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EFFECTS OF TEAM TEACHING ON THE UNDERGRADUATE STUDENTS OF DEPARTMENT OF EDUCATIONAL FOUNDATIONS, NNAMDI AZIKIWE UNIVERSITY, AWKA-NIGERIA

BY

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Abstract

Team teaching simply involve collaboration by two or more lecturers to teach a course, using the same scheme/course outline, evaluate and score the same group of students. This study investigated the effects of team teaching on the undergraduate students of Department of Educational Foundations, Nnamdi Azikiwe University, Awka-Nigeria. Adopting the quasi experimental research design, the study made use of a sample of 80 respondents. Two research questions and two null hypotheses guided the study. The hypotheses were tested at 0.05 significant level. The instrument used for the study was a researcher developed achievement test on Psychology of Learning (PL). The instrument was validated for face and content adequacy by three specialists in the Department of Educational Foundations, Nnamdi Azikiwe University, Awka. The achievement test was pilot tested for the period of a week using two schools outside the population of the study. Scores obtained was used to determine the reliability of the instrument using Cronbach Alpha Coefficient and a score of 0.79 was obtained. Two trained research assistants aided two of the researchers to teach the sample using team teaching method. Before the treatment a pretest was given to the students. Also, a posttest was given to the students after four weeks of teaching. The research questions were answered using mean and standard deviation while t- test was used for testing the hypotheses. The result of the study revealed among others that team teaching approach had significant effect on the undergraduate students' overall mean achievement. Undergraduate students taught using team teaching approach obtained high achievement scores than students who were taught using single teacher method. Based on the findings of the study, the researchers recommended that team teaching be utilized as the instruction approach in higher institutions to enhance productive classroom experience for the students, thus boosting their content understanding and skill acquisition.

Keywords: Team teaching and Undergraduate Students.

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Introduction

Tertiary education simply depicts the education given after post basic education. Tertiary education in Nigeria including Anambra state is a three/five years programme depending on the course in view. The Federal Republic of Nigeria (2013) noted that tertiary education is the education which a child enrolls in on completion of secondary education. According to FRN (2013, pg26) tertiary education has the following objectives:

- Foster national development through high level manpower training.
- Encourage national and international understanding and interaction and
- Minimize shortage in skills through the production of skilled manpower, relevant to the demands of the labour market among others.

Federal Republic of Nigeria (2013, pg 26) further emphasized in her National Policy on Education that tertiary institutions in Nigeria shall pursue these goals through:

- Quality teaching, learning.
- Generation and dissemination of knowledge, skills and competencies that contribute to national and local economic goals which enable students to succeed in a knowledge-based economy among others.

The curriculum of tertiary education is comprehensive and diversified in nature. Different courses ranging from arts related courses, science related courses, social science related courses are offered in the universities in Nigeria including Nnamdi Azikiwe University, Awka. Often these courses are grouped under Departments and Faculties and the main working laboratory in the universities is the classroom. The instructors in the classroom are the lecturers saddled with the responsibility of equipping students with necessary and transforming knowledge for adjustment and adaptation in life. Therefore, learning is a cardinal factor that a lecturer must consider while teaching students. Giving credence to this assertion, Afzal and Md-Abul (2021) asserted that teaching and learning process implies transformation process of knowledge from teachers to students. Azal et al further noted that the process of teaching and learning requires the teacher choosing a content, determining the objectives of the lesson, developing lesson plan and teaching the lesson.

The role of teachers in the teaching and learning process is uncompromising and multi-dimensional, embracing different obligations and duties. Essentially, a teacher is the central figure in the teaching and learning process. Teachers are the primary source of information and expertise in their field of study. Teachers are expected to present their lessons in organized and logical manner that will guarantee students' understanding of concepts. The teacher is an embodiment of anthology to the students and should be prepared always to answer questions from the students. Sanchita (2024) argued that good teaching goes beyond the teacher passing relevant information to the students but rather include understanding the uniqueness of the students and adjusting teaching methods to suit their differences. Sanchita explained further that teachers adapt to their methods of teaching in order to cater for varied learning styles, abilities and learning experiences among the students. The teachers' method of structure and presentation of lesson to a great extent is determined by uniqueness of the students in the class. Supporting the statement above, Shehu (2021) opined that when an adequate/proper teaching method is utilized, it guarantees interesting, lively and productive classroom experience for the students and thus boosting their content understanding and skill acquisition.

