

Impact of Overpopulation on the Academic Performance of Students in Public Secondary Schools

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Abstract: This study investigated the impact of overpopulation on the academic performance of students in public secondary schools. Overpopulation in educational institutions has emerged as a critical concern worldwide, particularly in developing countries. Therefore, the investigation involved the integration of various strategies, considering both cognitive styles and quantitative abilities as moderating factors. The strategies were crossed with two levels of cognitive style and three levels of quantitative ability which served as moderator variables employing a 4x2x3 pretest-posttest, quasi-experimental design. Data were collected using three validated and reliable instruments namely: the cognitive style test (CST), the quantitative ability test (QAT) and the achievement test in education (ATE) data were analyzed using the analysis of variance, multiple classification and scheffe post hoc analysis. The result showed a significant main effect of treatment on achievement and cognitive style on achievement. The most effective treatment condition was the problem-solving strategy analytical students achieved significantly higher than their non-analytical counterparts. These results have implications for improved instructional strategies and the influence of cognitive style on student achievement as well as for the teaching of difficult concepts in secondary schools.

Keywords: Overpopulation, Academic, Performance, Secondary, School, Students.

Introduction

With the increasing population, the number of school-going children is increasing much faster than the number of schools is increasing. The death of good schools and the greed of school authorities are filling up classrooms to the brim. Numbers of people complain about their children going to schools where children sit in classes where there is no place to keep chairs and tables.

Education plays a very important role in shaping the life of any citizen in his or her communities which he/she finds him/herself. The school or learning environment must be conducive for learning to be effective, in other words, a conducive environment assists students in their academics and paves the way to learn. The classroom is the heart of any educational system. No curriculum planning is complete without implementation and evolution, both of which are mainly carried out in the classroom. Most of the class activities take place while students are seated. The sitting arrangement is therefore too important to suffer the kind of neglect being experienced by many secondary schools in the country. Overpopulation makes sitting arrangements in a classroom become so complex in the sense that the number of students will be greater than the seats available.

The effect of overpopulation on academic performance is that education is the best legacy a nation can give its citizens, especially the youth. This is because the development of any nation or community depends largely on the quality of education of such a nation or community. It is generally believed that the basis for any true development must commence with the development of human resources much more than is said that formal education remains the vehicle for socioeconomic development and social mobilization in any society. Many problems exist in the higher schools of Nigeria, and many factors are also the root because the problems do not affect the school environment alone but replicate themselves in the larger society. The desire to be educated gave birth to the population school explosion and massive enrolment of students into higher schools. Overpopulation in the academic performance of students in school is the situation whereby the facility in school is not enough to cater for the proper teaching and learning.

This invariably means that the number of students admitted is more than the available materials and teachers in the school. Teacher overpopulation in higher schools as a study of the cause and effect would be highlighted and discussed in relatively few sentences. Also, the researcher makes it possible to proffer solutions to deal with the ailment of overpopulation in students in Nigerian institutions of learning. The study will use of interviews and questionnaires from people to collect necessary data for the completion of this work. This work is directed to find out the effect of overpopulation on the academic performance of secondary school students in the MMC Local Government Area of Borno State. In spite of the interest of the government and its effort to give quality education, it is sad to know that students' academic performance is not encouraged many reasons have been advanced to be responsible for this, and one of these reasons is overpopulation.

According to Olowo-Onyanemi *et al.*, (2003) in their book titled *An Introduction to Business Economics*, defined overpopulation as a situation when the people living in a given country are more than the resources or adequate resources such as land. Nwena (2000) defines overpopulation as when the people occupying a given geographical location are more than the available resources. Obi (2005) in his book *Philosophical Foundation of Education* page 143, said that urban schools are necessarily large in size there is usually a serious control problem with respect to overpopulation. It is really an established fact that overpopulation distorts effective learning and good management of any school. The rise in the population growth in secondary school has really affected the learning process of the students because of the inadequate facilities which include classrooms; overpopulation has generated poor performance in academic work and has turned the school environment into a playing ground instead of a learning environment.

