

INFLUENCE OF TEACHING METHODS ON STUDENTS' ACADEMIC PERFORMANCE IN SECONDARY SCHOOLS IN ENUGU STATE, NIGERIA

DR. BIBIANA TOCHUKWU ONYEAMA

Department of Educational Management, Faculty of Education
Enugu State University of Science and Technology, Agbani, Nigeria

Email: drbibiana@gmail.com

08034710346

ABSTRACT

This study focused on influence of teaching methods on students' academic performance secondary schools in Enugu State. Descriptive survey research design was used for the study. Two research questions and two corresponding hypotheses were tested at 0.05 level of significance. The population for the study was 8819 respondents. Sample size for this study comprised of 1150 respondents, which consisted of 298 principals and 852 teachers. The instrument for data collection was a structured questionnaire developed by the researcher titled "influence of teaching methods on students academic performance Questionnaire (ITMSAPQ)". The instrument was face validated by three research experts. Two of the experts were from the Department of Educational Management and one from the Department of Mathematics and Computer Science Education, all from Faculty of Education, Enugu State University of Science and Technology (ESUT), Enugu. To ensure the reliability of the instrument, a trial test was conducted involving 40 respondents (15 principals and 25 teachers) from secondary schools in Ebonyi State. The analysis produced reliability coefficients of 0.81 and 0.78 for clusters 1 and 2 respectively, showing a stable pattern. The overall reliability index was calculated as 0.80, confirming that the instrument was suitable for data collection purposes. The research questions were answered using mean and standard deviation. Meanwhile, the null hypotheses were tested using t-test statistic at 0.05 level of significance. The findings of the study showed that lecture teaching method influences secondary school students' academic performance in secondary schools in Enugu State to a high extent and that demonstration method influence secondary school students' academic performance in secondary schools in Enugu State to a high extent. In line with the findings, the researcher recommended among others that teachers should use lecture method of teaching base on demand to facilitate students' academic performance in secondary schools in Enugu State and that teachers should use demonstration method especially when teaching abstract topics to bring students close to the actual experience as to improve their academic performance in secondary schools in Enugu State.

Keywords: Influence, Teaching Methods, Students, Academic Performance, Secondary Schools.

Introduction

Teaching is a profession of those who impart knowledge or skill, especially in elementary, secondary and university. According to Ayeni (2021), teaching can be defined as a systematic process of transmitting knowledge, attitudes and skills in accordance with professional principles. In the traditional epoch, many teaching practitioners widely apply teacher – centered method to impart knowledge to learners' instead of student – centered methods. A teacher is an important figure in teaching and learning process, because he/she follows the curriculum so that throughout the year all the important knowledge is provided to the students. The main purpose of teaching at any level is to bring out a significant change in the learner (Tebabal&Kahssay, 2021). Until today, questions about effectiveness of teaching

methods on students learning have consistently raised considerable interest in the thematic field of education research (Hightower et al., 2021). Teaching method is classified into two areas, students centered and teachers centered method.

The choice of a particular method of teaching by the teacher is determined by the number of factors which includes the content to be taught, the objectives which the teacher plans to achieve, availability of teaching and learning resources and the ability and willingness of the teacher to improvise if conventional teaching aids are not available for the evaluation and follow – up activities to check individual learner differences (Ndirangu, 2017). According to Ayeni (2021), teaching is a process that involves bringing about desirable changes in learners so as to achieve specific outcomes. To ensure the method used for teaching is effective, Adunola (2021) maintained that teachers need to be conversant with numerous teaching strategies such as lecture method, demonstration method, inquiry-based learning, collaborative learning and discussion-based learning that take recognition of the magnitude of complexity of the concepts to be covered.

Meanwhile, a number of methods have been tested and agreed upon by educators as good. None of the methods is however perfect and effective for all situations but each of the methods or a combination of them can be used at any particular time to impart our subject matter. (Onwuba, 2021).

Lecture teaching method is concerned with the teacher being the controller of the learning environment. Power and responsibilities are held by the teacher and they play the role of instructor (in the form of lectures) and decision makers (in regards to curriculum content and specific outcome). Lecture method is mostly employed by most science teachers because of some of its advantages which include the fact that it can be used to cover a large content area at a time and students are given the same content at the same time. Another major advantage is that it can be used to teach a large class which is a prominent feature in most Nigerian secondary schools. It has been observed that effective teaching may facilitate learning and make it more meaningful. In line with this Sander (2022) stated that effective teaching helps the learner to learn better, while ineffective teaching would naturally lead to poor learning and consequently poor achievement. Lecture method can be modified by the application of other teaching methods such as demonstration method of teaching that targeted teaching with illustration.

