept opines that team teaching involves a group of instructors working purposefully, regularly and cooperatively to help a group of students of any age to learn. The author went further to add that the teachers involved in team-teaching jointly set goals for a course present and evaluate lesson together. In a similar vein, Lagoke, Taiwo and Ojebisi (2010) described team teaching as an instructional technique in which two or more teachers get together to plan, implement and evaluate instructional activity. According to the authors, each member of the team is given a specific role to play. For instance as one of the team members is teaching the others may be attending to struggling students or assist to maintain a good classroom climate.

Assessing the diverse definitions of team teaching, Carpenter II, Crawford and Walden observed that some scholars defined the term specifically. The author also identified rotational and collaborative approaches to team teaching. In the case of rotational approach, there is a serial arrangement in which the teachers teach the same course but each in turns. Though this arrangement may have some benefits, yet Pugach, Johnson and Lilly (1995) assert that such an arrangement negates the intent and spirit of team teaching.

As could be deduced from the preceding definition, team teaching is an administrative arrangement in which two or more teachers form a team to facilitate teaching a group of students for teaching effectiveness.

Benefits of Team Teaching

Team teaching has a number of benefits. Tijani and Oketunbi (2010) assert that students stand to gain academically from the practice of team teaching. Witcher and Feng (2010) reported that team teaching which the author labelled as co-teaching allows for teachers to work together to plan and develop lessons and activities that will be of benefit to the students: This is because, team teaching allows for more teacher assisted learning. It also provides opportunity for direct correction and redirection of students that need more assistance than would be have been available if the class is solo-taught.

Dugan and Letterman (2008) also opine that co-teaching benefit students as a result of exposure to the strengths of varied viewpoints provided by the team members. According to the authors, the students can also have multiple opportunities and experiences with the course content through diverse teaching styles of the co-teachers.

The widespread acceptance of team teaching as a veritable administrative tool to enhance teaching and learning is mainly due to the fact that as teachers collaborate to create instructional objectives, jointly present instruction, and generally make joint decisions, students appear to mirror this collaborative model in academic and social interactions (McDuffie, Mastropieri and Scruggi, 2009).

The authors also found through their research that students in co-taught settings perform better than students who were taught in the traditional model of one teacher per class. As would be expected Witcher and Feng (2010) aver that students in collaborative team teaching received more teacher time attention and other forms of assistance from the teachers than in a solo-taught class.

Team teaching can also enhance good classroom management. For example in a one teach,- one- assist- model of team teaching, as one teacher leads the majority of the

students in instruction, the other teachers works with other small groups and try to ensure that students do not put up disruptive classroom behaviour.

Taiwo (2014) observed that team teaching can be an avenue to improve the quality of instructional supervision. A good team by its nature does not need close supervision. This is because every member of the team is assigned specific role and they try to ensure that they achieve their common goals. As a result of this form of collaboration and commitment to common goal achievement there is less need for close supervision. In fact as DuBrin (2007) has noticed self-managed teams requires little or no supervision. Teaching teams can also reduce teacher's burden. In case of absence of one of the teachers, other members can take charge without any disadvantage to the students.

Johnson (2011) reported that team teaching can forge friendship, creativity and help create a community of learning. This view has been supported by Taiwo (2014) who noticed that in team-teaching, teachers complement one another. In addition teachers can learn new perspectives, insights, techniques and values by watching one another (Taiwo, 2014).

Tijani and Oketunbi (2010) also identified a number of advantages of team teaching. These benefits include:

1. Dynamic interplay of two minds and personality instead of lecture methods.
2. Effective use of human resources.
3. Revitalization of instruction through collaboration, disagreement and dialogue.
4. Stimulation of students' interest and enthusiasm.
5. Effective use of instructional facilities.
6. Enhanced interaction between the teachers and the students.

Though, team teaching holds a lot of potentials, yet it has its own drawbacks. Some of the disadvantages of team teaching are discussed below.

The presence of more than one teacher with different perspectives and opinions may be a source of confusion to some students. That is, given the age and experience of some pupils, they may not be able to marry together divergent views of their teachers on some issues.

Except the members of the team maintain a united front, some clever students may succeed in playing one teacher against the other. Another likely problem that may arise from co-teaching is the variation in assessment of students' tests and assignments.

Necessary Conditions for Effective Team Teaching

Team-work in teaching episodes requires a number of conditions in order to be successful. Tijani and Oketunbi (2010) listed some conditions which must be met if team teaching is to be effective. These conditions include:

1. Compatibility of the members: Though there is need for complementary skills among the members of the team, the members must be socially and emotionally compatible.
2. There must be mutual commitment and dedication to the achievement of common goal which is improved instruction. Information must be shared from time to time among the members.
3. The team members must have passion for teaching and be willing to encourage students' interest in knowledge acquisition.

