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Large Class-size and Classroom Interaction in Social Studies Classes in Port Harcourt, Rivers State, Nigeria

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Abstract:

The study was carried out to find out the consequences of large class-size on Social Studies teacher-students classroom interaction in public secondary schools in Rivers State with particular reference to Port Harcourt city local government area, where large class-size is predominant. A sample of 1,332 respondents was drawn comprising 12 teachers and 1,320 JSS2 and JSS3 students. Five research questions and a null hypothesis guided the study. An observation checklist modeled along Flanders' Interaction Analysis Categories (FIAC) was used for data collection. The instrument had a reliability coefficient of 0.81 via the application of Pearson Product Moment Correlation technique on two administrations. The statistical tools used for data analysis was simple percentages and t-test for the hypotheses. Major finding of the study was that teacher talk is far more pronounced in large class-size where Social Studies is being taught to students than students talk. The pedagogical and educational implication of this scenario is that teaching and learning is teacher centred and so, students benefit less in such classes. Hence, it is recommended among others that, teachers should adopt coping skills that are more positive in approach to establish some formality in class activities right from the beginning of the lesson. This could be in form of class routines and convention that would keep the student busy as soon as the lesson starts. Adequate planning and implementation of lessons would also keep them (students) busy throughout the lesson. To this end, seminars and workshop should be organized for teachers to sharpen their teaching skills.

Keywords: Large class-size, classroom interaction, social studies, Port Harcourt

1. Introduction

The National Policy on Education (NPE) has made provision for teacher-pupil ratios which are deemed appropriate for effective teaching and learning especially as it relates to classroom interaction in Nigerian schools. According to the policy, the stipulated class-sizes include: 1:35 for primary school, 1:40 for secondary school, 1:20 for technical education, and 1:10 for special education (NPE, 2004). The implication of these values are that in primary school one teacher should teach thirty five students (1:35), 1:40 in secondary, 1:20 in technical schools, while the ratio for special Education is 1:10.

These stipulations are in recognition of the need for teaching and learning to be carried out in a classroom setting that allows adequate teacher-students interactions. Effective classroom interaction could promote appropriate teacher-students relationship which will in turn enable teachers to give proper attention to students in both class work and in character formation. This presupposes that, the number of teachers in each school should be adequate enough to match the stipulated relational size of students coupled with adequate teaching spaces and facilities (Taiwo, 2004).

In Rivers State, the population of students in relation to teachers in public secondary schools is far from the ideal as observed by the researcher. The registers for instance make provision for fifty (50) students per class, as against the 1:35 and 1:40 recommended by the National Policy on Education, for primary and secondary schools respectively. Furthermore, in many of the schools, the number of students in a class is over one hundred, and this creates instructional and management problems for the teachers who teach in these classes. As noted by Ogunleye (2004), the introduction of the Universal Basic Education (UBE) is partly responsible for the increase in the number of students in secondary schools, thus producing large class-size in our schools. The classroom space that was used for 30 pupils in the 1960's and 40 pupils in the 1980's is now used for 90 or more pupils today, yet the teacher is expected to interact with the pupils individually, mark and record their assignments, tests and examinations. Surely, no effective pupil-teacher interaction or individualized teaching can go on with the large population of 90 or more pupils or students in a class meant for 40 students at the secondary school level for instance.

One major challenge of large class-size is in the application of interactive teaching methods such as excursion/field trips, projects, guided inquiry, discussion, demonstrations etc. which becomes very difficult to apply by teachers who attempt to apply them because of the class-size. In large classes, the distance between students and the teachers becomes wide and thus, teachers may not give the much personal attention to each student. The picture of the agony of the teacher in handling over-populated class has been captured by Adumugu (2005, p.11), who observed that: 'A common sight in Nigerian schools shows that most students stand by the window to receive their lessons thereby compelling the teacher to shout on top of his/her voice with tremendous amount of energy lost in order that the students might hear him/her'.

