

Teaching Methods as Corelate of Academic Performance of Secondary School Students in Katsina State, Nigeria

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Abstract

This teaching methods as corelate of academic performance of secondary school students in katsina state, Nigeria. The teaching methods used by teachers determine the extent to which students perform in school. The study adopted descriptive research design and with mixed approaches of data collection and analysis. Target sample of 100 students were randomly selected from two secondary schools out of 476 populatin of students, using simple random sampling techniques The researcher used descriptive statistics and percentages, using inferential statistics of x^2 at the level of significance of 0.05. The findings from this study revealed that most of teachers' method of teaching have a great effect on student academic performance, the study concluded that there is relationship between discussion method and demonstration method on academic performance and were recommended in improving student academic performance.

Keywords: Investigation, Relationship, Teaching Methods, Academic Performance.

Introduction

As an educator, researchers have always been fascinated by investigating the relationship between teaching methods and students' academic performance; especially when it comes to applications in the context of 21st century education. It seems that there is something in teaching that opens the gate of learning. It is true that successful learning depends on various factors that are not all teacher-related, but the methods that a teacher uses continue to play an important role in student learning and in their academic performance. The challenges that educators faced in the 21st century is so diverse that using appropriate teaching methods is more crucial now than ever before. The primary purpose of teaching at any level of education is to bring a fundamental change in the learner (Tebabal & Kahssay, 2011). To facilitate the process of knowledge transmission, teachers should apply appropriate teaching methods that best suit specific objectives and level exit outcomes. According to Ayeni (2011), teaching is a continuous process that involves bringing about desirable changes in learners

through use of appropriate methods. Adunola (2011) indicated that in order to bring desirable changes in students, teaching methods used by educators should be best for the subject matter. Furthermore, teaching methods work effectively mainly if they suit learners' needs since every learner interprets and responds to questions in a unique way (Chang, 2010). As such, alignment of teaching methods with students' needs and preferred learning influence students' academic attainments. Studies on teaching methods are not something new in educational research. A large number of studies have been done on this area. Pascarella and Trenzini (2005) have written a compendium of research studies conducted in this area over the past three decades

The discussion method is the method of teaching where the central and essential characteristic is interaction (Teo, & Wong, 2000). During discussion session students participate in the learning process by contributing problems, analyzing the factors associated with the problems, developing possible solutions to the problems, placing the solution(s) into action, and evaluating the results of the solution. Akinleye (2010) confirmed that if the children are given opportunity to be listened to and guided in a non-threatening atmosphere, they would perform wonders in terms of problem-solving and decision making. Discussion is a method in which the teacher leads or guides the students in expressing their opinions and ideas with a view to identifying and solving problems collectively. The discussion method has been widely accepted and recommended by some educators as the good method of teaching in secondary schools. Furthermore, Abdu-Raheem (2010) recommended that as a matter of urgency, teachers of Social Studies should explore and use discussion method of teaching to promote knowledge to secondary school students. She explained further that if discussion method is properly managed, it will go a long way to improve students' achievement in Social Studies.

Demonstration method is one of the many teachings learning styles under the investigative or activity based. It is a method which is capable of improving learning through its diversity effect activity. It has the prerequisite characteristics for individualized instruction and therefore has high potential for making teaching-learning process challenging and rewarding. In short, the student is viewed as an inquirer, a seeker of information and a problem-solver. These attributes are crucial to problem-solving and are at the heart of demonstration model of teaching. Skills for the demonstration method consist of the teachers' awareness and understanding of the issues surrounding demonstration teaching. These include knowledge of questioning, identification of events that are suited to demonstration. Much student learning occurs through observing others. A demonstration provides the link between "knowing about" and 'being able to do'. Research reveals that demonstrations are most effective when they are accurate, when learners are able to see clearly and understand what is going on, and when brief explanations occur during the demonstration.

