

Comparative Effects of Multiple Teaching Methods on Academic Achievement and Interest of Upper Basic Education Students in Social Studies in Anambra State

Nwakile, Louisa Ukamaka*

Department of Social Studies, School of Arts and Social Studies, Federal College of Education, Okene

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Abstract

The study investigated the effects of multiple teaching methods on academic achievement and interest of upper basic education students in social studies in Anambra State. Two research questions guided the study while two hypotheses were tested. The study adopted quasi experimental design. The population for the study was all public upper basic education students in the twenty-one local government areas in the state. Due to the large size of the population, multi stage sampling technique was used to select the sample for the study. A total number of 150 students were involved in the study. The four groups were randomly selected from four schools as follows; Control group (lecture method) - 36 students; Experimental group I (discussion method) – 40 students; Experimental group II, (demonstration method) – 32 students; and Experimental group III (inquiry method) – 42 students. The instruments for data collection were Social studies Achievement Test (SSAT) and Social studies Interest Scale (SSIS) which were validated by three experts, all from the Department of Social Science Education (Social Studies Unit), University of Nigeria, Nsukka. The reliability of the instruments was established using Cronbach alpha for SSIS and Kuder-Richardson 20 for SSAT. SSIS and SSAT yielded a coefficient of 0.84 and 0.76 respectively. The research questions were answered using mean while the hypotheses were tested using ANOVA. The findings of the study revealed that discussion method and demonstration respectively ranked first for improving the academic achievement and interest of upper basic education students in social studies while lecture method ranked last in both regards. Based on the findings of the study, it was recommended among others that: Social studies teachers at the upper basic education level should stop the use of lecture method in teaching students of social studies which hinders their achievement and interest in the subject; and Anambra state government should organize training/retraining for social studies teachers in the state on the use of demonstration method of teaching so as to enhance the interest of students in social studies.

Key Words: Academic achievement, Interest, Social studies, Teaching Methods.

Introduction

Education is very important for national development. This position is supported by Adozuka (2018) who sees education as an instrument, which enables an individual to improve and develop the right attitudes, abilities and competences necessary for effective adult life. According to Joseph (2010), there is a global acceptance of the role of education as an important instrument for the realization of the goals and aspirations of any Nation. Accordingly, the Federal Republic of Nigeria (FRN) (2013) in its National Policy on Education refers to education as an instrument par excellence for national development. To ensure that education is effective, it starts at a young age at the basic education level.

Basic education comprises of one year of pre-primary, six years of primary and three years of Junior secondary school. According to FRN (2013) in its National Policy on Education, Basic education is the education given to children aged 0 – 15 years which encompasses early childhood and early child care and developmental education and ten years of formal schooling. The document further stated that the goals of basic education are to; develop patriotic young people equipped to contribute to social development and in the performance of their civic duties, inculcate values and raise morally upright individuals capable of independent thinking, and who appreciate the dignity of labour, provide the child with diverse basic knowledge and skills for entrepreneurship, wealth generation and educational advancement among others. To achieve the goals of education especially at the basic education level and to attain national needs and aspirations, youngsters are

*Corresponding author's ORCID ID: 0000-0000-0000-0000

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exposed to different school subjects including social studies (Mezieobi, Ossai, & Sampson, 2013).

The introduction of social studies into the Nigerian educational system was born out of the fact that the subject was considered very appropriate and relevant by the Federal Ministry of Education in helping the nation achieve unity and national consciousness. According to Adaralegbe (2011), social studies is seen as a field of study in which contents and purposes focus on relationship. Adaralegbe further opined that social studies help in providing knowledge, skills and attitudes that will help people to understand their physical and human environment so as to behave as responsible citizens. Therefore, Social studies contextually refers to the study of the relationship between man and his physical and social environment and is taught at the basic education level. Social studies at the upper basic education level if properly taught would lead to the attainment of numerous objectives.

