

Class Size and School Climate as Correlates of Secondary School Students' Scholastic Achievement in Itesiwaju Local Government Area of Oyo State, Nigeria

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ABSTRACT

Academic achievement of students especially at the secondary school level is not only a pointer to the effectiveness or otherwise of schools but a major determinant of the future of youths in particular and the nation in general. The medium through which the attainment of individuals and the nation's educational goals can be achieved is learning. Learning outcomes have become a phenomenon of interest to all and this account for the reason why scholars have been working hard to unravel factors that militate against good academic performance. The purpose of this study was to investigate the class size and school climate as correlates of secondary school students' scholastic achievement in Itesiwaju Local Government Area of Oyo State, Nigeria. Descriptive research design was used in the study. Six hundred respondents were selected from selected secondary schools in Itesiwaju Local Government Area of Oyo State, Nigeria. The respondents were measured with relevant standardized scale (instruments) which include class size scale, school climate scale and student performance scale with strong reliability coefficient and the data obtained was analyzed using Pearson Product Moment Correlation (PPMC) statistical analysis of the Statistical Package for the Social Science (SPSS). Two research hypotheses were raised and answered in the study. The result showed that there was significant relationship between the class size and secondary school students' scholastic achievement ($r = .883$; $P < 0.05$) and there was significant relationship between the school climate and secondary school students' scholastic achievement ($r = .755$; $P < 0.05$). On the strength of these findings, it was stressed and advocated the need for the public and private schools to develop moderate and appropriate class size for the student in the

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school and that they should make the school climate and environment conducive for the students' scholastic achievement and overall development in the school. This will help in reducing the level of poor students' scholastic achievement and drop out in the school.

INTRODUCTION

Academic achievement of students especially at the secondary school level is not only a pointer to the effectiveness or otherwise of schools but a major determinant of the future of youths in particular and the nation in general. The medium through which the attainment of individuals and the nation's educational goals can be achieved is learning. Learning outcomes have become a phenomenon of interest to all and this account for the reason why scholars have been working hard to unravel factors that militate against good academic performance (Aremu & Sokan, 2002). This phenomenon has been variedly referred to in literature as academic achievement, or scholastic functioning. Academic achievement of learners has attracted attention of scholars, parents, policy -makers and planners.

Adeyemo (2001) opined that the major goal of the school is to work towards attainment of academic excellence by

students. According to him, the school may have other peripheral objectives; emphasis is always placed on the achievement of sound scholarship. Besides, virtually everybody concerned with education places premium on academic achievement; excellent academic achievement of children is often the expectation of parents (Osiki, 2001). At the outset of an activity, students differ in learning as a function of their prior experiences, personal qualities and social supports. The latter includes the extent that parents and teachers encourage them to learn, facilitate their access to resources necessary for learning, and teach them strategies that enhance skill acquisition and refinement. Parent's academic aspirations for their children influence their children's academic achievements both directly and indirectly (Bandura, Barbaranelli, Caprara, and Pastorelli, 2001).

Class size is an important factor with respect to academic performance of students. There is a consensus among

researchers and educational scholars that, student's achievement decreases as class size increases. The effect of class-size on cognitive achievement has been debated and researched for many years, this has been inconclusive. Class size refers to educational tools that can be used to describe the average number of students per class in a school. In emphasizing the importance of class-size to the learning teaching process, ALL Nigerian Conference of Principals of Secondary Schools (ANCOPSS) recommended a maximum of forty students per class for efficient and effective teaching. Adeyemi (2008) in his findings on the influence of class size on the quality of output in secondary schools revealed that schools having an average class-size of 35 and below obtained better results in the secondary school certificate examination (SSCE) than schools having more than 35 students per class. Oguntoye (2011) in his own study found that class-size had negative coefficient with student's academic performance in examination. Earthman (2002) revealed that comfortable classroom temperature and smaller classes enhance teachers' effectiveness and provide

opportunities for students to receive individual attention, ask more questions, participate fully in discussion, reduce discipline problems and perform better than students in schools with larger classes. Fafunwa (2010) postulated that there is a gap in the quality of students in crowded classrooms, using inadequate and absolute equipment, disillusioned teachers. These combined deficiencies perhaps affected the student's academic performance. Adeyela (2000) found in her study that large class size is not conducive for serious academic work. Similarly, Egede (2005) pointed out that an alarming class-size of 100 or more students in the secondary schools leave the teacher overworked and therefore unable to exercise patience and positive attitude. They are also reluctant to offer extra time to build and help the intellectually ill students. Ojoawo (2008) in one of his major findings revealed that the class size was found to be negatively related to school academic performance.