Personal experience and observation of the researchers revealed that single teacher method remains the most popular method of teaching in tertiary institutions including Nnamdi

Azikiwe University, Awka. The single teacher often uses lecture method for teaching. This lecture method comes in different dimensions: Note dictation, reading out the note by the lecturer and explaining only what he/she feels are the salient points, sharing the course outline to the students for quiz presentation/seminar, posting the note on the class WhatsApp platform without explanation, giving out handouts, encouraging the students to buy the course textbook and read the content topics among others. The major reason why this lecture method is often adopted by the solo lecturer irrespective of the inherent disadvantages is the large number of students/class size. Take for instance where a lecturer has between 200 - 300 students in a class and then he/she has about 2 to 3 courses to teach in a semester. There is no doubt that this is stressful and thus lecture method is the only option to avoid break down. Giving credence to the above assertion, Afia (2024) explained lecture method as a traditional and widely used teaching method where a lecturer delivers a lesson to a large group of students. The lecture approach as noted by Afia is teacher centered and made use of only verbal information.

Single teacher method in most cases leave the course content uncovered. This also promotes behavioural excesses among the lecturers such as sorting, sex for grade, falsification of results among others. To address these issues, team teaching was introduced at Nnamdi Azikiwe University, few years ago. One thing common to team teaching is that it is collectively done and not individually. It must involve from two lecturers above. Pedagogy in education is not static but continues to change and witness innovation from time to time. Such modern teaching approaches among others include project-based method, flipped classroom, independent learning, blended learning and collaborative/team teaching approach. In the context of this research work, team teaching simply involve collaboration by two or more lecturers to teach a course, using the same scheme/course outline, evaluate and score the same group of students.

Team teaching from reviewed literature was first introduced to the field of education in Harvard University in America in 1954 and in Britain in 1960. Different researchers, authors and educationists have tried to explain team teaching from their varied perspectives. Brett, Rebecca and Lesley (2023) explained team teaching as a pedagogy where two lecturers teach a class at the same time. Nandkishor (2024) opined that when two to five teachers unite to educate the same group of students, the practice is team teaching. Arshad (2023) asserted that team teaching is an influential pedagogy that aims at exploiting alliance, knowledge and experience of teachers to create a favorable and encompassing classroom. Shehu (2021) noted that team teaching connotes a teaching strategy where a team of lecturers collaborate to plan, teach and assess the same group of students.

The researchers observed different dimensions of team teaching such as sharing the course outline among the concerned lecturers, teaching a unit/units within a larger group, a senior lecturer teaching and the junior one (usually a graduate assistant) observing, swapping of classes from time to time, teaching of the same class throughout a semester. Brett et al (2023) outlined forms of team teaching to include: A lecturer teaching and another observing, a lecturer teaching and another assisting, station teaching, parallel teaching and alternative teaching. Nandkishor (2024) enumerated dimensions of team teaching to include teaching the same group at the same time, shared teaching based on experience and knowledge, teaching different units within a large group of students.

However, team teaching has outstanding advantage in universities including Nnamdi Azikiwe University, Awka as it encourages variety of teaching strategies which helps students' understanding of contents. Team teaching often guarantees completion of course content and helps in reducing moral and behavioural excesses of some lecturers. Ashley (2023)

supporting the above statement opined that some inherent benefits in team teaching include among others enrichment of students' learning environment, promotes students' learning outcomes and promotes interesting and engaging classrooms. Also, Gbolagade, Oseni and Asiyanbi (2015) observed that team teaching promotes organizational performance and students' academic performance. The advantages notwithstanding, the researchers observed some flaws in team teaching in the Department of Educational Foundations, Nnamdi Azikiwe University, Awka which include: Boycott of classes by some lecturers without soliciting for a colleague to cover the class, incompetency of some lecturers to deliver contents with convincing knowledge and expertise, some team members delegating the junior ones to teach their own section, monopoly by the team leader over the course assignment, examination questions and final grades among others.