Demonstration method as a practical method of teaching which involves showing, doing and telling something. According to them, the responsibility is on the teacher to display the steps in the process and explain them accurately and clearly while students are expected to practice by repeating the things the teacher has done (Omwirhiren and Khalil, 2016). Demonstration lessons include facts and principles used along with materials for showing or teaching someone else. Al-Rawi (2023) described it as a display, or an exhibition usually done by the teacher while the students watch with keen interest. Al-Rawi (2023) opined that the demonstration method is a showing procedure, to explain, teach and inform students. Arubayi (2015) opined that for demonstration instructional method to be effective, the lesson should be planned ahead of time, have all necessary material and equipment needed for the demonstration lesson. Participants should be given clear and simple instructions. The author further stated that the sitting arrangement should be organized so that participants can see

and hear clearly. After the demonstration generally, the students should be given opportunity to practice individually or in groups. According to McKee, Willianson and Ruebush (2017), demonstration teaching method is a useful method of teaching because it improves students' understanding and retention. Al-Rawi (2023), noted that the demonstration is effective in teaching skills of using tools and laboratory experiment in science. Arubayi (2015) noted that despite the valuable merits of demonstration method, a poorly planned and executed demonstration lesson will not produce optimum learning and may not make room for individual differences while Oyegwe (2016) stressed that in a large class, students often have difficulties in observing details of the object being demonstrated and this can heavily contribute to students poor academic performance.

Academic performance refers to the extent to which a student, teacher, or institution has achieved their short- or long-term educational goals. It is commonly measured through examinations, continuous assessments, class participation, projects, and other academic tasks that reflect the learner's level of comprehension and mastery of content. Academic performance serves as a key indicator of the effectiveness of the teaching-learning process and the quality of education provided by an institution (Aremu &Sokan, 2023). According to Hornby (2020), academic performance denotes "the level of achievement of students in their studies, measured by the grades they obtain in examinations or continuous assessments." It represents the outcome of education — the extent to which educational goals are accomplished. Apart from teaching methods, some psychological variables such as teacher attitude, self-efficacy and gender disparity can influence the use of teaching methods in teaching and learning.

Gender refers to the characteristics by which male or female can be defined. There could be variation in the teaching methods of teachers across gender lines. Therefore, the study aimed at identifying the influence of teaching methods on secondary school students' academic performance in Enugu State

Statement of the Problem

In recent years, the academic performance of secondary school students in Enugu State has been a major concern to educators, parents, and policymakers. Despite continuous efforts by the government and educational stakeholders to improve the quality of education, students' achievement in both internal and external examinations such as the West African Senior School Certificate Examination (WASSCE) and the National Examination Council (NECO) has remained unsatisfactory (Chief Examiner Report, 2024). This situation raises questions about the effectiveness of teaching methods employed by teachers in secondary schools. Understanding this relationship will provide empirical evidence that can guide educational reforms and professional development for teachers to improve students' learning outcomes. Therefore, the problem of this study is: to what extent do various teaching methods influence the academic performance of secondary school students in Enugu State?

Purpose of the Study

The general purpose of this study will be to ascertain the influence of teaching methods on students' academic performance in Enugu State. Specifically, the study sought to determine the influence of:

1. Lecture method of teaching on academic performance in secondary schools in Enugu State.
2. Demonstration method of teaching on academic performance in secondary schools in Enugu State.

Research Questions

The following research questions guided the study:

1. To what extent does Lecture teaching method influence secondary school students' academic performance in secondary schools in Enugu State?
2. To what extent does demonstration method influence secondary school students' academic performance in secondary schools in Enugu State?

Hypotheses

The following null hypotheses were formulated and will be tested at 0.05 level of significance:

Ho₁: There is no significant difference in the mean ratings between principals and teachers on the extent to which Lecture teaching method influence secondary school students' academic performance in secondary schools.

Ho₂: There is no significant difference in the mean ratings between principals and teachers on the extent to which Lecture teaching method influence secondary school students' academic performance in secondary schools in Enugu State.

Method

The researcher adopted descriptive survey research design. This study was carried out in Enugu State, located in Nigeria's South East geopolitical zone.

The study involved a total population of 8,816 respondents, which consisted of 295 principals and 8,521 teachers from secondary schools in Enugu State. The study comprised a comprehensive sample size involving a total of 1,147 respondents. This diverse group consisted of 295 school principals and 852 teachers, all drawn from secondary schools in Enugu State.