In addition to the above it is imperative that members of a teaching team must have the following personal characteristics such as:

- i. Interest in challenging tasks
- ii. Trustworthiness

- iii. Resourcefulness
- iv. Honesty
- v. Openness to new ideas
- vi. Flexibility.

Conflict Management in Teaching Teams

Team teaching entails involvement of two or more peoples in planning, presentation and evaluation of an instructional programme. In its actual practice, Taiwo (2014) Witcher and Feng (2010) observed the possibility of disagreement among the members of a teaching team. The conflict may be issue or personality related. Ajayi (2006) identified social loafing, competition for scarce resources, divergence of values and personalized goals as some of the factors that can cause conflict within a team. It is therefore important for the team members in general and the team leader in particular to know that conflict within a team is inevitable. The most important thing to do is to know how to manage such conflicts whenever they arise.

Olowo and Oladimeji (2013) listed five conflict resolution styles that can be used in resolving conflict within a team. These strategies are focusing, accommodation, sharing, collaboration and avoidance. Choice of an appropriate strategy will depend on the nature of the conflict and the authority relationship between the team leader and the members.

Forcing: This is concerned with win or loses orientation.

Accommodation: This is otherwise known as reconciliation and its focus is based on appeasement.

Sharing is a strategy of conflict resolution in which the parties maintains a mid-way in order to reach a compromise.

Collaboration approach endeavours to integrate each other's opposing view or ideas into one.

Avoidance is an approach which can be simply described as withdrawal (Owens & Valesky, 2007).

Methodology

The study adopted pretest and posttest quasi experimental design. This implies that there were two main groups. That is, experimental and the control groups. The experimental group was exposed to team teaching as a treatment while the control group has no treatment.

Population, Sample and Sampling Technique

The population of the study consisted of one thousand five hundred students who are in the 200 level. Eighty students were randomly selected into experimental and control groups. Each of the two groups has forty students each. The students were comparable in major characteristics. There were equal numbers of female as well as male students. The students Grade Point Average (GPA) was taken into consideration and students who's GPA were very close were considered for participation in the study. The age range of the participants is between seventeen and twenty years.

The major instrument employed in the study is teacher- made test which consisted of 20 items. However, the test was pooled out of the School of Education FCE (Sp) Question Bank. The advantage of using such questions lies in the fact that the questions have been moderated by an external examiner. Hence the questions have content and face validity. The reliability of the research instrument was answered through the use of Crombach's alpha coefficient. The coefficient yielded was .71 which is considered substantial.

The control and the experimental groups were pretested and post tested after applying the treatment on the experimental group. The t-test statistic was used to determine whether there is a significant difference in the mean achievement scores of students in pre-test and post test. Hypotheses used for the study were tested at 0.05 significance level.

H_{01} : There is no significant difference in the academic achievement of students taught using team teaching and the solo teaching

Results

Table I: Pretest Analysis for Experimental and Control Groups

Table 1 (a)

Groups	N	X	S.D	Df	t cal	t. tab	Significance
Experimental	40	23.1	2.207	78	0.03	1.98	Not significant
Control	40	22.5	3.038				

$P < .05$

Table 1 (a)

The findings in the table one indicates that there is no significant difference in the pre-test mean achievement scores of experimental and control groups.

Table 1 (b) Post-Test Analysis for Control and Experimental Groups

Groups	N	X	S.D	Df	t cal	t. tab	Significance
Control	40	12.05	3.98	78	10.80	1.98	Significant
Experimental	40	57.06	16.75				

The result presented in the Table 1 (b) reveals that the mean achievement scores of the students in the experimental group was higher than that of the control that did not experience any form of treatment. The difference is therefore accounted for by the treatment on the experimental group ($t_{cal} = 10.80$, $t_{tab} = 1.98$, $df = 1$, $P < .05$). The hypothesis is therefore rejected.

Table 1 (c) Pretest and Post Test Analysis for the control group.

Groups	N	X	S.D	Df	t cal	t. tab	Significance
Pre Tests	40	21	0.8	38	0.56	1.98	
Post Test		22.5	0.09				

The result presented in the above table further confirmed that the difference observed in the mean academic achievement scores of the students in the experimental group was due to the treatment the group received.

H_{02} : There is no significant difference in the academic achievement of male students exposed to team teaching and the control group.

