

Comparative Analysis of the Effects of Team Teaching Strategies and conventional Teaching Approach in Secondary Schools in Imo State Nigeria.

By

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Abstract

Team teaching strategy is anticipated to remedy the shortfalls in various subjects in secondary schools in Imo State especially those core subjects such as Mathematics, Physics, English, Chemistry etc, because performances of students in these subjects areas have been reported to be poor. This study therefore sought to examine a comparative analysis of the effects of conventional and team teaching strategy in secondary schools in Imo State Nigeria. Two research questions were posed to guide the study, with a mean value of 2,50 as cut off point for the pooled mean to be accepted if above it and not accepted if below. One null hypothesis was formulated and tested at 0.05 confidence level. The population for the study was fifty two thousand six hundred and forty two secondary school teachers (55,642). While two hundred and forty (240) teachers were sampled for the study through a purposive sampling technique. The data used was 18 item questionnaire developed by the researcher, and validated by her colleagues in the department while a reliability of 0.83 was determined using cronbarch's coefficient alpha aa, used for analyzing the scores. In the

researcher's findings, students taught with conventional teaching strategy do not perform well unlike students taught with team teaching strategy. This is because the pooled mean value was 1.73 far below 2,50 while team teaching had 3.37 above 2.50 mean value. The null hypothesis had the t-cal 16,44 greater than 1.960 $t=t_{ab}$ is rejected. The research concluded that team teaching strategy has potentials to better student's academic performance. In the recommendation, teachers in both the secondary and primary schools should adopt team teaching strategy since it has been proven that team teaching is highly efficient for teaching and learning.

Introduction

Education is a very important sector in Nigeria which has to provide every citizen the foundation and skills necessary for his everyday living. According to the National policy on education stated by Ekwueme(2014), the aims and objectives of secondary education include; to provide necessary educational background for further academic studies, in order to develop the students ability to be able to solve all educational problems. Ideally, education is an instrument for national development. It fosters on the worth and development of individuals to be self-reliant, just and building egalitarian society, Federal Republic of Nigeria (FRN), (2014). Invariably, the benefits of education can be realized by properly integrating all the teaching subjects into the economical system of any nation as well as a means for communication.

According to Easy project (2016), almost all aspects of human life, education is needed example to aid farming, commerce, industry, environmental control, medicine, administration, engineering and so many others. One major problem of proper acquisition of mathematics is poor quality of teaching of the subject (Peter, 2012: and Project stock, 2014). A mastery of mathematics subject is highly desirable, yet its teaching and learning is beseeched by a myriad of problems at the secondary school level (Kolawale 1998) which has greatly affected the young school leavers in their zeal to study courses related to mathematics. And there are reasons why they are so. Some of the reasons why Nigerian students perform poorly in mathematics are;

1. Most of the teachers are unqualified thereby resulting to ineffective teaching (Ekwueme 2014; Obodo, 2004; Ousman, 2013 and Projectstoc, 2014)

2. There are shortages of qualified teachers which result in poor teaching in the area of secondary schools and consequently achievements of the students on the subjects leading to the production of another generation of poor students who will in turn teach the subject poorly tomorrow (Obodo, 2004)
3. Most teachers do not frequently employ modern instructional strategy in their lessons (Okpara, 2010; Peter, 2012 and Aduwa-Ogiegbaen and Iyamu, 2014).
4. There may be unavailability of relevant instructional materials that teachers can lay their hands on to make learning real.
5. The qualified teachers are poorly remunerated and as such are frustrated on the teaching job resulting to their not putting in their best. Mathematics for example is one of the compulsory subjects offered in the secondary schools. Consequently, teachers have to attend to all the students by marking their numerous assignments, tests and examinations. This situation makes the teachers feel over used and over loaded considering that other teachers of their equal ranks and steps receive equal salary. Based on this, they feel discontented with the teaching job. Consequent upon that, they leave the classes unattended to, thereby making the students to lay poor foundation in mathematics at the junior secondary school level. There is therefore need to employ teaching strategy that will enhance effective use of the few qualified teachers that are available in the school for greater achievement in the subject.