The central aim of social studies at the upper basic education level is to ensure that every Nigerian child at the basic education level will be able to learn desirable national values such as patriotic feelings, respect for constituted authorities, respect for other people's culture and belief system as well as tolerance towards others and their religious practices (Emaikwu, 2012). In the opinion of Osakwe (2010), Nigeria as a multi-ethnic and multi-religious society needs effective means of properly and efficiently harnessing her abundant human and natural resources for holistic national development. One of the basic means of achieving the expected development lies with effective education of the populace in social studies to enable them acquire societal desirable values, attitudes, skills and knowledge necessary for the attainment of the national development bid of the country. The realization of these objectives depends to a large extent on students' proper understanding and internalization of the valuable contents and concepts of social studies especially at the basic education level. However, various authors have discovered that many students do not seem to have good grasp of certain basic concepts in social studies. This could be due to the teaching method utilized.

Teaching involves imparting knowledge as to how to do something. A person who teaches is called a teacher. Obidike (2017) posited that a teacher is someone who instructs others and provides guidance that facilitates learning in either formal or informal institutions. The instructional delivery strategies adopted by teacher to some extent enhance students' learning. Hence, methods adopted in teaching are numerous and are generally referred to as teaching methods. Teaching method refers to the style of instructional delivery adopted by a teacher. Shofoyeke (2014) opined that teaching methods can be defined as practical application of teaching principles based on the nature of the learner, the nature of the subject and their learning needs. Although teaching methods are numerous, there has been emphasis on

student centered teaching methods such as discussion, demonstration and inquiry methods. There seems to be no perfect teaching method as all techniques usually have benefits and their drawbacks.

Discussion method of teaching is a technique in which group discussion are used to reach instructional objectives. Its advantages include increasing student interest and utilizing students' knowledge and experiences while its disadvantages include consuming time and limits content (Omorogbe & Nato, 2014). The demonstration method involves an instructor actually performing the operation before the students. It saves time and can be presented to groups although the demonstration method requires special classroom arrangements. Inquiry learning is a student-centered method of teaching whereby students interact actively, question assumptions and provide their viewpoints on any area of subject matter but it requires a lot of time and many teachers are not skilled in the method. Despite the emphasis on student centered teaching methods, numerous studies (Emaikwu, 2012; Olibie, & Ezeoba, 2013; Achuonye, 2015; Nwakile, Nwankwo, Ekenta, Ameh & Nwokolo, 2022) found that many teachers still use conventional method of teaching which is teacher centered.

Conventional method of teaching is also called lecture method. Lecturing remains one of the more popular methods for transmitting information and ideas by teachers. Achuonye (2015) observed that conventional method is very prevalent in upper basic education in Nigeria. The reasons for utilizing conventional teaching methods include; it saves time, permits flexibility, requires less rigid space, permits adaptability and permits versatility. Despite the reasons for utilizing the method, it has disadvantages such as; learners are more passive than active, the cooperation and interaction between the teachers and the students are minimal. Evidences from a number of disciplines suggest that oral presentation to a large group of passive students contributes very little to real learning (Abdulhamid, 2013). Similar to this, Ademama argued that conventional teaching method makes students uninterested in class, discouraged, bored and perform poorly in test. These short comings of the conventional method have consequences for the academic achievement and interest of upper basic education students.

Academic achievement is an important factor that can be influenced by teaching methods. Achievement is the accomplishment of a goal. Ouma and Munyua (2018) defined academic achievement as the extent to which a student has achieved their educational goals, measured by examination or continuous assessment test through the grading system. It shows what a student has learnt and achieved. According to Obijiofor and Obumneke-Okeke (2020), academic achievement is the knowledge and skills acquired by a student which is usually indicated by examination scores. Achievement in upper basic education level is usually measured with tests and exams.

Contextually, achievement of students will be measured with a paper and pencil test. Increase in achievement of students can arouse their interest in learning. Interest refers to the process of giving attention to a person, activity, situation or object. It could either result or cause motivation. In the views of Agbaje, and Alake (2014), interest is a feeling of curiosity or concern about something that makes attention turn towards it. In the view of the researcher, interest is curiosity or attention developed by students as a result of learning experience. According to Essien, Akpan and Obot (2015), interest of student can be affected by the teaching method utilized by the teacher. Hence, the poor performance of upper basic education students in social studies and their perceived low interest in social studies in Anambra state has led to need to investigate the issue.