Statement of Problem

The researcher finds it difficult to gather data as there is not enough data for this research. Time and finance are also another problem. But in order to accomplish this task, primary and secondary data were used. These include a personal interview, observation, questionnaires and review of published materials in the form of journals, newspapers, handouts, and textbooks for the gathering of information as it was limited to Lamisula Secondary School Maiduguri.

Objectives of the study

The main purpose of the study is to ascertain the impact of overpopulation on the academic performance of students of public secondary schools. Specifically, the study intends to:

- identify the student-teacher ratio in public secondary schools.
- identify the causes of the increase in student population in public secondary schools.
- find out the impact of the increase in student population in government secondary schools on the academic performance of students.
- Make recommendations on how to curtail the increase in the student population.

Significance of the study

This work is of great importance in the sense that, it will reveal the extent to which overpopulation has affected student's academic performance. Also, it reveals other factors affecting student's performance as a result of overpopulation. Furthermore, this study will help the school authorities and teachers to design some measures to curb the effect overpopulation has on the academic performance of students. To the educationist, education curriculum as school structures will be carefully observed to help students learn. More so, it serves as a project that would discover that overpopulation affects the academic performance of pupils.

Lastly, it will provide the relevant knowledge and serve as a research tool for those who need such materials.

Research questions

- What are the student-teacher ratios in government secondary schools?
- What are the causes of the increased student population at Lamisula Secondary School?
- What are the impacts of the increase in the population of students of Lamisula Secondary School on the academic performance of the students?

Methodology

The research method deals with the population for the study, sample and sampling techniques, an instrument for data collection and method of data analysis, which the researcher to arrive at a useful conclusion.

Research Design

The study is a descriptive survey design. This research design was considered appropriate because it is one of the best available research design for the purpose of describing conditions as they exist, considering the overpopulation of schools these days. It was designed in such a way as to obtain relevant information through the questionnaire.

Area of the Study

The area of study was Lamisula Secondary School Maiduguri, Borno State, Nigeria. The reasons for making this choice are that the researchers are conversant with Maiduguri educational zone. It will afford the researchers chances of getting respondents and easy collection of information necessary for carrying out this research work.

Population of the Study

The population of the study consists of students in Lamisula Secondary School Maiduguri, Borno State. There are a total number of nine public secondary schools in this zone. Statistics from the secondary school in the zone showed a total population of eight (8) teachers and five hundred and fifty-four (554) students.

Sample and Sampling Technique

The subjects for the study were drawn from secondary schools in Maiduguri Metropolitan Council. A simple random sampling technique was used to select the schools in the zone. The sample size of the population includes five hundred and fifty-four (554) students and eight (8) teachers. Furthermore, the members of the populations are homogenous with respect to the attribute being studied. According to Nkwocha (2007), when 44 the population size is very large, ranging up to 5000, 10% of the population might be used as a sample.

Instrument for Data Collection

In this study, the instrument we used for data collection was a structured items questionnaire. The questionnaire titled “Effects of overpopulation on academic performance of students in Lamisula Secondary School Maiduguri, Borno State”. The questionnaire has sections A and B. Section A is the personal data of the respondents such as name of schools, sex, age, marital status and so on. Section B is the study of the questionnaire such as questions and research questions in order to gather information from the respondents the questionnaire was developed based on the research questions. Again, a close format questionnaire with a four-point Likert type rating scale of Strongly Agreed (SA), Agreed (A), Strongly Disagreed (SD) and Disagreed (D) type of questionnaire was used as follows:

Strongly Agreed (SA) 4 points
Agreed (A) 3 points
Disagreed (D) 2 points
Strongly Disagreed (SD) 1 points

Validation of the instrument

The researchers designed the questionnaire after consulting literature and questionnaires designed by previous resources and researchers as a guild to the development of the instrument. The researchers gave the questionnaire to experts in the field and their supervisors for their criticism and validation. They checked the wording and items in the questionnaire. The researchers produced the final version of each instrument based on comments and suggestion

Data Presentation and Analysis

Research Question 1

What are the students – teacher ratio Lamisula Secondary School?