The team teaching strategy is anticipated to remedy the shortfall in the number of qualified teachers available in schools because performances of students have been variously reported to be poor. For instance, the poor performance recorded in mathematics in secondary schools over the years is a perennial problem (Chinyeaka, 2012). Over the years, students have shown high rate of in many of the teaching mass failure in many of the teaching subjects (Okpara, 2012). Over the years students have shown high rate of mass failure in many of the teaching subjects (Okpara,2010).this year, the poor performance in students can be remedied if the teachers change their instructional strategy from the conventional approach to team teaching strategy (Weimer, 2011: and Buckley, 2013), some of the objectives of secondary school teaching are;

1. Foster in the students the readiness and preparedness for future purposes and activities related to the program.
2. To expose the students and give further practice in topics related to technical, scientific and commercial contents.

3. To further enhance basic skills in creativity introduced in the JSS, more emphasis is given to class and homework using different styles.
4. To make learners aware of the need for constant practice and of solving problems in all exercises in their text.

Obviously, the emphasis of the above objectives was on development of students' skills in mathematics, so as to give them access to further education. This is so because practice enables one to become perfect in any mathematically related subjects as well as solving problems when the needs arise.

Team teaching strategy can enable teachers work together to develop lesson and activities that are effective for all students and then co-teach this lesson within the context of the regular classrooms, thereby relieving the Mathematics teacher of overload of lessons. Here, students are exposed to a variety of teaching styles and strategies and reduces the students-teacher ratio so that all learners receive added support during lessons and activities. Team teaching is an approach which involves true team work between two qualified teachers who together make presentation to audience (Quinn and Kanter, 2013). With varieties of teaching styles, activities and lessons, students will be exposed to an embodiment of problems solving skills.

According to Okpara (2010), the need to salvage the already bad situation concerning the problem of mass failure in mathematics could be attributed to the method of teaching. Moreso, the government, parents, policy makers, mathematics educators, different professional bodies are bothered about what could be responsible for this factor militating against effective teaching and learning of Mathematics (Easyproject, 2014). One way to achieve effective teaching and learning of mathematics is through the use of team teaching strategy. This is because it takes care of the problem of shortage of teachers in a school setting for the particular subject for which it is meant for such as mathematics.

PURPOSE OF THE STUDY

This study majorly sought to investigate comparative analysis of the effects of conventional and team teaching strategies in secondary schools in Imo state, Nigeria. Specifically it is sought to

1. Determine the factors that influence students' academic achievements when team teaching strategy is compared with conventional teaching approach.

2. Compare the impact of team teaching and conventional teaching strategies on students academic in secondary schools in Imo state.

Research Questions

This study was guided by two research questions;

1. What are the factors influencing student's academic achievement when team teaching is compared with conventional teaching?
2. What impact does team teaching have on student's academic achievement when compared with conventional teaching?

Hypothesis;

This null hypothesis was formulated to guide the study.

Ho 1: There is no significant difference in the effect of team teaching and conventional teaching strategies among students in secondary schools in Imo state.

Method;

The study adopted 3-step random sampling technique, first by selecting two(2) education zones out of three(3). Secondly eight(8) local government areas were selected from the zones proportionately out of twelve LGAs.Thirdly, ten (10) secondary schools were proportionately selected from each of the sampled LGA which brought the number to eighty(80). Finally, three (3) teachers were selected from each of the selected secondary schools which brought the sample size to two hundred and forty (240). The instrument for data collection was the questionnaire which was constructed on a four (4) point rating scale of Strongly Agree(SA), Agree(A), Disagree(DA) and Strongly Disagree(SDA). While the mean value should be within or above 2.50, but if below the data was validated by two research experts in the Educational Administration and Educational Foundation, measurement and evaluation lecturers. The reliability was determined by Cronbach's co-efficient alpha r which was used to analyze the scores after the pilot study, which was not part of the study area with a reliability of 0.83 which indicated the instrument was statistically reliable. The instrument was administered by using the principals of schools as the research assistants to ensure prompt distribution of the completed questionnaire. The number of the questionnaire retrieved from the field was one hundred and sixty (160) out of two hundred and forty (240) subjected for analysis.

