

PDF - THE LABORATORY BASED INSTRUCTION AND ACADEMIC PERFORMANCE OF STUDENTS IN THE TEACHING OF MATHEMATICS - researchcub.info **ABSTRACT**

The study attempted to investigate the relationship between laboratories based instruction and academic performance of students in the teaching of mathematics. In this study relevant related literature review was carried out under sub-headings. The research survey design was used in order to assess the opinions of the respondents with the use of the questionnaire and the sampling technique. A total of 120 (one hundred and twenty) respondents were sampled for the study. Two null hypotheses were formulated and tested in this study, the independent t-test for hypothesis one and three, while hypothesis two was tested using the Pearson product moment coefficient statistical tool at 0.05 level of significance. At the end of the analysis, the following results emerged: that there is a significant relationship between facilities and students' academic performance in the schools and there is a significant difference between the academic performance of students who attended schools where there are facilities and those whose schools do not have facilities. Based on the conclusion of the study, the following recommendations were made thus: School authorities should endeavour to supply adequate infrastructure to the schools, especially at the secondary and primary school levels and Government should ensure that the budgetary allocations for the educational sector are increased so as to enhance the acquisition of infrastructures in the school so that teaching and learning process will be improved upon.

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background to the Study**

Facility means the system which supports the operation of an organisation or an institution to carry its daily activities and to promote growth and development in such organisation or institution.

Facility refers to the entire environment of the school or an organisation, it refers to both the physical and material resources available to the students and teachers in the school to facilitate their learning and teaching process. The classrooms; the libraries and the laboratories for sciences are the three main areas of facilities identified in the school system or environment. (Onyeji, 1990)

Facilities enhance teaching and learning in schools. The state of facilities found in many Nigerian schools is very discouraging. The shortage of classroom in many schools is so acute that sixty pupils occupy classrooms that are meant for only forty pupils. Library facilities, books, classrooms

furniture, laboratories and workshops are grossly inadequate. Urevbu (2006) has observed that the physical environment of many primary schools in Nigeria presents a sorry sight with dilapidated buildings, dingy classrooms devoid of seats and writing tables, and dirty and non-functional or no toilets, the physical environment of such primary schools is not conducive for learning.

The inadequacy of facilities and learning resources is responsible for the decline in the quality of primary education. Equally worrisome is a sanitation where classrooms do not have science laboratories, and a large number of pupils go to schools without basic textbooks and other materials (Urevbu, 2006).

Mennhein and Steward (2002) had identified overcrowded classrooms as one of the causes of poor school performance and examination malpractices. Teaching and management also become difficult. It is a well-known fact that the facilities and equipment currently available are inadequate for the education in Nigeria.

If education in Nigeria must succeed, adequate classrooms have to be provided to accommodate the large number of pupils to cope with the expected surge in demand for education at both the primary and junior secondary levels of education. Furthermore, for the successful implementation of the educational programmes, adequate planning needs to be done. The scheme should not be concerned with only quantitative aspects.

Libraries and books give great assistance to both the teachers and the learners. In a situation whereby our secondary school students are left with no choice to make their text books as the only source of knowledge, the danger of exposing them to obsolete knowledge in old books donated by the British Council several years ago as one normally finds in the old secondary schools should not be overlooked. According to Dada (1994), any one who is familiar with some secondary school classrooms in Nigeria, especially in Lagos State, will agree that no meaningful teaching/learning activities can effectively take place in most of them, even if teachers are God-sent and the learners are pack of highly intelligent personalities. The problem is that where there are classrooms, they are overcrowded to the extent that classrooms originally meant for between 30 and 40 students, take between 60 and 80 students with a good number of them sitting on windows. In this situation, neither the teacher nor the students can move freely as expected in our secondary school classrooms. This is why many teachers do not give assignments to such large number of students regularly as expected. And this has affected students academic performance drastically.

On science laboratories, Olarewaju (1994) claims that only few schools have science laboratories which are well equipped to carry out scientific experiments in courses such as biology, physics, and chemistry. A good number of schools teach biology or chemistry as if they are non-science subjects without laboratory. Some other schools which are so during, teach the three branches of science without laboratories in the hope that they would use other schools' laboratories during their examinations or compel students to contribute money for purchase of science equipment through the school Parents Teachers Association (PTA). It should be noted that the greater failure rate in science because our schools lack the essential science to the students but rather, resort to the theoretical science without the use of laboratory. The contention is that the nation has been unfair not only to students in our secondary schools but also to herself. This is because no nation can develop technology through theoretical teaching of science subjects, under poor educational facilities, no meaningful teaching and learning can take place, and the normal refrain in the educational circle is that all is well with our secondary schools.

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