Table 1 Students – Teacher ratio in Government Secondary Schools

S/no	Item Statement	SA	A	D	SD	X	Remark
1.	The number of students per class in Lamisula secondary school is more than the normal student – teacher ratio of 30 students to one teacher.	295	105	85	55	3.2	Agreed
2.	Students in rural areas always migrate to urban secondary schools, thereby increasing the number of students in the urban secondary schools.	270	95	105	70	3.0	Agreed
3.	Teachers in the Lamisula secondary schools teach up to 55-60 students per class.	290	85	85	75	3.1	Agreed
4.	The total number of teachers in Lamisula Secondary School is limited, compared to the increasing population of students in the area.	341	136	44	19	3.5	Strongly Agreed
5.	There is a steady increase in the population of students in Lamisula Secondary School.	268	97	88	87	3.0	Agreed

Source: field survey 2022

From the above table, it is observed that 3.2 is at a greater number of respondents agreed that the number of students per class in Lamisula Secondary School is more than the normal student–teacher ratio of 30 students to one teacher. The cluster mean of 3.16 is greater than the benchmark which is 2.5 (that is, $3.16 > 2.5$). This implies that the number of students per class in Lamisula Secondary School is actually more than the normal student–teacher ratio of 30 students to one teacher. In item 1, a total mean score of 3.2 was obtained from the analysis. This shows a very significant value of the mean. In item 2, a greater number of respondents agreed that students in rural areas always migrate to urban secondary schools, and this resulted in a mean score of 3.0 which shows that it is statistically significant. Also, in item 3, 375 respondents agreed that teachers in public secondary schools teach up to 55 – 60 students per class. While the total number of 90 respondents disagreed, total mean score of 3.2 was obtained from the analysis. This is a significant mean score.

In item 4, a total number of 477 agreed with the assertion these constituted a mean score of 3.5, which is significant. On the other hand, a total mean of 63 respondents disagreed with the assertion, which is less than the number of respondents who agreed. This implies that it is significant.

In item 5, a total of 3.0 represents a total number of 365 respondents who agreed with the assertion, while a total of 175 respondents disagreed with the assertion, which shows a significant mean score.

It can therefore be concluded that the assertions are true.

Teachers in the government secondary schools teach more than the required number of students in a class, and is also justified that the number is on a steady increase.

Research Question 2

What are the causes of the increase in the students' population Lamisula Secondary School?

Table 2 Causes of increase in student population

S/no	ITEM STATEMENT	SA	A	D	SD	X	REMARK
1.	The lack of recreational facilities in school, which keeps students busy after studying, contributes to students.	305	105	85	45	3.2	Agreed
2.	Lack of family planning contributes to the increased population of secondary schools in the urban areas	305	85	85	70	3.2	Agreed
3.	Polygamy has immensely led to over increase in the number of issues per income.	315	100	85	45	3.3	Agreed
4.	Availability of infrastructural facilities in urban secondary schools contributes to an increase in students population.	325	65	111	39	3.3	Agreed
5.	Well-equipped laboratories and the building of hostels motivate people to school in the urban area.	225	165	75	75	3.0	Agreed
6.	Qualified teachers in government secondary schools also attract people to school in the area.	271	102	89	78	3.0	Agreed

Source: field survey 2022

The analysis of the data in Table 2 shows that a greater number of respondents agreed that the lack of recreational facilities in rural areas contributes to the migration of students from rural to urban areas. The mean of 3.2 shows a very significant value of the mean. A mean of 3.2 obtained in item 2 shows that it is statistically significance. Also in item 3, a greater number of persons agreed with the assertion and this resulted to a mean score of 3.3, which is significant. Furthermore, in item 4, 390 respondents agreed that the availability of infrastructure facilities in government secondary schools contributes to an increase in student population, while 150 respondents disagreed, given a total mean of 3.3, which is significant. The mean of 3.0 and 3.0 obtained in items 5 and 6 respectively were also significant.

In conclusion, the assertions are truly the causes of the increase in the students population in government secondary schools.

Research Question 3

What are the impacts of the increase in students' population on the Academic Achievement of students?