The instrument for data collection for this study will be structured questionnaire developed by the researcher, titled "influence of Teaching Methods on Students Academic Performance Questionnaire (ITMSAPQ)." To establish the validity of the research instrument, the questionnaire was validated by three research specialists. To ensure the reliability of the research instrument, a trial test was conducted on a sample of 40 respondents, comprising 12 principals and 28 teachers, from secondary schools in Abia State. The researcher, in collaboration with six research assistants, will carry out the process of administering the research instrument to the respondents. The research questions was answered using mean scores and standard deviations.

RESULTS

In this chapter, the researcher presented the results of the study according to the research questions and the hypotheses that guided the study. The data analyzed were presented in Tables.

Research Question 1

To what extent does lecture teaching method influence secondary school students' academic performance in secondary schools in Enugu State?

Table 1: Mean scores and standard deviations of principals and teachers on the extent to which lecture teaching method influence secondary school students' academic performance in secondary schools

S/ N	ITEMS	Principals 298		Teachers 852		Overall 1150		Dec
		X	SD	x	SD	x	SD	
	Lecture method influence on students' academic performance in the following ways by:							
1	Improves Listening Skills	2.61	.90	2.62	.90	2.62	.90	HE
2	Enhances Note-Taking Ability	3.03	.82	3.03	.80	3.03	.80	HE
3	Covers Large Content Within Short Time	2.95	.84	3.05	.80	3.03	.81	HE
4	Provides Structured Learning	2.65	.80	2.61	.82	2.63	.81	HE
5	Promotes Teacher Authority and Guidance	2.61	.82	2.58	.82	2.59	.82	HE
6	Suitable for Large Classes	2.55	.80	2.53	.83	2.54	.82	HE
7	Facilitates Introduction of New Topics	2.55	.91	2.49	.90	2.52	.91	HE
8	Increases Academic Focus	2.53	.83	2.55	.80	2.54	.82	HE
9	Promotes Uniformity of Knowledge	2.95	.76	3.15	.80	3.06	.79	HE
10	Useful for Evaluation Preparation	3.02	.80	3.01	.82	3.01	.82	HE
11	Encourages Passive Learning	2.95	.76	3.15	.80	3.06	.79	HE
12	Limits Critical Thinking	2.61	.82	2.58	.82	2.59	.82	HE
13	Reduces Creativity	2.95	.84	3.05	.80	3.03	.81	HE
	Cluster Mean/SD	2.77	.82	2.80	.82	2.79	.82	HE

The data in Table 1 above shows the extent to which lecture teaching method influence secondary school students' academic performance in secondary schools, based on responses from principals and teachers. The overall mean scores reveal that all items were rated "High Extent" (HE), with the cluster mean score of 2.79 and a standard deviation of 0.82. Specifically, the highest-rated items include "enhances Note-Taking Ability" (mean = 3.03), "Covering large content within short time." (mean = 3.03), and "encourages Passive Learning." (mean = 3.06). Conversely, relatively lower ratings were observed for items like "facilitating the introduction of new topics" (mean = 2.52) and "increasing academic focus." (mean = 2.54). These results suggest that while lecture method plays a significant role on students' academic performance, it equally reduces creativity among teachers and students. The overall finding shows that lecture teaching method influence secondary school students' academic performance in secondary schools to a high extent. The low level of standard deviations shows that the respondents were unanimous in their responses.

Research Question 2

To what extent does demonstration method influence secondary school students' academic performance in secondary schools in Enugu State?

Table 2: Mean scores and standard deviations of principals and teachers on the extent does demonstration method influence secondary school students' academic performance in secondary schools.

S/N	ITEMS	Principals 298		Teachers 852		Overall 1150		Dec
		X	SD	x	SD	x	SD	
	Demonstration method influences secondary school students' academic performance in the following ways:							
14	Promotes Active Learning	3.03	.82	3.03	.80	3.03	.80	HE
15	Enhances Understanding of Abstract Concepts	3.02	.80	3.01	.82	3.01	.82	HE
16	Improves Retention and Recall	2.95	.84	3.05	.80	3.03	.81	HE
17	Stimulates Students' Interest and Motivation	2.85	.82	2.82	.79	2.83	.80	HE
18	Develops Practical Skills	2.59	.83	2.60	.81	2.60	.82	HE
19	Encourages Student Participation	2.58	.83	2.57	.81	2.58	.82	HE
20	Improves Observation Skills	3.03	.82	3.03	.80	3.03	.80	HE
21	Supports Different Learning Styles	2.85	.82	2.82	.79	2.83	.80	HE
22	Builds Confidence and Competence	2.35	.76	2.25	.80	2.30	.79	LE
23	Provides Immediate Feedback	2.61	.82	2.58	.82	2.59	.82	HE
24	Reduces Misconceptions	2.55	.80	2.53	.83	2.54	.82	HE
25	Encourages Collaboration	2.55	.92	2.54	.89	2.54	.92	HE
26	Time-Consuming	2.95	.76	3.15	.80	3.06	.79	HE
27	Requires Special Materials and Equipment							
	Cluster Mean/SD	2.76	.81	2.78	.81	2.77	.82	HE