In such classes, according to Gabriel (2007), many do not participate in the teaching/learning process. The teachers themselves find it absolutely difficult to maintain control over their classes. They also find it impossible to apply the process of continuous assessment. What they do then, is that they simply 'manufacture' scores which lack validity and reliability to fill the continuous assessment sheets. Even when a teacher tries to assess the students, the process for marking and scoring the students is usually exceptionally cumbersome, making it difficult to establish scorer reliability. Buttressing the challenges of large class-size, Okpobiri (2007) summarized the problems of teaching overcrowded classes to include; Poor teacher-student communication/relationship, Poor class management, Inadequateness in the use of instructional materials, Unmanageable level of noise and Poor teaching and learning.

Large class-size is indeed a major educational flaw in our present day secondary school system especially in the public schools. It is a flaw because of the great harm it has done to the standard of secondary school education. Large class-size puts strains on the available and the inadequate infrastructural facilities, instructional materials, and in most cases, students sit on the floor to learn, thereby making them vulnerable to health hazards like contacting communicable diseases.

It has also been discovered that large class-size leads to large scale destruction of school equipment, as three students may have to sit on a chair meant for one student, while many teachers find it difficult to cope with the teaching, using the unaided voice. Examination scripts are hardly marked and never thoroughly marked. The increase in population coupled with the need for education and inadequate funding have led to large class sizes in our schools today, and this is one, among the many factors influencing classroom interaction. Nevertheless, for the purpose of this study, classroom interaction refers to the type or nature of relationship that exist between the teacher and the students in terms of the exchange of ideas, discussions and other observable behaviour that occur in the classroom setting. Hence, the researcher is of the view that the impact of large class-sizes on classroom interaction in public secondary schools in Rivers State needs to be given more attention as the situation does not seem to be getting any better in the state public schools especially in Port Harcourt City Local Government Area of Rivers State.

Nonetheless, a brief discourse on classroom interaction at this juncture of the study will suffice. To Uche and Enuokoha (2001), as cited in Ogbuji(2006) there are about three patterns of interaction in the teaching/learning process. They are the mono-directional, Bi-directional and multi-directional patterns.

1.1. Mono-Directional Interaction Pattern

Usually called teacher-centred interaction. Here the teacher monopolizes the interaction to the detriment of the learners. He/she is seen as possessing all knowledge, while the students are only passive recipients of the interaction. This interaction pattern, no doubt, suits the definition as put by (Uche & Enuokoha 2001), to them classroom interaction is the 'act of impacting knowledge or transmitting information to the learners'. It is diagrammatically represented thus:

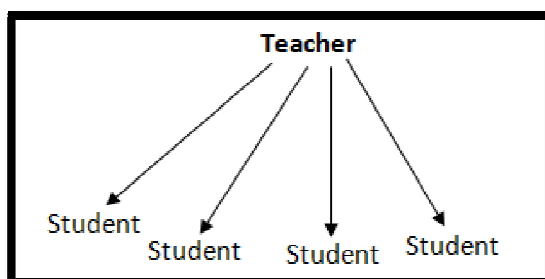


Figure 1: Mono-Directional Pattern of Interaction

1.2. Bi-Directional Pattern

Is one, in which information and feedback flows from the teacher to the student and from the students back to the teacher. The pattern allows students more freedom to contribute in the teaching/learning process especially in the areas of questioning and comment.

The diagram below depicts the nature of interaction.

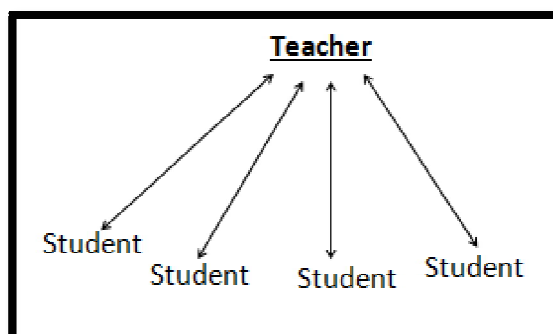


Figure 2: Bi-Directional Interaction Patterns

1.3. Multi-Direction Interaction Pattern

Under this pattern, the teacher and students interact with mutual understanding that each has active and supportive role to play in the realization of educational goals.