A pre study visit to twenty schools in Anambra revealed dwindling performances of students in social studies. Furthermore, discussions with thirty randomly selected students in the area revealed that they do not enjoy social studies class. This could be because of the teaching method used in teaching them among other reasons. Although authors such as Abdulhamid (2013); Ademama (2018); Obijiofor and Obumneke-Okeke (2020); Nwakile et al (2022) among others have carried out studies on effects of teaching methods on academic achievement and interest of students in schools, they focused on other subjects aside social studies. In addition, most of the studies compared only two teaching methods while the currently study compared four teaching methods (discussion, demonstration, inquiry and lecture method) which are the most common teaching methods utilized in teaching social studies students in Anambra state. Hence, the study sought to fill the gap in literature by focusing on effects of multiple teaching methods on academic achievement and interest of upper basic education students in social studies in Anambra State.

Purpose of the Study

The general purpose of the study is to determine the effects of multiple teaching methods on academic achievement and interest of upper basic education students in social studies in Anambra State. Specifically, the study sought to ascertain the;

- 1) Effects of discussion, demonstration, inquiry and lecture methods on academic achievement of upper basic education students in social studies in Anambra State
- 2) Effects of discussion, demonstration, inquiry and lecture methods on interest of upper basic education students in social studies in Anambra State

Hypotheses

Ho: 1: There is no significant difference between the pretest achievement scores of students taught with the

four teaching methods (discussion, demonstration, inquiry and lecture method)

Ho 2: There is no significant difference between the pretest interest scores of students taught with the four teaching methods (discussion, demonstration, inquiry and lecture method)

Methodology

The study adopted a Quasi-experimental design and was carried out in Anambra State. The population for the study was all public upper basic education students in the twenty-one local government areas in the state. Due to the large size of the population, multi stage sampling technique was used to select the sample for the study. Firstly, two local government areas (Ekwusigo and Idemili North) were randomly selected for the study. Out of the 82 public upper basic education schools in the area, four schools were randomly selected. After selection from the four schools, all the Junior Secondary School two (JSS 2) students in the arm with fewest students were selected as intact classes. This was to ensure that large class sizes did not influence the result. This yielded 32, 36, 40 and 42 students in each of the schools. This means that a total number of 150 students were involved in the study. The four groups were randomly selected into five groups namely; Control group (lecture method) - 36 students; Experimental group I (discussion method) – 40 students; Experimental group II, (demonstration method) – 32 students; and Experimental group III (inquiry method) – 42 students.

The instruments for data collection were Social Studies Achievement Test (SSAT) and Social studies Interest Scale (SSIS) which were validated by three experts, all from the Department of Social Sciences Education (Social Studies Unit), University of Nigeria, Nsukka. The inputs, corrections and comments by the experts guided the researcher in modifying the final copy of the instrument. The reliability of the instruments was established using Cronbach alpha for SSIS and Kuder-Richardson 20 for SSAT. SSIS and SSAT yielded a coefficient of 0.84 and 0.78 respectively.

A one-week intensive training was given to the research assistants who were the regular class teachers from the sampled schools teaching social studies in JSS 2. The three experimental group teachers were given detailed explanations on what the teaching method they would be utilizing entailed, utilizing the teaching method in the lesson plan, how to incorporate the techniques into the lesson and the general requirements of the research. The control group teachers were briefed on the general requirements of the research since they were required to use conventional method lesson plan to teach. By the end of the training, the researcher organized a micro teaching session for the participating teachers to ensure that they had mastered the instructional technique expected of them. The study lasted for four weeks using the normal

period allocated for social studies in the sampled schools to avoid altering the school timetable.

Other experimental conditions that were taken into consideration to avoid invalidity were; prior to the commencement of the experiment, the students in the schools chosen were assigned to experimental and control groups respectively by balloting. The researcher, with the aid of four research assistants (class teachers) subjected the four randomly selected groups to a pre-test on SSAT and SSIS. Thereafter, the experimental groups were subjected to their respective treatments and control group to conventional method. The actual experiment was conducted by the trained assistants (class teachers). Experimental groups were taught using lesson plan based on the specific teaching method allocated to them. After the treatment, the post SSAT as well as SSIS were administered to both the control and experimental groups. The scripts were collected, marked and scored. Each of the 20 questions on the SSAT was allocated 1 mark, giving a total of 20 marks. For the SSIS, each of the items has 4 options; positive items were scored as follows; Every time (E) - 4 points, Sometimes (S) - 3 points, Rarely (R) -2 points and Never (N) -1 point. The scores were reversed for negative items. A student's score was obtained by summing their scores for all the items.

