

Full Length Research Paper

Institutional factors as predictors of students' academic achievement in colleges of education in South western Nigeria

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Received 03 January, 2014, Accepted 27 August, 2014

The enhancement of the academic achievement of the Nigerian students has continued to engage the attention of educational practitioners and policy makers. This paper investigated institutional factors as predictors of students' academic performance in Colleges of Education in South-Western Nigeria. The study employed the ex post facto design using a survey design and a multiple regression model. The samples used for the study consisted of 1,100 (200 and 300 levels) National Certificate of Education (NCE) students in Federal, State and Private NCE-awarding institutions in South Western Nigeria, using stratified sampling techniques. The validated research instruments used for the study had the following psychometric properties: Cronbach alpha (α) [0.79 (students) and 0.73 (lecturers); Guttman split-half 0.78 (students) and 0.71 (lecturers; and Spearman-Brown equal length results were 0.69 (students) and 0.70 lecturers)]. The study found that a number of institutional factors: student-teacher-ratio, lecturers' interest and commitment, school calendar stability and to a lesser extent, teaching method, were significant predictors of students' academic achievement in the colleges of education sampled. On the other hand, school leadership, school plant and library facilities were not found to be significant predictors of academic achievement. The study proffered a number of recommendations to improve the quality of educational policy outcomes geared towards improving students' educational performance and hence enhance the achievement of national economics goals.

Key words: Institutional factors, academic achievement, Nigeria, ex post facto design, stratified random sampling, multiple regression.

INTRODUCTION

There has been a consistent record of remarkable failure in public examinations, especially, in basic subjects like English Language and Mathematics. In most external examinations in Nigeria today, the results are usually sub-optimal. Information emerging from examination

bodies in Nigeria (for example, WAEC and JAMB) shows that at every level of public examinations, a significant number of those who took part in the public examinations failed.

According to Uwadiae (in Dike 2007) the students'

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performance in the West African Senior School Certificate Examination (WASSCE) from 2001 and 2005 has declined with mass failure recorded in the two basic subjects that form the foundation for good academic achievement in tertiary institutions. This, no doubt calls for concern of stakeholders. Dike passed a guilty verdict on government and parents for students' failure in English Language and Mathematics.

Financial Standard (2008) in an editorial captioned '*Mass failure in WAEC Examination*' described the performance of students in the May/June 2008 examination conducted by the Council as disturbing. Only 188,442 candidates, that is, 13.7 per cent of 1,369,142 candidates who sat for the examinations made credit passes in English Language, Mathematics and three other subjects. A total of 232,755 results are yet to be released due to errors made by the candidates during registration. Of the pending results, 74,956 were being investigated for various examination malpractices. Available examination statistics from WAEC showed that the May/June 2008 WASSCE result was the worst performance in the last seven years. According to the Council's examination statistics, the average failure recorded in English Language and Mathematics between 2001 and 2005 was roughly 38 per cent of the total number of candidates that sat for the examination. It is upsetting that the results of the May/June 2008 WASSCE showed that over 80 per cent of the candidates did not score credit in English Language and Mathematics. The result showed that the number of candidates that obtained credit in English Language, Mathematics and three other subjects in the May/June 2008 WASSCE actually plunged by almost 6 per cent from the 2007 record. In the November/December 2007 examination, only 19.8 per cent scored the required five credits in the relevant subjects including English Language and Mathematics. The implication of this trend is that there is a lot of wastages at various levels of the country's educational system. These wastages are as a result of students' poor academic performance, which is a product of low achievement.

A number of other factors relating to examination bodies, government, parents, teachers and students have also been identified. Uwadiae (2000) attributed the poor performance of students in WASSCE to a lack of adequate preparation, shortage of qualified teachers, inadequate teaching materials, lack of good school environment and infrastructural facilities, inability to understand questions requiring high level thinking and shallow answers to questions due to poor command of English Language.

Government was expected to create an enabling environment for effective teaching and learning to take place through the provision of necessary infrastructure, facilities and qualified manpower. The poor performance was also linked to factors such as lack of equipped

laboratories, libraries, as well as population explosions in schools.