Coleman (2002) pointed out that for enthusiastic teachers, "If classes are very large, it is important that as far as possible, the learners should be constantly busy and

the tasks should function continuously without repeated intervention from the teacher". Broozer and Rouse (2001) considered finance, class size, teacher quality, length of school year and technology as factors that can improve student's academic outcomes. They suggested that money is crucial when it comes to public schools matters and that small class size yield better achievement. Yara (2010) in his study on class size and academic achievement of student found out that the performance of students in large classes was very low (23%) compared to those students in smaller classes (64%). In many cases, the quality of the learning environment was strongly correlated with pupils' achievement in mathematics (Carron & Chau, 2006). Two aspects of school climate which are commitment to school and positive feedback from teachers have been shown to affect students' learning gain in Mathematics (Hoge, , Asimeng, Boahene, 2000). The social emotional Aclimate of schools is predictive of mother's reports of their school age children alcohol use and psychiatric problems (Kasen, Johnson & Cohen, 2000).

Furthermore, researchers have found that positive school climate are protective factors for boys and may supply high-risk students with a supportive learning environment, yielding healthy development, as well as preventing antisocial behavior (Haynes, 2000; Kuperminc et al., 2001). School climate research suggests that positive interpersonal relationships and optimal learning opportunities for students in all demographic environments can increase achievement levels and reduce maladaptive behavior (McEvoy & Welker, 2000). Regarding the roles of teachers and administrators, Taylor and Tashakkori (2006) found that a positive school climate is associated with increased job satisfaction for school personnel. Finally, student perspectives are important during the transition from one school level to another. Attending a new school can be frightening for students and this apprehension can adversely affect students' perceptions of their school's climate and learning outcomes. Therefore, research has shown that providing a positive and supportive school climate for students is important for a

smooth and easy transition to a new school (Freiberg, 2000).

Previous school climate research supports the conclusion that many factors comprise this complex concept. Furthermore, school climate can play a significant role in providing a healthy and positive school atmosphere. Freiberg (2000) note that the interaction of various school and classroom climate factors can create a fabric of support that enables all members of the school community to teach and learn at optimum levels. It has been found that a positive school climate can yield positive educational and psychological outcomes for students and school personnel. Similarly, a negative climate can prevent optimal learning and development (Freiberg, 2000; Kuperminc et al., 2001; Kuperminc, Leadbeater & Blatt, 2001; Manning & Saddlemire, 2004). Manning and Saddlemire (2004) conclude aspects of school climate, including trust, respect, mutual obligation, and concern for other's welfare can have powerful effects on educators' and learners' interpersonal relationships as well as learners' academic achievement and overall school progress. What children learn about

themselves in school through interactions is equally important as the academic knowledge they receive. School climate, if positive, can provide an enriching environment, both for personal growth and academic success.

Research has also revealed a relationship between school climate and student self-concept (Rutter, Felner, Seitsinger, Burns & Bolton 2009). And, a series of studies have shown a relationship between school climate and student absenteeism (Rumberger, 2007; Sommer, 2005) as well as being predictive of rate of student suspension (Crain & Moles, 2002). A growing body of research indicates that positive school climate is a critical dimension linked to effective risk prevention and health promotion efforts as well as teaching and learning (Cohen, 2001; Najaka, et. Al., 2002; Rand Corporation, 2004; Wang, et. al., 2003). Recent research reviews have shown that effective risk prevention and health promotion efforts are correlated with safe, caring, participatory and responsive school climate (Berkowitz & Bier, 2005; Catalano, et. al. 2002; Greenberg, et. al. 2003).

In order to fill the gaps in the literature presented above, the present study concentrates on class size and school climate as correlates of secondary school students' scholastic achievement in Itesiwaju Local Government Area of Oyo State, Nigeria.

