

Relative Effectiveness of Classroom Interaction Techniques on Students' Participation in Rivers State, Nigeria

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Abstract

This study sought to identify the relative effectiveness of classroom interaction techniques on students' participation in Government classrooms using three classroom interaction techniques. All senior secondary schools in Port Harcourt Local Government Area, Rivers State, Nigeria constituted the population. Three research question and three hypotheses guided the study. The hypotheses were tested and analyzed using chi square statistics. Three classrooms were randomly selected for the study. The population is made up of 10,983 students and 496 teachers and the sample size was of 1098 students and 12 teachers. Six classroom were used; three in SS1 and three in SS11, respectively. Six teachers taught SS1 and six teachers taught SS11 using a technique (Flanders, Teacher Initiation, Students' Response and Teacher Evaluation; and Teaching Cycles). Twelve lessons were recorded on a cassette, transcribed, coded and analysed. Flanders category was the observational instrument. Test- retest method was used to establish the reliability of the instrument at 0.87 co-efficient. The result showed that students' participation is not contingent upon classroom technique used. Students' in these classrooms were less challenged therefore teachers should go extra step to encourage voluntary students' participation in the classrooms.

Keywords: Interaction, Techniques, Participation, Classrooms.

Introduction

In many classrooms, there are no provisions for the development of intellectual and thinking skills among students. Often times teachers are more comfortable with lecturing, didactic questioning, explicit teaching, practice and drill, demonstration in the classrooms. Students are given little time for participation (Atkins & Brown 2001, Anorue,2004, Saskatoon Public School Report). The students in such situations are passive listeners. Teachers at times give less emphasis on instructional materials. The student in a teacher - centered classroom see the teacher as the main source and dispenser of information. Teachers in this scenario are erroneously regarded as the prime source of wisdom and somebody who knows everything about the subject matter. This direct instruction strategy does not allow students to develop skills, abilities, process and attitudes required for critical thinking and experiential learning. Direct instruction is not affective and gives no room for metacognitive reasoning. Learning therefore becomes less challenging, boring and less rewarding. In spite of these shortcomings the teacher is the decisive element in any classroom. Rodriguez asserts that elements of classroom vary. Effective instruction begins with students' experience. An effective teacher gives room for student participation. A lively teacher uses humour which is a valuable teaching tool for establishing a conducive classroom climate. It improves instructional effectiveness and is fundamental to positive classroom learning. Structuring the classroom needs effort, skill and tact on the part of the teacher. There are many patterns of interaction in the classroom; examples include the Teaching Cycles; Teacher Initiation, Students

Response and Teacher Evaluation (IRE) and other observation techniques of which Flanders analysis category is the most effective (Anorue 2004) Based on these facts there is need to study relative effectiveness of classroom interaction techniques and students participation. This is necessary because of the need to discover what is happening in special world of the classroom with a view to achieving the best interaction pattern and students holistic intellectual development.

Statement of the Problem

Atibile (2011) has pointed out that there is high failure rate among students that took West African Senior Certificate Examination (WASSCE) and other external examinations. In 2011 examination only 30 percent of the candidates made credits in both English and Mathematics. Details of the result showed that out of 1,540,250 candidates that sat for the examination, 1,460,003 candidates representing 94.79 percent had their results fully processed, 80.15 percent obtained credit in two subjects; while 8,573 candidates representing 5.29 percent were withheld. This result therefore indicates potent danger for Nigerian future. Most public senior secondary schools in Rivers state have a lot of problems such as unconducive environment for proper academic work, insufficient classroom blocks; these problems make it impossible for teachers to perform their duties effectively (Onumbu 2010 cited in Nwangwu 2010). Although, many factors determine the success or failure in the classroom, to a large extent, the teacher determines the social environment in the classroom. Kizlik (2009) has rightly observed that "effective teaching requires considerable skills in managing the myriad of tasks and situations that occur in the classroom each day".