Models of Analysis,

$$\bar{X} = \frac{\sum fX}{\sum f}$$

$$S^2 = \frac{\sum x^2 - \frac{(\sum X)^2}{n}}{n-1}$$

$$SD = \sqrt{S^2}$$

$$S^2 = \frac{(N-1)S_1^2 + (N-1)S_2^2}{N_1 + N_2}$$

$$t_{cal} = \frac{\bar{X}^1 - \bar{X}^2}{\frac{S_p^2}{N}}$$

$$\bar{X} = \text{Mean}$$

N = Frequency or number of observations/subjects

S^2 = Variance

SD = Standard Deviation

S_p^2 = Pooled Variation

If t-cal is greater than t-tab reject the H_0 otherwise accept the H_0 and conclude that there is no significant difference and vice versa.

Education Zones In Imo State

Imo state has three(3) educational zones, thus Owerri, Orlu and Okigwe. This is the first random sampling where two(2) zones were randomly selected.

Okigwe LGA	No of Schools	Males	Females		Owerri LGA	No of Schools	Males	Females
Ehime Mbano	20	4245	5324		Ezinihite	16	1989	2058
Ihite Uboma	11	980	5324		Mbaitoli	20	3150	5245
Obowo	09	850	1050		Ngor Opala	13	1148	1682
Isiala Mbano	18	2320	3740		Ikeduru	18	4561	5250
Okigwe	11	850	984		Ahiazu	13	1938	1525
Onimo	05	690	858		Aboh-Mbaise	12	996	1065
Total	74	10835	12076			92	12882	16855

Source :Imo State Education Board:

Research Question 1:

Factors affecting students' academic achievement when team teaching is compared with conventional teaching.

Table One: Distribution based on the effect of conventional teaching strategy on teaching and learning in schools.

Conventional Teaching Strategy

s/n	Conventional Teaching Strategy	$\sum FX$	SD	X
1.	Two or more teachers gather to take decision on how best to plan the lesson for effective teaching and better students' performance	262	8.29	1.64
2.	There is opportunity for teaching and learning materials to be and used by more than teacher which makes learning more effective.	293	8.53	1.71
3	The objectives of each units and lesson is being set by more teacher for effective teaching and better performance.	273	8.64	1.71
4	The areas of teachers interests, specialty, and mastery of the subject matters topics are determined before teaching students, and this leads to better performance.	266	8.32	1.42
5	Most times students are alert and attentive because there is likelihood of various teachers appearing with different teaching matters, skills and materials that	233	8.72	1.46
6	Classroom management is easier because more than one teachers are involved in class discipline, control and proper record keeping and recording for effective teaching and learning.	248	8.57	1.55

7	The efforts of more than one teachers are buttressed and reinforced in classroom interaction on the topics of the subject matter for effective teaching and learning and good performance.	254	8.19	1.59
8	The motivational level of students are higher because more than one teachers appear on regular intervals to teach based on their uniqueness in the teaching process and this increases performance.	259	1.62	8.33
9	Evaluation of teaching outcomes are normally effective because more than one teachers are involved in formative, diagnostic and summative process for better achievement.	277	8.75	1.73
	Pooled Mean		7.53	1.60
	Source: Field Survey, 2014			

Research Question 2:

Impact of team teaching Strategy on students' academic achievement when compared with conventional teaching strategy.

Table Two: Distribution Based on effective Team Teaching in teaching and learning in schools.

1.	Two or more teachers gather to take decision on how best to plan the lesson for effective teaching and better students' performance	550	7.94	3.44
2.	There is opportunity for teaching and learning materials to be and used by more than teacher which makes learning more effective.	536	7.87	3.35
3	The objectives of each units and lesson are being set by more teachers for effective teaching and better performance.	552	3.48	7.99
4	The areas of teachers' interests, specialty, and mastery of the subject matters topics are determined before teaching students, and this leads to better performance.	547	7.67	3.40
5	Most times students are alert and attentive because there is likelihood of various teachers appearing with different teaching matters, skills and materials that	531	8.26	3.32
6	Classroom management is easier because more than one teachers are involved in class discipline, control and proper record keeping and recording for effective teaching and learning.	521	7.81	3.26

7	The efforts of more than one teachers are buttressed and reinforced in classroom interaction on the topics of the subject matter for effective teaching and learning and good performance.	536	8.38	3.38
8	The motivational level of students are higher because more than one teachers appear on regular intervals to teach based on their uniqueness in the teaching process and this increases performance.	513	8.14	3.21
9	Evaluation of teaching outcomes are normally effective because more than one teachers are involved in formative, diagnostic and summative process for better achievement.	559	8.20	3.49
			8.00	3.37
	Pooled Mean and Standard Deviation			

Source: Field Survey, 2014

Research Findings:

From the Table 1 above, the mean for the various items on the table showed mean values below 2.50 which were items nos 1-9 had mean values of 1.64, 1.71, 1.71, 1.41, 1.46, 1.55, 1.59, 1.62, and 1.78, even their pooled mean value was below the 2.50 mean showing negative. This indicated that conventional teaching strategy do not yield any positive result. It adversely affects the students. They do not learn through the conventional teaching method.