The data was finally analyzed based on the scores using mean to answer the research questions. If the mean of the post test was greater than the pretest, then it had a positive effect but if the mean of the post test was less than the pre-test, then it had a negative effect. Furthermore, the mean gain/loss of the three experimental groups and the control group were calculated. The one with the highest mean gain was considered the best in terms of increasing the achievement/interest of social studies students at the upper basic education level while the one with the least mean gain was considered the worst. ANOVA was used to test the hypothesis. If the p-value < 0.05, reject H_0 and if p-value is ≥ 0.05 , accept H_0 .

Results

Research Question 1: What are the Effects of discussion, demonstration, inquiry and lecture method on academic achievement of upper basic education students in social studies in Anambra State?

Ho: 1: There is no significant difference between the pretest achievement scores of students taught with four teaching methods (discussion, demonstration, inquiry and lecture method)

Table 1: Mean Achievement Scores of Students Taught Social studies with Multiple Teaching Methods

Method	N	Pre Test		Post Test		Mean gain	Rank
		$\bar{X}$	SD	$\bar{X}$	SD		
Control Group (Lecture)	36	7.20	2.40	7.50	2.61	0.30	4 th
Exp Group I (Discussion)	40	8.10	1.93	13.44	1.90	5.34	1 st
Exp Group II (Demonstration)	32	7.95	2.53	9.74	2.70	1.79	3 rd
Exp Group III (Inquiry)	42	6.92	2.81	10.23	2.88	3.31	2 nd

Key: $\bar{X}$ = Mean; SD = Standard Deviation; N (Population) = 150; Exp = Experimental

Table 2: ANOVA Analysis of the Pretest Achievement Scores of Students Taught Using Multiple Teaching Methods

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	7.228	3	1.807	1.879	.121
Within Groups	84.600	147	.961		
Total	91.828	150			

Result in Table 1 indicated that the pre-test mean achievement scores of students taught with multiple teaching methods ranged from 6.92 – 8.10 with standard deviation ranged from 1.93 – 2.81. This showed that the students were relatively at the same level before the interventions. The post test scores were 7.50 (lecture method), 13.44 (discussion method), 9.74 (demonstration method) and 10.23 (inquiry method). The post test scores ranged 7.50 – 13.44 showing that the teaching methods made a difference in the achievements. The mean gains were 0.30 (lecture method), 5.34 (discussion method), 1.79 (demonstration method) and 3.31 (inquiry method). Hence, the best method for teaching social studies to improve academic achievement of upper basic education in Anambra is discussion method while lecture method was ranked last.

The hypothesis of no significant difference tested in Table 2 revealed that $F = 1.879$ with significance of 0.121. The value was greater than 0.05 indicating that it was not significant. It means that the null hypotheses was accepted showing that the academic level of all the students before the experiment were relatively the same.

Research Question 2: What are the Effects of discussion, demonstration, inquiry and lecture methods on interest of upper basic education students in social studies in Anambra State?

Ho 2: There is no significant difference between the pretest interest scores of students taught with the four teaching methods (discussion, demonstration, inquiry and lecture method)

Table 3: Mean Interest Scores of Students Taught Social studies with Multiple Teaching Methods

Method	N	Pre Test		Post Test		Mean gain	Rank
		$\bar{X}$	SD	$\bar{X}$	SD		
Control Group (Lecture)	36	1.90	0.80	1.80	0.81	- 0.10	4 th
Exp Group I (Discussion)	40	2.02	0.93	2.40	0.92	0.38	2 nd
Exp Group II (Demonstration)	32	1.95	0.56	3.50	0.80	1.55	1 st
Exp Group III (Inquiry)	42	2.10	0.99	2.26	0.98	0.16	3 rd

Table 4: ANOVA Analysis of the Pretest Interest Scores of Students Taught Using Multiple Teaching Methods

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2.149	3	0.537	.605	.660
Within Groups	78.109	147	.888		
Total	80.258	150			

Result in Table 3 indicated that the pre-test mean interest scores of students taught with multiple teaching methods ranged from 1.90 – 2.10 with standard deviation ranged from 0.56 – 0.99. This showed that the students were relatively the same interest before the interventions. The post test scores were 1.80 (lecture method), 2.40 (discussion method), 3.50 (demonstration method) and 2.26 (inquiry method). The post test scores ranged 1.80 – 3.80 showing that the teaching methods used in the experimental groups increased the interest of the students except lecture method. The mean gains were – 0.10 (lecture method), 0.38 (discussion method), 1.55 (demonstration method) and 0.16 (inquiry method). Hence, the best method for teaching social studies to improve interest of upper basic education students in social studies in Anambra is demonstration method while lecture method was ranked last.