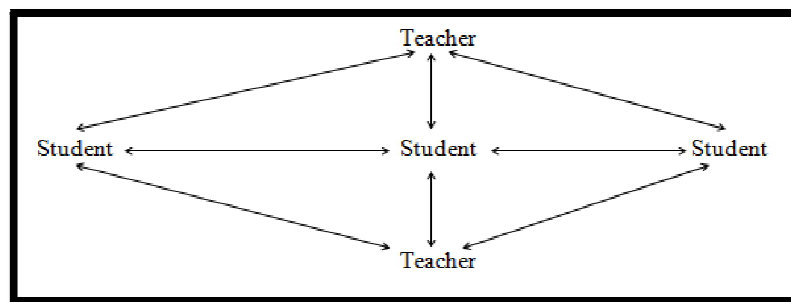


Figure 3: Multi Directional Interaction Pattern

It should be noted that teaching activities are brought about through the process of interaction. Interaction patterns, therefore provides a description of what goes on in the teaching-learning process between the teacher, the learner and the learning materials. In a similar discourse, Anyanwu (1993), cited in Anekwe (1996), noted that the extent of learning occurring in the classroom depends to a large extent on the magnitude and mode of interaction between the learner, the learning materials and the learning environment. On a similar note, Howe (1993) stated that the organization of classroom environment has been recognized as a potent factor in the process of knowledge construction. Continuing, Howe reported that planned interaction among students' have been found to be a productive strategy for increasing students' learning in a wide range of general levels and subject areas. The foregoing observations suggests that students' interaction patterns, if well planned in the classroom are capable of enhancing students' achievement, retention and interest in the cognitive, psychomotor as well as the affective dimensions of learning.

In addition, but in a more simplified manner, Flanders cited in Okafor (1995) reported that in the classroom there are three types of interactions. They include:

- Teacher-Student: as in a situation where the teacher instructs and the students listen, or when either of the two asks questions and the other answers;
- Student-Materials: as in a situation where students work on a problem in the text, real passages, and carry out experiment;
- Student-Student: as in a situation where students react to each other's opinions and attitudes during discussions or when small or large groups are formed cooperatively on a given problems.

Unfortunately, literature and empirical studies on the challenges of large class-size on classroom interaction is/are not readily available, however, works that examined the consequences of large class-size and its effect on teaching-learning processes and activities include those of Anyanwu (1993), cited in Anekwe (1996), who noted that the extent of learning occurring in the classroom depends to a large extent on the magnitude and mode of interaction between the learner, the learning materials and the learning environment. On a similar note, Howe (1993) stated that the organization of classroom environment has been recognized as a potent factor in the process of knowledge construction. Continuing, Howe (1993) reported that planned interaction among students' have been found to be a productive strategy for increasing students' learning in a wide range of general levels and subject areas. The foregoing observations suggests that students' interaction patterns, if well planned in the classroom are capable of enhancing students' achievement, retention and interest in the cognitive, psychomotor as well as the affective dimensions of learning.

Okpobiri, (2006) in a study carried out in Obio Akpor Local Government Area in Rives State, on the effect of overcrowded classrooms in teaching and learning, opined that most classes in primary and secondary schools have between sixty (60) students and above as against the recommended maximum of 35 and 40 students per class, with three or more students sharing a seat meant for two students and sometimes many others, sitting on the floor while receiving lessons. In most schools, students' desks and seats are arranged end to end and from wall to wall, without a good space to move about, thereby making the teachers to be fixed to a position in front of the class, while students themselves have to move on the desktop to enable them get to their seats.

Furthermore, most of the classes are noisy and most of the time without teachers, this view collaborates with that of Yetunde, (2007) in a study of the effects of over-crowded classrooms on teacher — student interaction in Ilorin metropolis. The study identified noise making, restriction of teachers movement to the front, teachers inability to catch students cheating, late corners, and truants sneaking in and going out unnoticed, teaching aids not being able to go round among others as characteristics of overcrowded classrooms.