These inadequacies violate effective teaching and learning, open doors to some behavioural lapses of some lecturers and therefore likely to affect students learning outcome and achievement. The researchers by adopting experimental approach want to investigate if the understanding and achievement of the students are affected or not. Any pedagogy that does not encourage students understanding, mastery, retention, recalling and transfer of knowledge is not worth embarking on. However, understanding and achievement among undergraduate students in the Department of Educational Foundations, Nnamdi Azikiwe University, Awka could be gender specific. Gender as opined by World Health Organization (2024) implies the characteristics of women, men, girls and boys that are socially constructed. This includes norms, behaviours and roles associated with being a woman, man, girl or boy, as well as relationships with each other. They further emphasized that as a social construct, gender varies from society to society and can change over time.

Gender is a common term that refers to male and female. Different definitions of gender abound according to varied perceptions of researchers and authors. Gender is a socially and culturally constructed features and roles which are ascribed to males and females in any society. Gender as noted by Lindqvist, Senden and Renstrom (2020) is represented by dichotomous variable with the possible responses of woman/man or female/male. However, they argue that gender consist of several facets. Research has been inconsistent on the influence of gender on the academic achievement of students. Yash and Sumanpreet (2024) asserted that there is variation in academic achievement mean scores between boys and girls. Wrigley-Asante, Ackah and Frimpong (2023) opined that academic achievement of males was better than females at secondary school level. In spite of these inconsistencies in research findings on the influence of gender on students' learning outcomes,understanding of contents and achievement by students has been the desires of educationists and stakeholders in education. This has become of essence considering the place of teaching methods in students understanding and retention of contents. The problem of this study posed in question form is: "The Effects of team teaching on the undergraduate students of Department of Educational Foundations, Nnamdi Azikiwe University, Awka. Undergraduate students in the context of this study refer to students pursuing their first degree in the Department of Educational Foundations, Nnamdi Azikiwe University, Awka. The researchers formulated the following research questions and hypotheses to give direction to the study.

Research Questions

The following research questions guided the study:

1. What are the differences in the mean achievement test scores of undergraduate students taught using team teaching method and those taught using single teacher method?
2. What are the comparative mean achievement test scores of male and female undergraduate students taught using team teaching method?

Hypotheses

These hypotheses were tested at the significance level of 0.05:

1. There is no significant difference between the mean achievement test scores of undergraduate students taught using team teaching method and those taught using single teacher method.
2. The mean achievement test scores of undergraduate students taught using team teaching approach will not vary by gender.

Method

This study adopted quasi-experimental research design. According to Nworgu (2015), experimental research design is used to establish cause and effect relationships. It is the most powerful and valid design which can be used to identify confidently, the cause of any given effect. However, the type of experiment the researchers utilized for this study is quasi experimental, non-equivalent control group design. The justification for the use of experimental research design is that the researchers used two groups for the study namely: Experimental and control groups. The population for the study comprised all the 311 undergraduate students of 2023/2024 academic session in the seven options offered in the Department of Educational Foundations, Nnamdi Azikiwe University, Awka. Three options (English Language, Economics and Political Science) has a standard class of 40 students and above. Using purposive random sampling technique, the researchers selected two units out of the three. Simple random sampling technique was employed to select 40 students from each of the chosen unit. Therefore, the sample for the study stood at 80 students. The instrument for data collection was a researchers structured achievement test on the course titled "Psychology of Learning". The achievement test consists of 30 multiple choice questions. The instrument was validated by three experts from Department of Educational Foundations for face and content accurateness. The reliability coefficient of the achievement test was established after administering them on students outside the population of the study. The scores obtained were computed using Cronbach alpha method and a reliability coefficient of 0.79 was obtained.