Aremu (2003) defined performance test as the type of mental test in which the subject is asked to do something rather than to say something. Performance test is the type of test which throws light on the ability to deal with things rather than symbols. In relation to educational research, academic performance of a student can be regarded as the observable and measurable behavior of a student in a particular situation. For example, the academic performance of a student in English includes observable and measurable behavior of a student at any point during a course. In English students' academic performance consists of his/her scores at any particular time obtained from a teacher- made test. Until today, questions about the effectiveness of teaching methods on student learning have consistently raised considerable interest in the thematic field of educational research (Hightower, 2011). Moreover, research on teaching and

learning constantly Endeavor to examine the extent to which different teaching methods enhance growth in student performance. Quite remarkably, regular poor academic performance by the majority students is fundamentally linked to application of ineffective teaching methods by teachers to impart knowledge to learners (Adunola, 2011). Substantial research on the effectiveness of teaching methods indicates that the quality of teaching is often reflected by the achievements of learners. According to Ayeni (2011), teaching is a process that involves bringing about desirable changes in learners so as to achieve specific outcomes. In order for the method used for teaching to be effective, Frequent monitoring of teaching and learning requires paying attention both to student learning and performance to the effectiveness of school and classroom procedures (Lezotte, 2010).

Given the high value placed by government on Nigerian Senior Secondary School Curriculum, and the nature of the subject, the need to teach it effectively through an effective method is indisputable. A few of the problems affecting the teaching and learning of government are the meaningfulness of the content, the sustainability of the methods and probably, the teacher who handles both the content and method. What a teacher does in the classroom depends to some degree upon his approach to learning situations. However, students' negative attitudes toward learning may be related to the method of instruction. Though teachers with high morale, motivation and a mastery of knowledge, learner difficulties and capacity to facilitate learning are important (Zadra, 2000), correct use of an appropriate teaching method is critical to successful teaching and learning. Knowledge of how teaching methods affect students' learning may help educators to select methods that improve teaching quality, effectiveness, and accountability to learners and the public. It may also help them keep up with information technology, globalization and to avoid the status quo (Foster, Pinkst and

Husman, 1991). Inability of teachers to organize effective teaching in some areas is centered on failure to consider certain factors such as what to teach, when to teach and how to teach. Several methods of instruction are to be employed considering students' interest depending on the situation. For effective teaching to take place, the teacher must stimulate, encourage and maintain active participation of the students, through the selection of appropriate teaching methods. This would require a balance between what is taught and how it is taught.

Research Questions

1. What is the relationship between the use of discussion method and academic performance of Secondary School Students in Katsina Zone?
2. Is there any relationship between the use of demonstration method and academic performance of Secondary School Students in Katsina Zone?

Research Hypotheses

1. There is no significant relationship between discussion method and academic performance of Secondary School Students in Katsina Zone
2. There is no significant relationship between demonstration method and academic performance of Secondary School Students in Katsina Zone.

Methodology

The research design used for this study was the descriptive research design. Since data characteristics were described using frequencies and percentages, and no manipulations of data or variables were necessary. The population for this study comprises the students of Katsina College Katsina with total number of 335 and Government College Katsina with total number of 241 all together is 476 students In SS1. Simple random sampling method in form of the 'hat' drawn method was used and selected 100 respondents in order to give every member of the population an equal

chance of being selected. Pieces of paper were numbered and dropped in a can. Those who picked the odd number were selected for the study. This was done until the required numbers were selected for the study. Method of Data Collection of this study is based on the two possible sources of data which are the primary and secondary source by the use of questionnaire as instrument for collection of data for the study. The five point Likert scale was used in structuring the questionnaire. The questionnaire consists of two sections A and B. The section A consists of the demographic data while the section B consists of study related questions. To ensure the content and face validity of the instrument, the draft copy of the questionnaire was given to the experts for proper modification, a test retest method to ensure the reliability of the research instrument was adopted. This involves administering twenty copies of the questionnaire to students that are not part of the sample of the study twice within two weeks and thereafter determined the coefficient of variation by using Pearson Product Moment Correlation, frequency and percentage and Chi-square were used for statistical analysis, using current SPSS statistical software package. This study employed a descriptive statistics and inferential statistic. The simple percentage method was used to analyze the research questions while the chi-square was used to analyze the hypotheses.