In the above Table 2, the principals' mean ranged from 2.35 to 3.03, while the teachers mean ranged from 2.25 to 3.15. The values of their cluster means are 2.83 and 3.03 with standard deviations of 0.84 and 0.82 respectively. However, their overall mean ranged from 2.54 to 3.37 with cluster mean of 2.77 and standard deviation of 0.82. The finding of the study signifies that lecture teaching method influence secondary school students' academic performance in secondary schools in Enugu State to a high extent. The respondents' standard deviations indicate that their responses are consistent.

Hypotheses

HO₁: There is no significant difference in the mean ratings between principals and teachers on the extent to which Lecture teaching method influence secondary school students' academic performance in secondary schools.

Table 3: Summary of t-test analysis of the mean scores of principals and teachers on the extent to which Lecture teaching method influence secondary school students' academic performance in secondary schools.

Group	N	$\bar{x}$	SD	Df	p-value	Decision	
Principals	298	2.77	.82	1150	.01	Ho ₁	not rejected
Teachers	852	2.80	.82				

Table 3 above shows a t-test analysis of the mean scores of principals and teachers on the extent to which lecture teaching method influence secondary school students' academic performance in secondary schools. Principals had a mean score of 2.77 (SD = 0.82), while teachers had a slightly higher mean score of 2.80 (SD = 0.82). The p-value of 0.01 indicates a statistically significant difference between the groups at the 0.05 significance level. However, the decision is not to reject the null hypothesis (HO₁), suggesting that the observed difference is not practically significant in this context.

Ho₂: There is no significant difference in the mean ratings between principals and teachers on the extent to which lecture teaching method influence secondary school students' academic performance in secondary schools in Enugu State.

Table 4: Summary of t-test analysis of the mean scores of principals and teachers on the extent to which lecture teaching method influence secondary school students' academic performance in secondary schools in Enugu State.

Group	n	$\bar{x}$	SD	Df	p-value	Decision	
Principals	298	2.77	.82	1150	.00	Ho ₂	not rejected
Teachers	852	2.78	.81				

Table 4 above presents a t-test analysis comparing the mean scores of principals and teachers on the extent to which lecture teaching method influence secondary school students' academic performance in secondary schools in Enugu State in Enugu State. Principals had a mean score of 2.77 (SD = 0.82), while teachers had a very similar mean score of 2.78 (SD = 0.81). The p-value of 0.00 indicates a statistically significant difference between the groups at the 0.05 significance level. However, the null hypothesis (HO₂) is not rejected, implying that the observed difference is not practically significant in this context.

HO₃: There is no significant difference in the mean ratings between principals and teachers on the extent to which inquiry-based learning method influence secondary school students' academic performance in secondary schools in Enugu State.

Summary of Major Findings

The following are the findings of the study:

1. Lecture teaching method influences secondary school students' academic performance in secondary schools in Enugu State to a high extent
2. Demonstration method influence secondary school students' academic performance in secondary schools in Enugu State to a high extent.
3. There is no significant difference in the mean ratings of principals and teachers on the extent to which lecture teaching method influences secondary school students' academic performance in secondary schools in Enugu Stat.
4. There is no significant difference in the mean ratings of principals and teachers on the extent to which Demonstration method influence secondary school students' academic performance in secondary schools in Enugu State.

Discussion of Findings

Lecture teaching method Influences secondary school students' academic performance in secondary schools

The finding indicates that lecture method improves listening skills, enhances note-taking ability, covers large content within short time, facilitates introduction of new topics, increases academic focus, promotes uniformity of knowledge, useful for evaluation preparation, encourages passive learning, limits critical thinking, reduces creativity. This is in line with Guisti (2018) who opined that lecture method is primarily used when presenting information to large groups. Communication is virtually a one-way communication from instructor to students. Student participation is severely limited. The informal lecture includes active student participation. Learning is best achieved if students participate actively in a relaxed atmosphere; therefore, the informal lecture is encouraged over the formal. Active student participation can be achieved through the use of questions and is an effective two-way communication process. There is no significant difference in the mean ratings of principals and teachers on the extent to which lecture teaching method influences secondary school students' academic performance in secondary schools in Enugu State.