Procedure Adopted

The researchers exposed the experimental group to some treatments/conditions and observed the difference/s between the group and the control group to which no treatment/condition is administered. Also, the adoption of Quasi - experimental design is justified because there is no random assignment of subjects (students) to experimental and control groups. Instead, the researchers used intact or pre-existing groups for the research.

This study made use of pre- test and post -test non- equivalent control group design. Two groups was used for the study namely control group (40 students) and experimental/treatment group (40 students). The control group provide the baseline necessary for gauging the effect of the treatment variable while the treatment/experimental group is the group to which the treatment was administered. The treatment administered in the study was deviation from the norm (which is single teacher method). Rather the lessons were taught to the experimental group using team teaching approach.

Put in another way, the experimental group weretaught using team teaching method while the control group were taught using the single teacher method. Two of the researchers taught the control group while the two other researchers in collaboration with two trained research assistants taught the experimental group. Treatment began after the two groups have been

subjected to the achievement test designed by the researchers in order to determine their starting point. The same achievement test was used for both pretest and posttest.

Eight weeks was assigned for the treatment to ensure content coverage. Thereafter, the pretest and posttest given to the two groups were marked and scored using the researcher's marking guide. The data collected were analyzed using mean and standard deviation for answering the research questions while the hypotheses were tested using t-test.

Results

Table 1: Mean and Standard Deviations of Pretest and Posttest Achievement Scores of Undergraduate Students in the Experimental and Control Groups

Groups	N	Pretest Achievement		Posttest Achievement		Mean Gain
		Mean (X)	SD	Mean (X)	SD	
Experimental	40	13.84	10.02	46.10	4.42	32.26
Control	40	14.04	09.65	30.30	6.55	16.26

Result in table 1 above showed the mean and standard deviation scores of 13.84 and 10.02 respectively for the pretest achievement of the experimental group. Also the posttest achievement scores of the experimental group is 46.10 and 4.42 for the mean and standard deviation scores respectively. The control group in their pretest achievement has scores of 14.04 for the mean and 09.65 for standard deviation. The posttest achievement scores of the control group for the mean and standard deviation is 30.30 and 6.55 scores respectively. The mean gain score of the experimental group is 32.26 while the mean gain score of the control group is 16.26. This showed that undergraduate students taught using team teaching approach achieved more than those taught with the single teacher method.

Table 2: Mean and Standard Deviations of Pretest and Posttest Achievement Scores of Male and Female Undergraduate Students in the Experimental Group.

Gender	N	Pretest Achievement		Posttest Achievement		Mean Gain
		Mean (X)	SD	Mean (X)	SD	
Male	16	14.00	11.26	49.71	8.66	35.71
Female	24	14.00	8.50	36.66	9.64	22.66

The result in table 2 revealed that male students has a pretest mean score of 14.00 and posttest achievement mean score of 49.71. The female students has pretest achievement mean of 14.00 and mean posttest score of 36.66. The mean gain score for male students is 35.71 and therefore higher than the mean gain for the females which is 22.66.

Table 3: T-test Analysis of Mean Differences of Pretest and Posttest Achievement Scores of Undergraduate Students in the Experimental and Control Groups

Groups	N	X	SD	Df	Cal.t	Crit. T	Remark
Experimental	40	46.10	4.42	78	12.65	1.96	Significant
Control	40	30.30	6.55				

From the result in table 3, the calculated t is 12.65 while the critical t is 1.96. This means that the null hypothesis which states that there is no significant difference between the mean achievement test scores of students taught using team teaching method and those taught using the single teachermethod is rejected because the calculated t of 12.65 is greater than the critical t which is 1.96 at 0.05 significant level.

Table 4: T-test Analysis of Mean Differences of Pretest and Posttest Achievement Scores of Male and Female Undergraduate Students in the Experimental Group.