The mean values of the entire items pooled mean (3.37) on this table, Table 2 were positive, we therefore conclude that team teaching strategy is highly effective in the teaching and learning process in secondary schools. Teachers are by this study encouraged to always adopt team teaching strategy in their teaching methods.

Source: Field survey, 2014.

The result of the test of significant mean difference on the effect of conventional teaching and team teaching strategies was rejected because the Tcal value 16.44 was greater than t-tab 1.960 at the critical level of 0.05. the implication of this result is that there was a significant differential effects of team teaching when compared with conventional teaching strategies for teaching and learning of various subjects in secondary schools. Therefore, efforts should be intensified in the recruitment and training of more teachers in various subject areas to facilitate the adoption of team teaching strategy to enhance teaching effectiveness and students' performance.

The researcher, have carried out the study in Imo state secondary schools, found out that, research question had all the mean value lower than 2.50 which implies that conventional teaching is not effective, students taught with conventional teaching method may not perform well as well.

Table 2, which had the research as the impact of team teaching strategy when compared with conventional teaching. The items on the table and the pooled mean were all above the mean value of 2.50, implying that team teaching strategy has positive effect on students' academic achievement. They learn faster and better.

Table 3: Test of mean difference of the effect of conventional Teaching strategy and Team teaching in schools.

Teaching strategy:	$\sum f$	X	S _{2P}	SD	tcal	t _{tab}	Decision
X=Conventional Teaching Strategy	1.60	160	127.72	7.77		1.90	
Y=Team Teaching Strategy		3.37			16.44		Reject

The hypothesis above indicated that the tcal 16.44 was greater than the ttab 1.960 at the significant level of 0.05. Which imply that there was significant learning in team teaching than conventional approach in various subjects in secondary schools in Imo State Nigeria.

This research therefore suggests that students exposed to team teaching strategy perform better in school than students taught with conventional teaching strategy. This finding falls in line with (Ekwueme 2014) who stated that team teaching mode of instruction have potentials for improving students' understanding of the various

subjects. Also supported by (Portocanero and Bergin 2014) who stated also that team teaching has always resulted in significant gains on students' achievement as seen on the Table 2.

Team teaching helps to adopt on integrated approach to instructions which helps them to practice what they've learnt. It can also help them learn alongside their peers, while teachers have opportunity to combine talents and efforts to help students achieve academic success (Ekwueme 2014). When teachers collaborate and combine their efforts, people will benefit (Ekwueme 2014, in Amstarn 2007)

Conclusion

In conclusion, students who were exposed to team teaching strategy are assumed to be performing significantly better than their counterparts exposed to conventional teaching. And for teachers to be effective in their teaching was because they had a collaborated effort of the team teachers by combining their skills to teach the subject or topic jointly.

The result of the study revealed that team teaching strategy is effective and potentially viable in teaching and learning. It showed that the motivational levels of students are higher because of the uniqueness in the teaching process. Team teaching has potentials to better students' academic performance and also expose them to skills and view of the expertise of colleagues who are equipped with different styles of planning and organizational as well as lesson presentation (Wertheimec, Honigdfeld, 2010; and Polyu, 2013). Therefore team teaching strategy should be encouraged and sustained in teaching and learning processes of all subjects in schools.

Recommendations:

1. Teachers in both secondary and primary schools should adopt team teaching strategies since it has been proven that it is highly efficient. Therefore all subject teachers should cooperate in studying and teaching together since this strategy has been found effective in class.
2. Seminars/workshops should be organized periodically by government to educate teachers more on team teaching through the Ministry of Education.
3. There should be positive school environment created by principals, supervisors and ministries in-charge of schools, so as to enhance the use of team teaching strategy in teaching and learning. This is because, harsh environment which is always noisy, rowdy and congested makes teaching and learning non-conducive.

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