In addition to this, studies carried out by Onwioduokit (1996) and Olarewaju (1997) showed that insufficient manpower, lack of concentration during lessons, lack of commitment and motivation to work, lack of equipment, poor attitudes of students, poor understanding of concepts, inability to study well, neglect of assignment and pleasure seeking attitude contribute to low academic achievement.

In the same vein, Bulus (2001) observed that the problem of mass failure in public examinations is a matter of grave concern in the present millennium. Ukeji (1999) was also of the opinion that in Nigeria, decay in public examinations is particularly grave, debilitating, degenerating, deteriorating and dehumanizing.

Ojerinde (1998) attributed the causes of low academic achievement in schools to factors such as: school environment, home background, economic, political and intellectual capability, social and entry qualification. Furthermore, records of students' poor academic performance in some colleges of education are not encouraging. No matter how well conceived a country's developmental plans may be, they would be thwarted due to low academic achievement. Indeed, poor academic performance and high failure rate are inimical to the development of any society.

The trend of record of low academic achievement is not limited to secondary schools but also rampant among students of tertiary institutions. This has been a subject of major concern to educational planners, administrators, stakeholders in education and the students themselves. In support of this, Falola (2008) commented that a total number of 39 students of the Niger state owned University, Ibrahim Badamosi Babangida University, Lapai have been expelled from the institution over poor academic performance, while 2 others have been expelled for examination malpractices according to the Vice-Chancellor. Professor Muhammed Chado, the Vice-Chancellor, further stated that the students were dismissed for failure to meet up with the minimum academic requirements after two academic sessions on probation.

Previous research in related studies pointed out many factors that may account for students' academic achievement. Some of these researchers concentrated on the Nigerian environment (Osarenren, 1996; Ogunkola, 2000; Ojerinde, 1998; Fabiyi and Fagbamiye, 2001; and Kabiru, 2003); and other studies (Nelson and Soli, 2000; Garzuk and Chagok, 2001; Mark, 2002; Bazaragan, 2002; and Sucharita, 2004) were based on foreign countries.

However, most of these studies have left out institutional factors in relation to colleges of education, especially in Nigeria. This might be due to the piecemeal approach to the research into academic achievement in the colleges of education in the country. This gap in

knowledge should not be allowed to continue uninvestigated if the country is to achieve the educational objective of providing qualitative graduates to power Nigerian economic and political development programmes. The quality of output of any operation is a function of the input that is processed. Consequently, the quality of output of primary and secondary school certificate holders depends, to a large extent, on the quality of trained teachers from colleges of education. This factor is recognized by the Nigerian National Policy on Education (2004:33), which states that the minimum qualification for entry into the teaching profession shall be the Nigeria Certificate in Education (NCE).

Statement of the problem

The consequences of not addressing the problem of students' academic achievement are many. Students by their nature do get involved in very many activities outside their studies. When students lose interest in their studies, failure rate will be higher. They may engage in very many unlawful activities like cultism, robbery, prostitution, and tyranny, among other vices. Furthermore, students' low academic achievement may result in failure. When failure becomes persistent, students may easily withdraw from the school system. Research finding has also shown that economic deprivation could lead to failure.

In addition to this, students may engage in all forms of disruptive behaviour in and outside the school system. Drug addiction is one of the problems likely to be encountered by the students. Research reports confirmed that more students are into drug addiction. Reports of survey carried out in Lagos and Kano showed that cannabis, heroin and cocaine are widely abused by Lagos and Kano students. The NDLEA drug force reports showed that the common drugs abused mainly by smokers were marijuana (86.9%), cannabis (66%), alcohol (22%) cocaine (18%) and heroin (13.8%) (*Vanguard*, February 21, 1994).

However, excessive alcohol consumption creates numerous health problems and shortens lifespan. Heavy drinkers are at greater risk of cancer, ulcer, heart disease, muscle wastage, malnutrition and cirrhosis of liver. These problems could lead to death. Low academic achievement could also lead to joblessness after the students have graduated. Hence, the students may find it difficult to compete with their colleagues who have passed out of the school system with very good grades. This may lead to further problems like robbery, prostitution, general violence, alcoholism, smoking, drug trafficking, among others.