Demonstration method influences secondary school students' academic performance in secondary schools

Findings showed that promotes active learning, enhances understanding of abstract concepts, improves observation skills, encourages student participation, improves observation skills, supports different learning styles, encourages student participation, improves observation skills, supports different learning styles, builds confidence and competence, provides immediate feedback, reduces misconceptions, time-consuming and that requires special materials and equipment. This is in line with the findings of Adekoya & Olatoye, in (Cabibihan, 2023) who described it as a display or an exhibition usually done by the teacher while the students watch with keen interest. Demonstration teaching method refers to the type of teaching method in which the teacher is the principal actor while the learners watch with the intention to act later. Here the teacher does whatever the learners are expected to do at the end of the lesson by showing them how to do it and explaining the step-by-step process.

Conclusion

The study has highlighted the influence of teaching methods on students' academic performance in Enugu State. The study showed that lecture method of teaching, demonstration method of teaching, inquiry-based learning method of teaching, collaborative learning and discussion method of teaching influences students' academic performance in secondary schools in Enugu State.

Recommendations

Based on the findings of the study, the researcher recommends that:

1. Teachers should use lecture method of teaching base on demand to facilitate students' academic performance in secondary schools in Enugu State
2. Teachers should use demonstration method especially when teaching abstract topics to bring students close to the actual experience as to improve their academic performance in secondary schools in Enugu State.

References

- Agbai, S. (2019). Traditional studying for examination versus constructivist learning tasks: Do learning outcome differ?," *Students in Higher Education*, 23(20): 173-190.
- Al-Rawi, J.C. (2023). Effect of small-scale experiment on students' achievement and retention in chemistry. *Unpublished Doctoral thesis, Department of Science Education, University of Nigeria, Nsukka.*
- Aremu, D.D. &Sokan, A.P. (2023). Chemistry for tomorrow's world. *School Science Review*,91(335), 81-84.
- Arubayi, A.C. (2015). Comparison of students' achievement in the three categories of question in the SSCE Practical Chemistry examination. *Journal of Science Teachers Association of Nigeria*. 42 (1&2) 67-72.
- Ayeni, P. C. (2021). Laboratory teaching: Implication on students' achievement in chemistry in secondary schools in Ebonyi State of Nigeria. *Department of Science Education, Faculty of Education, Ebonyi State University, Abakaliki.*
- Cabibihan, A.O. (2023). The use of role-play in teaching evaluation. *American Journal of Evaluation*, 23 (2), 209–218.
- Guisti, K.P. (2018). Determining Sample Size for Research Activities. *Journal of Educational and Psychological Measurement*. 30.607-610.
- Hightower, G.O. (2021). Influence of guided-discovery, lecture method and gender on accounting students' performance in colleges of education in South-West Geo-Political Zone, Nigeria. *An undergraduate project. Department of Vocational and Technical Education, Ahmadu Bello University, Zaria, Nigeria.*
- Hornby, U.R. (2020), Relative Efficacy of Systematic Desensitization, Self-Statement Monitoring and Flooding on Subjects Test Anxiety. *Unpublished Ph.D Thesis. University of Ibadan.*
- McKee, W.O., Willianson, J.C. and Ruebush, H.E. (2017). Blended learning motivation model for instructors in higher education institutions. *International Journal of Educational Technology in Higher Education* 16(1), 1-12.
- Ndirangu, S.O. (2017). Effectiveness of demonstration and lecture methods in learning concepts in Economics among secondary school students in Borno State, Nigeria. *Journal of education and practice*. 7(12). 51-59.

- Omwirhiren, H.O. and Khalil, A.O. (2016). Effect of two teaching methods on student's achievement in junior secondary school social studies in Ibadan metropolis. *Nigerian Journal of Social Studies*, 3 (1), 44-46.
- Onwuba, T. E. (2021). Traditional versus contemporary goals and methods in accounting education: Bridging the gap with cooperative learning, "*Journal of Education for business*, 70(5): 278-284.
- Oyegwe, A.I. (2016). Interactive engagement versus traditional methods: A six thousand student survey of mechanics test data for introductory physics courses," *American Journal of Physics* 1 (2), 66, 64-74.
- Sander, Y.O. (2022). Effects of two teachers' instructional methods on students' learning outcomes in chemistry in selected senior secondary school in Kaduna metropolis, Nigeria. *Journal of Education and Practice*. 7 (15), 19-23.
- Tebabal, O. N. & Kahssay, S.C. (2021). Teachers professional development and quality assurance in Nigerian secondary schools, *World Journal of Education*, 1(2): 143-149.