Omieibi (2003), cited in Osomtu (2006), opined that, the population or size of a class is an underlying factor in the choice of teaching methods. Some methods according to the researcher are good for small groups because they involve the active participation of members of the class. Examples are the discussion method which requires verbal contribution and interaction, and the activity method.

Oguniye, (1999) cited in Okpobiri (2006), said some of the effects of large class-size on the teaching and learning of school subjects has long been established and it includes- lack of effective evaluation of students, lack of supervision of students work, poor academic performance on the students among others.

Akinkugbe, (1994), in Osomtu (2006) in a study on students population explosion said, it has put strains on the existing facilities in our educational system at all levels and the secondary school system in particular. This according to the researcher, are class-size, low morale, infrastructures, laboratories, libraries, teacher- student ratio, workshops among others. Large class-size, as shown in the reviewed literature is said to be responsible for ineffective classroom interaction, poor academic performance of students, and poor evaluation of students work, poor supervision, examination malpractices, indiscipline, and truancy among others. While the literature revealed made a strong case for promoting more student involvement, the interactive approach as a way of promoting class participation in a large class, but discussed little on how it leads to greater performance among students, Like most authors or researchers discuss how it improves the learning process, but do not explain what is learned through the process. Auster and Macrone (1994), in affirmation, pointed out that there was much discussion on the virtues of class participation, but they found there were very few sound studies that examine the effects of instructors' behaviours on students' participation.

In his view, Obanya (1997) cited in Okpobiri (2007) expressed that, to be a good teacher means to be educated, in the sense of a broad based form of disciplined knowledge, specialized in the sense of in-depth knowledge, skills, attitudes and values needed for promoting learning, professionally trained in the sense of internalization of knowledge, skills, attitudes and values needed for promoting learning, professionally competent in the sense of applying ones skills to really promote learning; and a lover of learning, in such a way that one's own personality inspires the learner. The New York Institute of Technology catalogue (1980) cited in Osmotu (2006), the teacher plays the following roles in the teaching/learning process; decision maker, knowledge imparter, disciplinarian, facilitator, planner, organizer and evaluator.

Despite the important roles teachers play in the classroom, to the best of the researcher's knowledge no studies have been conducted to determine how teachers and students interact and cope in large class size in public secondary schools in Port Harcourt City Local Government Area (PHALGA). This study is set out to determine this using Flanders' Interaction Analysis Categories. To this end, the following research questions and hypothesis guided the study.

2. Research Questions

- To what extent does a teacher accept and clarify the feelings of students in a large class during a Social Studies lesson?
- To what extent do teachers praise students in a large class during a Social Studies lesson?
- To what extent do teachers in large Social Studies classes accept or use students' ideas?
- How often do teachers ask questions in Social Studies large classes?
- What is the difference between teacher talk and students talk in a large class-size as it relates to classroom interaction during a Social Studies lesson?

2.1. Hypothesis

There is no significant difference between teacher talk and students talk in a large class-size as it relates to classroom interaction during a Social Studies lesson.

3. Methodology

Survey research design was adopted for the study, since the primary focus of the study was to determine interaction relation between teachers and students in large Social Studies classes in secondary schools in Port Harcourt City Local Government Area (PHALGA) using Flanders' Interaction Analysis Category (FIAC). A sample of 6 schools out of 14 in the Local Government Area was used for the study. Simple Random Sampling Technique was used to choose the schools, and all the J. S. 2 and 3 students of the selected schools formed the target sample. This gave a grand sample size of 12 teachers and 1,320 students.

An observation checklist which was tailored along Flanders' categorization of classroom interaction between teachers and students was used for data gathering. Flanders interaction Analysis System provides (1) the ability to draw conclusions about the verbal classroom climate and (2) the ability to make inference about the communication strategies fostered in the classroom. A sample of the instrument is as presented in Table 1. Nevertheless, in view of the instrument origin, it was subjected to validation and had a reliability coefficient of 0.81 via the application of Pearson Product Moment Correlation technique for a measure of the instrument stability over time on two administrations. In gathering the data, the researcher used the non-participant technique and scored the list based on what was observed at that material point in time, at an interval of five seconds with the use of a stopwatch. Consequently, the relevant data gathered through the instrument were subjected to simple percentages and t-test statistics. The null hypothesis stated for the study was tested at 0.05 level of significance.