Groups	N	X	SD	Df	Cal. T	Crit. T	Remark
Male	16	49.71	8.66	38	4.46	1.96	
Significant							
Female	24	36.66	9.64				

Result in table 4 shows that the calculated t is 4.46 while the critical t is 1.96. Based on this result, null hypothesis which states thatthe mean achievement test scores of undergraduate students taught using team teaching approach will not vary by gender is rejected because the critical t of 1.96 is less than the calculated t of 4.46.

Discussion of Findings

The findings of the study disclosed that team teaching approach had significant effect on the students' overall mean achievement. Undergraduate students taught using team teaching approach obtained high achievement scores than students who were taught using single teacher method. Results of the findings show a mean score of 13.84 for the pretest achievement of the experimental group. Also the posttest achievement score of the experimental group is 46.10. The control group in their pretest achievement has a mean score of 14.04 and 30.30 as the mean score in posttest. The mean gain score of the experimental group is 32.26 while the mean gain score of the control group is 16.26. The reason may be attributed to the fact that team teaching gives forum for students' exposure to varied teaching strategies which enhances their understanding of contents.The null hypothesis which states that there is no significant difference between the mean achievement test scores of students taught using team teaching method and those taught using the single teacher method is rejected because the calculated t of 12.65 is greater than the critical t which is 1.96 at 0.05 significant level.

The findings of this study corroborates with Ashley (2023) that team teaching promotes positive learning outcome of the students and prepares them for future careers. Ashley further asserted that team teaching deepen students' critical thinking abilities, make classes more interesting and engaging, thus giving them the advantage of better understanding of concepts and improved academic performance. The findings of the study also agreed with Gbolagade et al (2015) that team teaching guarantees improved teaching and learning which result in students' improved academic achievement. They emphasized that improved organizational performance is the outcome of team teaching.

The findings of the study showed that the mean achievement test scores of undergraduate students taught using team teaching approach varied by gender.The result in table 2 revealed that male students has a pretest mean score of 14.00 and posttest achievement mean score of 49.71. The female students have pretest achievement mean of 14.00 and mean posttest score of 36.66. The mean gain score for male students is 35.71 and therefore higher than the mean gain for the females which is 22.66. Based on this result,null hypothesis which states thatthe mean achievement test scores of undergraduate students taught using team teaching approach

will not vary by gender is rejected because the critical t of 1.96 is less than the calculated t of 4.46. From personal experience and observation, the researchers feel the reason for gender variation may be because boys seem to build resilience easily than girls and so can easily cope with understanding when taught by more than a lecturer with varied teaching approaches and strategies.

Giving credence to the findings of this study is Yash et al (2024) that there is variation in academic achievement mean scores between boys and girls. Also supporting the findings of this study is Wrigley-Asante et al (2023) that males performs better than females in academic achievement.

Conclusion

The following conclusion were drawn from the findings of the study:

1. Team teaching approach had significant effect on the undergraduate students' overall mean achievement. Undergraduate students taught using team teaching approach obtained high achievement scores than those taught using the single teacher method.
2. The mean achievement test scores of undergraduate students taught using team teaching approach varied by gender.

Recommendations

The researchers recommend as follows:

1. Team teaching promotes scheme/course content coverage, minimizes behavioural excesses of some moral bankrupt lecturers such as sex for grade, falsification of results and sorting for grade among others. The researchers recommend that the policy of team teaching should be adopted in tertiary institutions to curtail some of these social vices.
2. Team teaching has proven to be very effective in handling individual differences in the classroom as well as promoting inclusive learning environment if properly and judiciously implemented. The lecturers are admonished to put in their best while adopting team teaching approach, relegate their seniority and grievances to the background in order to save the destiny of our students.
3. Team teaching should be utilized as the instruction approach in higher institutions to help deepen students' logical thinking and promote variation instead of monotonous classroom environment among others. To achieve this objective, University management/administrators should organize regular seminar and workshop for the concerned lecturers to equip them with the technical and expertise knowledge needed.

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