Over the years people have questioned the place of education in Nigeria. Most scholars have argued that Nigerian education system has the problem of not matching policies with action. History has shown that most prior programme in education reflect the desire to get quick results; thereby producing confusion, distortion, misdirection and misunderstanding. There are many cases of worthwhile education policies that are abandoned due to poor planning, implementation and monitoring. The 6-3-3-4 system of education in Nigeria which was abandoned for the current Universal Basic Education is an example; all these affect student performance in the classroom. The new curricular made little change in objectives, values, content, sequencing of classroom interaction processes, we are yet to find out if these objectives are actually achieved in every classroom and this is the basis of this study.

Objective of the Study

1. To assess SS1 male and female students' facilitation skills in Government studies taught by using Flanders Interaction Analysis Categories (FIAC), Teacher Initiation, Students Response, Teacher Evaluation (IRE) and Teaching Cycles (T.C)
2. To assess SS11 male and female students' facilitation skills in Government studies taught by using Flanders Interaction Analysis Categories (FIAC), Teacher Initiation, Students Response, Teacher Evaluation (IRE) and Teaching Cycles (T.C)
3. To determine the relative effectiveness of classroom interaction techniques on students' participation in Government studies with respect to Flanders Interaction Analysis Categories (FIAC), Teacher Initiation, Students Response, Teacher Evaluation (IRE) and Teaching Cycles (T.C)

Significance of the Study

It will help education administrators plan towards positive education which trains the total child to finding solutions to the challenging situations in the classroom and other immediate environment.

Scope of the Study

This study covers all secondary schools in Rivers state both male and female teachers and students.

Research design

This study is an experimental research. Data was collected on interactions in Government classrooms and was used to observe the nature of the classroom. In this experimental study, the teachers and students in three (3) public schools in Port Harcourt Local Government were taught the rudiments of a classroom interaction technique. One school was taught the rudiments of Flanders Interaction Analysis Categories (FIAC); the other was taught the Teacher Initiation, Students Response, and Teacher Evaluation (IRE) while the third school was taught Teaching Cycles (T.C).

Area of study

This was conducted in Port Harcourt Local Government in Rivers State of Nigeria. Out of twelve (12) Public Secondary Schools in Port Harcourt Local Government Area, three (3) Senior Secondary Schools were used for the study.

Population

All SS1 and SSII Government students and teachers in senior secondary schools Port Harcourt Local Government in Rivers State constituted the population of this study. The population is made up of 10,983 students and 496 teachers.

Sample and sampling techniques

The sample of the study consisted of twelve (12) teachers and one thousand and ninety- eight (1098) students of Government studies in three randomly selected SSI and SSII secondary schools. Three public schools were randomly selected. Six teachers taught SS1 and six teachers taught SS11 using a technique. Five hundred and forty-one (541) students participated in SS1 while five hundred and fifty seven (557) students participated in SS11. Six classrooms were involved in the study, three in SS1 and three in SS11. Three public schools were randomly selected, two teachers taught using Flanders Interaction Analysis Categories (FIAC) two teachers taught using Teacher Initiation, Students response and Teacher Evaluation (IRE), while two teachers taught using Teaching Cycles (T.C) in SS1 and SS11 respectively. The teachers were experienced and taught each class once. Twelve lessons were recorded.

Instrument

The instrument used in collecting the data was the Flanders interaction analysis categories (FIAC). It was used to code and analyze the interaction pattern during Government lessons in the selected

schools. The Flanders interaction analysis categories were carefully designed specifically for coding teacher and student behaviours and are very useful in studying classroom events. The present researcher has decided to use Government for the study. An interaction system is an observational instrument which takes place in the classroom. The Flanders Interaction Analysis Category (FIAC) records what students and teachers say during classroom interaction, the emphasis being on what the teacher says. The categories in Flanders system are two, teacher verbal response and student verbal response. Any verbal communication event by the teacher or pupils can be classified into one of the first nine categories. There is only one non verbal category, which is silence or confusion. Each observation is done at the end of a 3 – second period and there is room for modification, the present researcher is using a five second period. The researcher went to the three schools four times. Three formative tests were administered to monitor whether teacher adjustment had impact on student learning progress and to provide ongoing feedback to the researcher on pupils and teachers. The students were given summative – test at the end of the second month, the grades of the summative test showed that there was mastery of the instructional objectives by the students and the teacher the new instructional strategy was therefore effective.