Table 2(a) Pretest Analysis of Male Achievement Scores for Control and the Experimental Groups

Groups	N	X	S.D	Df	T	P	
Control	20	8.96	2.24	38	.08	.25	
Experimental	20	9.10	1.97				

The finding as presented in the above table shows that there is no significant difference in the mean academic achievement scores of male students exposed to treatment and the control group.

Table 2(b) PostTest Analysis for Control and Experimental Groups.

Groups	N	X	S.D	Df	T	P	
Control	20	13.7	5.91	38	-12.81	000.000	
Experimental	20	31.8	10.86				

The result presented on the above table indicates that there is a significant difference in the mean achievement scores between students exposed to treatment and those of the control group. The result of the pretest in the table 2(a) could help to confirm that the difference in the mean achievement scores between the experimental and the control group was due to the treatment given to the experimental group. That is, team teaching accounted for the higher academic performance of the male students in the experimental group

H₀₃: There is no significant difference in the academic achievement of female students exposed to team teaching and the control group.

Table 3 (a) Pretest Analysis of the mean achievement scores of students that were team and solo taught.

Groups	N	X	S.D	Df	T	P	
Control	20	10.6	3.21	38	1.230	.145	
Experimental	20	9.16	3.14				

The findings as presented on the above table reveals that there is no significant difference in the mean academic achievement scores of the students were in the experimental group and those in the control group.

Table 3 (b):Post test Analysis of the Mean Achievement Scores of Students Exposed to treatment and those of the Control Group.

Groups	N	X	S.D	Df	T	P	
Control	20	12.76	13.42	38	-10.76	.000	
Experimental	20	43.63	3.18				

The table above reveals that there is significant difference in the mean academic achievement scores of female students exposed to team teaching and those students that were solo-taught. The hypothesis is therefore rejected. The difference between the two groups' scores on mean achievement scores was due to the treatment received by the experimental group.

Discussion

The finding of the first hypothesis revealed that there was a significant difference in the mean academic achievement scores of the students exposed to team teaching and the control group that were solo-taught. The pretest carried out on the control and the experimental groups confirmed that the difference observed in the learning outcomes of the two groups was due to the treatment given to the experimental group. That is, team teaching was responsible for the higher achievement test scores of the experimental group when compared with control group who were not exposed to any form of treatment. This finding is in line with Carpennter II, Crawford and Walden (2007) who reported that after exposing a group of students to team teaching, there was a significant growth in students' academic achievement. The study however did not record a significant difference in the mean achievement scores between the experimental and the control group. However, the authors observed that the mean achievement scores of the team taught class was higher than the solo-taught. Hughes and Murwaski (2001) reporting the findings from a qualitative study noted that team teaching provides environment which allows for differentiation of instructions. In addition, the presence of multiple instructors allows for

flexible and creative learning environment.

Similarly, Akpan, Uwandu and Ekanem (2013) in a study that probed the relative efficacy of team teaching and small group teaching reported that students exposed to team teaching performed better academically than students in the small group teaching. The research findings of Witcher and Feng (2010), Abdallah (2009) corroborated the findings of the preceding authors that co-taught classrooms benefit all students included in the class. The result findings of Packard, Hazelkorn, Harris and Mcleod (2011) also supported the findings of Witcher and Feng (2010).

The findings of the second and the third hypotheses only pointed to one fact that gender does not have a significant effect on students' academic achievement of those who are exposed to team teaching. That is, whether male or female, when exposed to a team taught class, the students performed better than their counterparts who are taught by traditional teaching format. Witcher and Feng (2010) also posited that team teaching strategy where multiple teachers develop and present a lesson yielded better students academic performance. This assertion was confirmed by Akpan, Uwandu, Ekanem (2013), who also found that both male and female students exposed to team teaching performed better than their counterparts in a solo-taught class.

This study is limited in some ways. Hence, there is need for caution in the interpretation of the findings. Firstly, the study is limited by the number participants. A larger sample could be used in order to ensure generalization of the findings. Secondly a number of tests could be used in order to test the true ability of the students. Finally, the study participants can be extended to other colleges of education.

Conclusion and Recommendation

The study investigated the effect of team teaching on students' academic achievement among two hundred level education students in Federal College of Education (Special), Oyo. The study found that students that were exposed to team teaching in the experimental group performed better than their counterparts who were taught with the traditional teaching format of one teacher per class. The study therefore concludes that team teaching has a great potential to enhance teaching and learning in tertiary educational institutions like Colleges of Education. Based on the findings the study recommends that team teaching should be encouraged by the head of various educational institutions.

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