Achievement is important in education. Despite the huge resources expended by government, results in the required quantum and quality are not forthcoming. It is in

view of these problems that research is currently being done to look into the institutional factors that are responsible for students' academic achievement among students in colleges of education so as to enable policy intervention and engender better performance.

Aim and objectives of the study

The broad objective is to investigate the institutional factors responsible for students' academic achievement in colleges of education in South-Western Nigeria. The specific objectives are:

- i. to identify the level of students' academic achievement in federal, state and private colleges of education in that part of the country.
- ii. to undertake a comparative study of institutional factors as they affect students in colleges of education under study.

Research questions

The study was designed to provide answers to the following questions:

- i. To what extent are there any difference in the influences of components of institutional factors affecting educational achievement across federal, state and private colleges of education in South Western Nigeria?
- ii. What is the significance of institutional factors as predictors of students' academic achievement in the colleges of education in the South Western Nigeria?

The statement of the hypotheses

In order to answer the research questions, the following propositions are made:

- i. Institutional factors are not significantly related to students' academic achievement in colleges of education in South Western Nigeria.
- ii. There is no significant difference in the ranking of institutional factors among students.

Significance of the study

This study is significant in many respects. The study will help to reveal the components of institutional factors responsible for students' academic achievement in colleges of education in South-Western Nigeria. It will compare the relationship of the variables with one another as they affect students from the colleges used for

the study. Ranking of the factors will be done according to the perception of the students to make readers have an overview of the interrelatedness of the variables used for the study. This is of particular significance in a democratic environment where political parties attempt to improve educational performance in a competitive manner.

The study therefore offers empirical support to assist educational policy makers, administrators and educators in the educational planning and implementation. Finally, students would also benefit from the study through suggestions offered on ways of improving students' academic achievement by the various interactions of the components of institutional factors identified in the study and the study will lay a solid foundation which subsequent researchers in similar studies may build upon.

Scope of the study

The study investigated the institutional factors responsible for students' academic achievement in Nigerian Colleges of Education in South Western Nigeria. It also reported how the factors related to one another among the Colleges are studied.

Theoretical framework/conceptual models

Theoretical framework: The study of comparison of factors responsible for students' academic achievement in identified Nigerian colleges of education cannot be complete without considering the theoretical background on which some of the factors are based.

Consequently, this thesis is anchored on a number of fundamental theories. These include theory of achievement motivation; and Watson's theory of learning.

The theories are explained thus:

Theory of Achievement Motivation: This theory was propounded by McClelland (1951) of Harvard University. According to the theorist, the psychological study of the individual and the nation can contribute a great deal to the problem of economic growth.

Human beings differ from one another in the strength of achievement motive. It is this difference in the strength of motivation to achieve that is important in understanding the differences in the economic growth of nations. This theory can be related to the study and has been upheld by a number of researchers (Misanchuk, 1977; Dunham, 1973; and Ajila and Olutola, 2000) and is also relevant to the current study.

Watson's Theory of Learning: According to the theorist, the explanation of learning, understanding of brain and its functioning is very essential. This theory

holds that people's behaviour is learned by interacting with external environment stimuli. Emphasis is laid on providing conducive environment in school for efficient and permanent learning. Sufficient practice and exercise are necessary to make the bondages between S-R (stimulus-response) permanent. This theory has relationship with the current study because academic and social integration affects students' persistence and achievement in colleges.

REVIEW OF RELEVANT LITERATURE

Institutional factors and students' academic achievement

Student-Teacher Ratio: Bassi (2001) conducted a study on students under achievement in schools and colleges and found that overpopulated classes, institutional materials for teaching and learning and teachers' pedagogy are significantly related to students' academic achievement. The researcher discovered that the degree course content in most cases has parallel relationship with the content of primary and secondary school curricula. Therefore, people employed to teach at the primary and secondary school levels should attend orientation in order to equip them with the academic content to be learnt. The researcher also observed that lack of teaching aids in most schools and inadequate preparation of most teachers on the effective use of teaching or instructional aids create serious learning barriers that can result to under achievement or poor performance in subjects taught in schools.