Copies of the modified Flanders Interaction Analysis Categories system (FIACS) were given to experts in the Faculty of Education for validation. These scholars were to vet the instruments in terms of clarity of words and sentence structure. Their recommendations were strictly incorporated in final version of the instrument; the instrument was therefore found to be valid. The researcher used test - retest method to establish the reliability of the instrument. The modified Flanders Interaction Analysis Categories system was used among two teachers who did not take part in the substantive study. After two weeks the experiment was repeated in the same classrooms and the reliability co-efficient of 0.87 was obtained, showing that the instrument is reliable.

Procedure for data collection

Data for the study were collected during classroom lessons. Before the observation, the researcher made visitation to the selected schools, established rapport with the Government teachers. A tape recorder was used to record all the class events. . The researcher concluded by observing each of the teachers three times and had a number of twelve (12) lessons on the whole. The twelve (12) lessons were afterwards transcribed and coded at every five seconds. The study period was two years.

Method of data analysis

The data collected in this study were analyzed as follows: the research question was analyzed using pie charts expressed in gain and gain percentages. The hypothesis was tested using chi square statistics.

Data Analysis

The data were analyzed using pie charts and chi square statistics.

Research Questions

1. How does the different classroom interaction technique (Flanders Interaction Analysis Categories (FIAC), Teacher Initiation, Students Response, and Teacher Evaluation (IRE) and Teaching Cycles (T.C) affect SS1 students' facilitation skills in Government studies?
2. How does the different classroom interaction technique (Flanders Interaction Analysis Categories (FIAC), Teacher Initiation, Students Response, and Teacher Evaluation (IRE) and Teaching Cycles (T.C) affect SS11 students' facilitation skills in Government Studies?
3. How does different classroom interaction techniques (Flanders Interaction Analysis Categories (FIAC), Teacher Initiation, Students Response, and Teacher Evaluation (IRE) and Teaching Cycles (T.C) enable students participate in classroom learning?

Figure 1:
A Pie Chart Showing SS1 Students' Participation in Learning

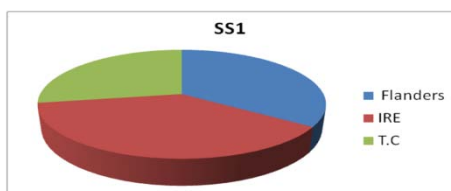


Figure 2:
A Pie Chart Showing Students' Participation Learning in SS11



Hypotheses

(H₀₁) SS1 male and female students facilitation skills is not contingent upon classroom interaction techniques (Flanders Interaction Analysis Categories (FIAC) Teacher Initiation, Students' Response Teacher Evaluation (IRE), and Teaching Cycles (T.C)

Table 1.1: 3X2 Contingency Table Showing SS1 Male and Female Students' Facilitation Skills in Lesson and Classroom Interaction Techniques.

Class level SS 1	Classroom Interaction Techniques				X ² Calculated
	FIAC	IRE	T.C	Total	
Males	Fo8 Fe(6.20)	6 (6.82)	4 (4.96)	18	2.13
	Females	Fo2 Fe(3.79)	5 (4.17)	4 (3.03)	
		10	11	8	

As shown in Table 1.1, the calculated value of χ^2 is less than the critical value (5.99) at the degree of freedom of 2. It is concluded therefore that male and female students' facilitation skills in lesson are not contingent upon the classroom interaction techniques used.

(H₀₂) SS11 male and female students' facilitation skills are not contingent upon classroom interaction techniques (Flanders Interaction Analysis Categories (FIAC) Teacher Initiation, Students' Response Teacher Evaluation (IRE), and Teaching Cycles (T.C)).

Table 1.2: 3X2 Contingency Table Showing SS11 Male and Female Students' Facilitation Skills in Lesson and Classroom Interaction Techniques.