Table 3: The impact of the increase in students' population on the academic performance of students

S/no	ITEM STATEMENT	SA	A	D	SD	X	REMARK
1.	Students who study in overpopulated schools score low in the general examination.	450	90	0	0	3.9	Agreed
2.	Increase in student population in urban secondary schools lead to examination malpractice.	305	105	45	85	3.2	Agreed
3.	Increase in students population in government secondary schools encourages good student-teacher relationship.	35	45	413	147	2.2	Agreed
4.	Academic environment of overpopulated Lamisula secondary school are conducive for learning.	-	-	490	150	2.1	Agreed
5.	The problem of obnoxious attitude amongst the students increases as a result of an increase in the student population in urban secondary schools. Building of hostels motivates people to school in the urban area.	345	75	85	35	3.4	Agreed

Source: field survey 2022

The analysis of the data in Table 3 shows the number of respondents who agreed and those who disagreed with the assertion. The mean scores of 3.9, 3.2, 2.2, 2.1 and 3.4 respectively are significant. Since the mean score of the respondents who strongly agreed is greater than the one who did not agree and is very significant, the assertion is truly the impact on the academic performance of the students, in overpopulated government secondary schools.

Summary of the Study

This work on the effects of overpopulation on the academic performance of Lamisula secondary school educational area. It is basically designed to identify the student-teacher ratio at Lamisula secondary school, identify the causes of the increase in student's population, find out the impact of the increase in students population in Lamisula secondary school on the academic performance of students, and make recommendations on how to curtail increase in students' population. About three research questions were used in the research work.

The research work is composed of an introduction and the methodology involved in the use of a questionnaire with which researchers gathered data and they were analyzed and interpreted. A lot of findings were made in the course of the research, including that the students – teacher ratio in government secondary schools is between 55-60 students per teacher, and the population of students in the area is on the increase, with limited teachers, both in number and qualifications, lack of recreational facilities in rural areas, improper family planning, availability of infrastructural facilities in the government secondary schools etc. contributes immensely to the increase in students' population in government secondary schools. From the analysis of data collected through the research work, it could be deduced that students whose schools are overpopulated score very low in the general examinations, and they also involve themselves in examination malpractice and other social vices. Also, the overpopulation of secondary schools to a large extent contributed to traffic congestion in the urban areas.

Conclusion

This research work was designed to find out the student–teacher ratio in government secondary schools and identify the causes of the increase in students, and the population in government secondary schools. It is also the aim of the study to know if any difference exists between the scores of students whose schools are overpopulated and those that have a normal population. It was discovered that overpopulation is associated with a lack of dedication to duty by the teachers, a lack of student control, and a lack of serious studies on the part of the students. Four secondary schools in the Maiduguri education zone of Borno State were selected and used for research. Questionnaires were issued to all the secondary schools involved in the research by visiting them one after the other by the researchers. Data collected were analyzed using four four-point modified scales and calculated using the mean score statistical formula. The result obtained after analyzing the data revealed that the ratio of students to one teacher in public secondary schools is more than the normal student–teacher ratio of 30 students per teacher, and the teachers in public secondary schools teach between 55-60 students, the population in public secondary schools were analyzed, such as lack of recreational facilities in the rural areas, improper family planning, well – equipped laboratory and availability of infrastructural facilities in the government secondary schools. The study also showed that students whose schools are overpopulated perform poorly in the general examination compared to students whose schools have a normal population.

As a result of our findings, we persuaded the government, teachers, parents, and those responsible for education administration to put heads together in giving quality education to the students. Also, we persuaded the government to reduce the size of each class to 30 students per class in order to enhance students' academic excellence, and there should be a quota for enrollment into public secondary schools. It was suggested that there should be a replication of this research work in order to achieve more findings.

Recommendations

In view of the researcher's findings, the researchers wish to make the following recommendations that are necessary;

- The Ministry of Education should give a quota on the student's enrolment in public secondary schools.
- The class size should be limited to 30 students per class to ensure the academic excellence of the students.
- The government should provide infrastructural facilities in rural areas to avoid students in the area migrating to urban areas.
- The entrance examination into urban secondary schools should be high.
- The government should always organize a family planning program on newly wedded couples.
- Trained and qualified teachers should be sent to both the urban and rural secondary schools.
- More private secondary schools should be established in the urban areas to help accommodate students in the urban centres.

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