Statement of the problem

As noted by some researchers, academic achievement difficulties of students have been a recurring concern for secondary school education worldwide for various reasons, including the assumption that an improvement in achievement implies a higher graduation rate and the financial implications of students' scholastic achievement (that is, the academic dismissal of students due to poor scholastic achievement) can have negative effect on the budget of education. In particular, poor scholastic achievement can influence the reputation of a school because academic success is associated with the quality of the school. The alarming rate of failure in our secondary schools is highly embarrassing.

In view of the points above, the study focuses on class size and school climate as correlates of secondary school students'

scholastic achievement in Itesiwaju Local Government Area of Oyo State, Nigeria.

Research Hypotheses

1. There will be no relationship between class size and secondary school students' scholastic achievement.
2. There will be no relationship between school climate and secondary school students' scholastic achievement.

METHODOLOGY

Research Design

The research design used in this study was descriptive study. It is going to ascertain the effects of the independent variables (class size and school climate) on the dependent variable (students' scholastic achievement) without manipulations. However, it is carefully observed and recorded information as it naturally occurred at the time the study was conducted.

Population

The population for the study comprises of all secondary school students in Itesiwaju Local Government Area of Oyo State, Nigeria.

Sample and Sampling Techniques

The sample for this study comprises 600 participants which were randomly selected from secondary school students Itesiwaju Local Government Area of Oyo State, Nigeria. Fifteen (15) secondary schools were selected from the Local Government through stratified random sampling techniques. Forty (40) secondary school students were selected from fifteen (15) selected schools through stratified random techniques balloting. On the whole, six hundred secondary school students were selected.

Instrumentations

The school climate scales constructed by Sukkyung, Meagan and Michael (2008) was adopted to be used as a measure of school climate questionnaire. It is a twenty items scale with responses anchored base on the four likert points. The estimate of internal consistency of the instrument was 0.81.

The Class size scale constructed by Ogunwuyi (2011) was adopted to be used as a measure of school climate questionnaire. It is a twenty items scale with responses anchored base on the four likert points. The

estimate of internal consistency of the instrument was 0.78.

A self constructed scale was used to measure the students' scholastic achievement. The scale was developed questions in English Language, Mathematics and Basic (General) Science. Also, writing of test items was followed by face and content validation. The face and content validation reduced the items from sixty eight to thirty, while item analysis reduced the test items from thirty to twenty five. The twenty five surviving items were administered on thirty students. Kuder-Richardson formula (KR) was applied to the scores in order to measure the internal consistency. The internal consistency coefficient was 0.79; and also a test-retest method was used on the students, with an interval of three weeks, which yielded scores that were paired and analyzed to obtain 0.82 as test-retest reliability coefficient for the test. Again, these were considered high enough to accept the test as a reliable research instrument.

Validity of Instrument

For content and face validity of the instruments that was designed for the study, the researchers gave the instruments to

experts in the field of educational psychology and experts in the area of Research and Statistics. After all these people had given their suggestions and made necessary correction on the instrument, the researcher then subjected it to the colleague who made the final corrections.

Reliability of Instrument

After content and face validity of the instruments, twenty (20) copies of the instruments was administered in order to re-establish the psychometric property of the instrument. The cronbach alpha technique was then used to test their reliability to ensure that they are consistent in measuring what they were designed to measure. The results from the analysis carried out yielded the following on each Variable:

1. Class Size Scale: 0.78
2. School Climate Scale: 0.80
3. Scholastic Achievement Scale: 0.76

Procedure for Data Collection

The instruments were administered to the participants on the day approved by the school authorities for the exercise. The researcher was assisted by trained research assistants in the administration and collection of the instruments. In each of

selected school, the administration and collection of instruments were done on the same day of administration. The instrument was administered on the participants in their various schools by the researcher with the support of the trained research assistants in the schools.

Data Analysis

The Pearson Product Moment Correlation (PPMC) statistical analysis was used to analyse the data.

RESULTS

Research hypothesis one: There will be no significant relationship between the class size and secondary school students' scholastic achievement

Table 1: THE SUMMARY TABLE SHOWING THE RELATIONSHIP

BETWEEN THE CLASS SIZE AND SECONDARY SCHOOL STUDENTS' SCHOLASTIC ACHIEVEMENT

Variabl e	N	Me an	SD	R	Si g	P
Class size	300	37.15	29.38	.883	.000	Signifi cant P<0.05
Students', Scholastic Achievement	300	67.11	47.93			

The table 1 above showed that there was significant relationship between the class size and secondary school students' scholastic achievement ($r = .883$; $P < 0.05$). This means that class size influence the level secondary school students' scholastic achievement.