Teacher/Student/Other Behaviours Observed		Tallies	Anecdotal Notes
Teacher Talk	Indirect Influence	1. Accepts Feeling: Accepting and clarifying the feeling tone of students in a nonthreatening manner. Feelings may be positive or negative - Predicting or <i>recalling</i> feelings is included.	
		2. Praises or Encourages: Praising or encouraging student action or behaviour, Jokes that release tension, but not at the expense of another individual; nodding head, saying 'urn hm?' or 'go on are included.	
		3. Accepts or Uses Ideas: Clarifying, building, or developing ideas suggested by a student. As more of the teacher's own ideas come into play, shift to category	
		4. Asks Questions: Asking question about content or procedure with the intent that a student answers.	
	Direct Influence	5. Lectures: Giving facts or opinions about the content or procedures; expressing the teacher's own ideas, asking rhetorical questions.	
		6. Gives Directions: Giving directions, commands, or orders with which a student is expected to comply.	
		7. Criticizes or Justifies Authority: Making statements intended to change student behaviour from unacceptable to acceptable pattern: bawling out someone; stating why the teacher is doing what he/she is doing; extreme self-reference.	
Student Talk	8. Responds: Talk by students <i>i.e.</i> response to teacher. Teacher initiates the contact or solicits Students statement.		
	9. Initiates: Talk by students, which they initiate. If 'calling on' student is only to indicate who may talk next, observer must decide whether student wanted to talk, If so, use this category.		
Silence	10. Silence or Confusion: Pauses, short periods of silence, and periods of confusion in which communication cannot be understood by the observer.		

Table 1: Sample of the Flanders' Interaction Analysis Categories (FIAC)

Original source: Hopkins, W.&Moore, K.D. (1993). Clinical supervision: A practical guide to student teacher supervision. Madison: WI Brown &Benchmark Publishers.

4. Results

4.1. Research Question 1

To what extent does a teacher accept and clarify the feelings of students in a large class during a social studies lesson?

Item	JSS2		JSS3	
	N	%	N	%
Accept feelings e.g. Does the teacher accept suggestions put up by students in a non-threatening manner?	13	4.44	4	1.20

Table 2: Percentage Analysis for JSS 2 and JSS 3 as it relates to Research Question 1 (N = Number of Times the Observed Item Occurred)

Table 2 shows that the teacher responded 13 times to the acceptance and clarification of the feeling tone of students in a JSS 2 class amounting to 4.44% of teacher talk. In a JSS 3 class the figure is 4 for number of responses and 1.20% in terms of percentage of teacher talk.

4.2. Research Question 2

To what extent do teachers praise students in a large class during a Social Studies lesson?

Item	JSS2		JSS3	
	N	%	N	%
Praises e.g. asking others to clap for the student. Encourage e.g. Through material rewards such as biros, pencils, etc.	26	8.87	38	11.38

Table 3: Percentage Analysis for JSS 2 and JSS 3 as It Relates to Research Question 2

Table 3 indicates that 26 (8.87%) times the teacher talked in the class was geared towards praising the students in a JSS 2 Social Studies class, while that of JSS 3 class was 38 times amounting to 11.38%.

4.3. Research Question 3

To what extent do teachers in large Social Studies class accept or use students' ideas?

Item	JSS2		JSS3	
	N	%	N	%
Accepts or Uses ideas e.g. Does the teacher clarify or build on ideas suggested by students?	1	0.34	2	0.60

Table 4: Percentage Analysis for JSS2 and JSS 3 in Relation to Acceptance and Use of Student Ideas

In Table 4, the variable under investigation is the acceptance or use of students' ideas by the teacher in a large class-size during a Social Studies lesson. The Table indicates that only 0.34% of the ideas of students were used by their teachers in a JSS2 class and 0.60% for a JSS3 class. These figures show that teachers accept little or no ideas from their students.