The formula used for calculating percentage is:

$$\frac{\text{Number of items occurring}}{\text{Total number of items in the group}} \times 100$$

The formula used for the calculation of chi-square (χ^2) is:

$$\chi^2 = \sum_{i=1}^n \frac{(O - E)^2}{E}$$

Where:

O = Observed data.

E = Expected data

n = Number of observations

Discussion of Results and Findings

The discussion of finding of this study were done based on the results of each of the two hypotheses under investigation as follows

Hypothesis one

1. **H₀:** There is no significant relationship between the discussion method and student academic performance

Question: Does the use of the discussion method improve the academic performance of the students? Yes [], No [], Undecided [].

Response	Frequency	Percentage (%)
Yes	74	74
No	20	20
Undecided	6	6
Total	100	100

Using chi-square to test the hypothesis

$$X^2 = \frac{\sum(O_i - E_i)^2}{E_i}$$

Where:

X_2 = chi-square

O_i = Observed frequency

E_i = Expected frequency

Σ = Summation

Observed and expected frequency table

Response	O	E	O-E	$\frac{(O - E)^2}{E}$
Yes	74	33.33	40.67	1370.08
No	20	33.33	-13.33	177.78
Undecided	6	33.33	-27.33	747.56

Total	100	2295.42
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$$X^2 = 2295.42$$

$$V = R-1$$

$$R = 3$$

$$VR = 3-1 = 2$$

Level of significance is 5% = 0.05 at 5% (0.05) level of significance. And 2d.f. X^2 f.

$X^2 E = 5.991$ (see chi-square table applied).

Decision

Since 2295.42 is greater than $X^2_{E0.95} = 5.991$, the H_0 is rejected at the level of significance we accept H_1 . The study concludes that, there is a significant relationship between the discussion method and student academic performance.

Hypothesis two

Ho: There is no significant relationship between the demonstration method and student academic performance

Question: Does the use of the demonstration method improve the academic performance of the students? Yes [], No [], Undecided [].

Response	Frequency	Percentage (%)
Yes	70	70
No	18	18
Undecided	12	12
Total	100	100

Using chi-square to test the hypothesis

$$X^2 = \chi^2 = \frac{\sum(O_i - E_i)^2}{E_i}$$

Where:

X^2 = chi-square

O_i = Observed frequency

E_i = Expected frequency

Σ = Summation

Observed and expected frequency table

Response	O	E	O-E	$\frac{(O - E)^2}{E}$
Yes	70	33.33	36.67	1340.92
No	18	33.33	-15.33	233.56
Undecided	12	33.33	-21.33	454.88
Total	100		2029.36	

$$X^2 = 2029.36$$

$$V = R - 1$$

$$R = 3$$

$$VR = 3 - 1 = 2$$

Level of significance is 5% = 0.05. at 5% (0.05) level of significance. And 2d.f. X^2 f.

$X^2 E = 5.991$ (see chi-square table applied).

Decision

Since 2029.36 is greater than $X^2_{E0.95} = 5.991$, the H_0 is reject at the level of significance, we accept H_1 . this concludes that, there is a significant relationship between the demonstration method and student academic performance.

Conclusion

In conclusion, the contribution of this study to research is its analysis of the relationship among teaching methods and students' academic performance. The findings are that teaching methods affect students' academic performance. The discussion and demonstration teaching method greatly improved the academic performance, the study recommends that teachers should therefore learn how to use two or more techniques together during a teaching so as to achieve the desired

objective. Teachers should also increase their knowledge of various instructional strategies in order to keep students engaged and motivated throughout the learning process.

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