The hypothesis of no significance difference tested in Table 4 revealed that $F = 0.605$ with significance of 0.660. The value was greater than 0.05 indicating that it was not significant. It means that the null hypotheses was accepted showing that the mean interest of all the students before the experiment were relatively the same.

Discussion of the Findings

Findings on the effects of discussion, demonstration, inquiry and conventional methods on academic achievement of upper basic education students in social studies in Anambra State revealed that discussion method improved achievement the most. This was closely followed by inquiry method and demonstration method in that order. Although lecture method also improved achievement, it was very marginal. The students taught with discussion method could have scored high because students learn faster when they discuss things among themselves instead of having to cram while those taught with lecture method could have scored the least because learning through lecture method does not involve the students and those in upper basic education level like to be active. The hypothesis tested on no significant difference between the pretest achievement scores of students taught with the four teaching methods was

accepted. This showed that before the experiment, the students were relatively on the same level in respect to academic achievement. The findings are also in line with Abdulhamid (2013) who found out that discussion method improves the academic achievement of students more than inquiry method. The findings also agree with Olibie and Ezeoba (2013) who found out that inquiry method improves teaching method more than lecture method.

The findings of the study on effects of discussion, demonstration, inquiry and conventional methods on interest of upper basic education students in social studies in Anambra State revealed that demonstration method improved interest of students the more in learning social studies. This is closely followed by discussion method and inquiry method. Lecture method ranked last and even reduced the interest of students in social studies. Students taught with demonstration method could have scored the highest on the interest scale because demonstration made sure the students were active which they could have enjoyed. On the other hand, lecture method reduced their interest in social studies because it is boring and not suitable for children at that age. The hypothesis tested on no significant difference between the pretest interest scores of students taught with the four teaching methods was accepted. This showed that before the experiment, the students were relatively on the same level in respect to interest in social studies. The findings are in line with Nwakile et al (2022) who found out that demonstration method improves interest of students more than lecture method. The findings are also in line with Emaikwu (2012) who found out that lecture method reduces the interest of students in learning because it is boring and monotonous.

Conclusion

As it is often said, no method of teaching can be considered the best as each has its draw backs. However, lecture method has been used the most for teaching social studies to most students at the upper basic education level as if it suits the students so much.

Unfortunately, if any method should be used, it definitely should not be lecture method. This is because its characteristics are not in any way suitable to learners at the upper basic education level. Many times, many researchers have recommended various methods which they usually compared to only lecture method. This study therefore compared four of the most utilized teaching methods in upper basic education for teaching students social studies. It was discovered that discussion method improved the achievement of students closely followed by inquiry method and discussion method while lecture method ranked last. On the other hand, demonstration method improved the interest of students the most in social studies. This was closely followed by discussion method and inquiry method while students taught with lecture method ranked last on the interest scale and it even reduced the interest of students in social studies. Hence, discussion and demonstration should be utilized in teaching social studies students in upper basic education in Anambra while lecture method should be discouraged at all costs. This would improve academic achievement and interest of students in social studies in Anambra state.

Recommendations

Based on the findings of the study, the following recommendations were made;

- 1) Principals of upper basic education schools should ensure that social studies teachers must have acquired competency in utilizing discussion methods before employing them to enable the teachers understand the need of acquiring the competency so as to improve the academic achievement of students in social studies.
- 2) Social studies teachers at the upper basic education level should stop the use of lecture method in teaching students of social studies which hinders their achievement and interest in the subject.
- 3) Anambra state government should organize training/retraining for social studies teachers in the state on the use of demonstration method of teaching so as to enhance the interest of students in social studies.

Conflict of Interest

The authors have declared no conflict of interest whatsoever.

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