Class level SS 11	Classroom Interaction Techniques				X ² Calculated
	FIAC	IRE	T.C	Total	
Males	Fo5 Fe(4.5)	6 (4.97)	3 (4.5)	14	1.40
	Females	Fo2 Fe(5.48)	5 (6.03)	7 (5.48)	
		10	11	10	

Table 1.2 shows that male and female students' facilitation skills in SS11 are not contingent upon classroom interaction techniques.

(H₀₃) The lesson participation of SS1 and SS11 students is not contingent upon classroom interaction techniques (Flanders interaction Analysis Categories (FIAC); Teacher Initiation, Students Response, Teacher Evaluation (IRE) and Teaching Cycles (T.C)).

Table 1.3s: 3X2 Contingency Table Showing SS1 and SS11 Students' Participation in Lesson and Classroom Interaction Techniques

Class level	Classroom Interaction Techniques				X ² Calculated
	FIAC	IRE	T.C	Total	
SSI	Fo10 Fe(9.67)	11 (10.63)	8 (8.70)	29	0.156
	SSII	Fo10 Fe(10.33)	11 (11.37)	10 (9.30)	
		20	22	18	

As shown in Table 1.3, the calculated value of χ^2 is less than the critical value (5.99) which shows that students' participation is not contingent upon classroom interaction used.

Discussion of Findings

The level of students' participation in Government classrooms in Rivers State was investigated in this study. Based on the result obtained after data analysis; students' participation in Government classrooms is not contingent upon classroom interaction techniques used. This is buttressed by the fact that most teachers dominate classroom instruction as confirmed by research reports of Atkins & Brown, (2001) Anorue, (2004) Lathrop, (2006) Weimer, (2008) who believed that the teacher determines the classroom climate. In the present study, SS1 and SS11 students' facilitation skills and level of participation in lesson were analyzed respectively; the result obtained after data analysis showed that students' facilitation skills and level of lesson participation in the classrooms are not contingent upon classroom interaction techniques used. By facilitation skills, the researcher observed the extent of collaboration among students; how focused, assertive and the nature of decisions. The researcher also observed "students question skills, the nature of questions, how students use different strategies to draw out knowledge of theory/experience, how corrections are offered to fellow students; the quality of such correction, how clear and logical, how innovative; helpful, and the quality of decisions" (Bishop, 2000; Lathrop, 2006). The result obtained reflected poor facilitation skills by these students. This makes one think that there was poor level of students' engagement and that teacher do not take extra steps to encourage students' participation. The chi – square analysis of students' facilitation skills in SS1 and SS11 as expressed in figures 1.1 and 1.2 respectively indicated that teachers do not encourage inquiry - based learning. Teachers' in these classrooms failed to use different strategies to draw out knowledge, positive ideas and experiences from the student. The percentages of students' facilitation skills and participation as expressed in tables 1.1, 1.2, and 1.3 have shown that there was poor quality of classroom discussions as teachers adopted to a large extent direct instruction method confirming the findings of Atkins & Brown, (2001) Anorue, (2004) Lathrop, (2006) Weimer, (2008); the study therefore challenges teachers to engage all students positively in classroom sessions. The results also indicated that students in Government classrooms shy away from active classroom discussion; these students very likely are afraid of speaking in a group, peer criticisms, they may also lack understanding of the material; they may lack interest in the subject, they may be waiting for the teacher to call the "smart kids" who know the answer; they may not like the instructor as documented by scholars like Roe (2012), Dees (2010). Teachers need to create a warm and positive classroom, where students are free to make voluntary verbal contributions with a high level of creativity instilled in the students. The emphasis should be on negotiated instruction and teachers' should increase their wait time (Azubike 2000). Teachers should design good methods of evaluating classroom participation, knowing that some students are shy and some are over - participatory. Lessons should be clearly structured; theory should be related to experience and originality should be emphasized in classroom assignments. Students should recommend how to increase participation in the classroom (Weimer, 2005). Teacher should prepare the lessons ahead of time; emphasizing high level of student engagement. They should have good method of delivery and summarizing discussions.

Recommendations

Students should be taught not to shy away from active participation in the classroom. Teacher should create a warm and lively classroom environment. Teachers should use good question strategies and possibly use modern communication gadgets to reach students. This is necessary so as to draw out knowledge from students that are shy and reflective.

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