Research hypothesis two: There will be no significant relationship between the school climate and students' academic performance

Table 2: THE SUMMARY TABLE SHOWING THE RELATIONSHIP BETWEEN THE SCHOOL CLIMATE

SECONDARY SCHOOL STUDENTS' SCHOLASTIC ACHIEVEMENT

Variabl e	N	Me an	SD	R	Si g	P
School Climate	300	15.26	16.83	.755	.000	Signifi cant P<0.05
Students', Scholastic Achievement	300	67.11	47.93			

The table 2 above showed that there was significant relationship between the school climate and secondary school students' scholastic achievement ($r = .755$; $P < 0.05$). This means that school climate influence the level of secondary school students' scholastic achievement.

DISCUSSION

The result of the first research hypothesis revealed that there was significant relationship between class size and secondary school students' scholastic achievement ($r = .883$; $P < 0.05$). This means that class size influence the level of

secondary school students' scholastic achievement. This is in line with the studies of Adeyemi (2008) in his findings on the influence of class size on the quality of output in secondary schools revealed that schools having an average class-size of 35 and below obtained better results in the secondary school certificate examination (SSCE) than schools having more than 35 students per class. Oguntoye (2011) in his own study found that class-size had negative coefficient with student's academic performance in examination. Earthman (2002) revealed that comfortable classroom temperature and smaller classes enhance teachers' effectiveness and provide opportunities for students to receive individual attention, ask more questions, participate fully in discussion, reduce discipline problems and perform better than students in schools with larger classes. Fafunwa (2010) postulated that there is a gap in the quality of students in crowded classrooms, using inadequate and absolute equipment, disillusioned teachers. These combined deficiencies perhaps affected the student's academic performance. Adeyela (2000) found in her study that large class

size is not conducive for serious academic work. Similarly, Egede (2005) pointed out that an alarming class-size of 100 or more students in the secondary schools leave the teacher overworked and therefore unable to exercise patience and positive attitude. They are also reluctant to offer extra time to build and help the intellectually ill students. Ojoawo (2008) in one of his major findings revealed that the class size was found to be negatively related to school academic performance.

The result of the second research hypothesis revealed that there was significant relationship between school climate and secondary school students' scholastic achievement ($r = .871$; $P < 0.05$). This means that school climate influence the level of secondary school students' scholastic achievement. This is in line with the studies of Taylor and Tashakkori (2006) found that a positive school climate is associated with increased job satisfaction for school personnel. Finally, student perspectives are important during the transition from one school level to another. Attending a new school can be frightening for students and this apprehension can

adversely affect students' perceptions of their school's climate and learning outcomes. Therefore, research has shown that providing a positive and supportive school climate for students is important for a smooth and easy transition to a new school (Freiberg, 2000). Previous school climate research supports the conclusion that many factors comprise this complex concept. Furthermore, school climate can play a significant role in providing a healthy and positive school atmosphere. Freiberg (2000) note that the interaction of various school and classroom climate factors can create a fabric of support that enables all members of the school community to teach and learn at optimum levels. It has been found that a positive school climate can yield positive educational and psychological outcomes for students and school personnel. Similarly, a negative climate can prevent optimal learning and development (Freiberg, 2000; Kuperminc et al., 2001; Kuperminc, Leadbeater & Blatt, 2001; Manning & Saddlemire, 2004). Research has also revealed a relationship between school climate and student self-concept (Rutter, Felner, Seitsinger, Burns & Bolton 2009).

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Conclusion and recommendations

Base on the findings of this study, persistent poor scholastic achievement of Nigerian secondary school students due to class size and school climate should not continue indefinitely. There is hope that with the improvement of class size and school climate, the situation can be changed for the better. The study discovered that class size

and school climate influence significantly the secondary school students' scholastic achievement in the society. As such, it is very crucial to improve these factors (class size and school climate) so as to eradicate the persistent occurrence of poor secondary school students' scholastic achievement in this great country, Nigeria. The public and private schools should be encouraged to

develop moderate and appropriate class size for the student in the school and that they should make the school climate and environment conducive for the students' scholastic achievement and overall development in the school. This will help in reducing the level of poor students' scholastic achievement and drop out in the school.

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