4.4. Research Question 4:

How often do teachers ask questions in large Social Studies classes?

Item	JSS2		JSS3	
	N	%	N	%
Asks questions e.g. does the teacher asks questions based on the content	13	4.44	13	3.89

Table 5: Percentage Analysis for JSS 2 and JSS 3 as it relates to Research Question 4

Table 5 shows that in a JSS2 large class during a Social Studies lesson the teacher was able to ask questions 13 times amounting to 4.44%. In a JSS3 class during a Social -Studies lesson the teacher was also able to ask students questions 13 times but this amounted to only 3.89% of the number of times the teacher talked as it relates to the variable (ask questions) in a large class-size.

4.5. Research Question 5

What is the difference between teacher talk and students talk in a large class-size as it relates to classroom interaction during a Social Studies lesson?

4.6. Hypothesis

There is no significant difference between teacher talk and students talk in a large class-size as it relates to classroom interaction during a Social Studies lesson.

Status	n	\bar{X}	SD	df	t _{cal}	t _{crit}	Decision
Teachers	12	77.3	2.4				
				1330	124.7*	1.96	Significant
Students	1320	63.7	3.3				

Table 6: A Summary of T-Test Analysis of the Difference between Teacher Talk and Students Talk in a Large Class Size As It Relates to Classroom Interaction

*Significant, $P < 0.05$ Level of Significance

Table 6 shows that, the mean value for teachers was 77.3 and that of the students was 63.7 which indicated differences between teacher talk and students talk in a large class-size as it relates to classroom interaction during a Social Studies lesson. When these results were subjected to statistical testing, the result indicated that the calculated t-value (124.7) was greater than the critical or table t-value (1.96) at df of 1330 and 0.05 level of significance.

Hence the null hypothesis is therefore rejected (not accepted) in favour of the alternative. That is, there is significant difference between teacher talk and students talk in a large class-size as it relates to a classroom interaction during a Social Studies lesson in public secondary schools in Port Harcourt City Local Government Area of Rivers State.

5. Discussion

The results obtained after data analysis indicated that, there is difference between teacher talk and students talk in a large class-size as it relates to classroom interaction during a Social Studies lesson. When subjected to statistical testing, it was found that there is significant difference between teacher talk and students talk in a large class-size as it relates to classroom interaction during a Social Studies lesson in public secondary schools in Port Harcourt City Local Government Area of Rivers State. This result is however, expected in view of the fact that in a school system, the teacher does the teaching while the students do the learning and thus the impact or effect on them are not expected to be the same since their roles and objectives are different even though they are both involved in the teaching-learning processes.

Nevertheless, the findings are in consonance with those of Okpobiri (2006) and Yetunde (2007), who reported that because of the teaching methods adopted by teachers in a Social Studies class, teachers do more of the talking while students do far less talking thus imposing a monologue interaction in the classroom. The impact on students is usually negative and so could impact equally negatively on their (Students) learning. This, of course means that students were not given the opportunity to participate in the lessons effectively.

6. Conclusion and Recommendations

From the findings of this study it could be concluded that teacher talk is far more pronounced in large class-size where Social Studies is being taught to students than students talk. The pedagogical and educational implication of this scenario is that teaching and learning is teacher centred and so, students benefit less in such classes. However, it is recommended among others that:

- Teachers should adopt more students' centred methods such as discovery/inquiry in teaching.
- A ratio of 1:40 teacher to students is hereby suggested for secondary schools as stated in the National Policy on Education.
- On the coping skills of the teachers, a more positive approach should be adopted to establish some formality in class activities right from the beginning of the lesson. This could be in form of class routines and convention that would keep the student busy as soon as the lesson starts. Adequate planning and implementation of lessons would also keep them (students) busy throughout the lesson. To this end, seminars and workshop should be organized for teachers to sharpen their teaching skills.

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