The findings of Rivera-Batiz and Martin (1995) also agree with the previous researchers. Rivera-Batiz and Martin carried out a study on the consequences of overcrowding. They surveyed 599 students and 213 teachers in overcrowded schools and discovered that 75 per cent of the teachers noted that overcrowding negatively affected both classroom activities and instructional techniques. About 40 per cent of the students reported that they had problems concentrating in their classes when learning something new. The study also showed that teacher burnout was much more common in overcrowded buildings than in underutilized buildings. The study further revealed that teachers in overcrowded schools have little time at their disposal to cover the basic materials and could not have any time for further exploration.

Finally, smaller schools are better in terms of academic achievement. Class size is equally very important in school design, and drives a host of costly facility-related issues that are part and parcel of the schools buildings, planning, design, construction, costs maintenance and operation. Given that education is labour intensive, class size is a big factor in determining the number of teachers needed and hence, how much education will cost. While

social scientists are engaged in an intensive debate over the effects of class size on educational outcomes, there is a widespread popular belief that smaller classes are better.

Lecturers' Interest and Commitment: Interest also contributes to students' academic achievement. Interest has to do with a learner's predisposition to react positively in certain ways toward certain aspect of the environment and interest is usually developed in relation to and remains allied to more basic motives. Interest reaction to any situation depends upon the situation's potential or actual fulfilment of personal needs and goals. Students' interest in courses has been cited as a partial explanation for overall course ratings, occupational choice and achievement.

Adetoro (1999) investigated the institutional factors that affect students' academic performance and found that variables such as peer-group influence, home-school distance, age, experience of the learner; interest and commitment to learning affect students' academic achievement. He adopted the ex post facto research method for the study and documentary evidence and personal assessment were also used. The findings of the study revealed a significant relationship between teachers' qualifications and students' academic achievement. The study also showed that interest and commitment of teachers had highest correlation among urban and large schools, followed by semi-urban and medium schools with the least correlation in rural or small schools.

Instructor's knowledge of Subject and Enthusiasm for Teaching: In a remarkable study by Broder and Dorfman (1994), it was stated that factors such as instructor's knowledge of subject, preparation for class, ability to maintain interest and stimulate study, ability to clearly explain subject matter, enthusiasm for teaching, consideration and interest in students, ability to stimulate thinking, organization of lectures, tying information together and coverage of subject of examinations affect teaching quality. Other factors reported include: class characteristics, course characteristics, and instructor's characteristics, differences in instructor, course and class characteristics, perceptions of teacher and course attributes. The researchers used the statistical tools of ordinary least square to compute regression coefficients and descriptive statistics to examine the data. The findings of the study showed that students assume all courses to be of equal quality or potential. That is, students did not appear to favour one course over another in their overall ranking of the courses. In addition to this, the result of the study pointed to the fact that the students value the human capital component of classroom instruction. In other words, students place value on the courses' contribution to their human capital and future earning capacity.

Teaching Method - Instructional Effectiveness: Howard (1995) carried out an empirical research on the relationship of internal locus of control and female role models in female college students. The researcher found that instructional effectiveness and cooperative/competitive condition affect academic achievement. In support of this, Kingdom (1996) conducted a similar study on students' achievement and teachers' pay in India and found that teachers' remuneration affected students' academic achievement.

Teachers' attitude may make students to run away from school. Moreover, adopting a bad methodology, cursing and calling the students by derogatory names may lead to acts of truancy and absenteeism on the part of the students. Osarenren (1998) further observed that some teachers do not prepare their lessons well. The content of the lesson is in most cases not adequate to keep students in class. As a result of the inadequacy in the preparation of subject matter, students may loiter along the school compound looking for an opportunity to leave the school. Some of the students do not bother to come to school because they know their teachers will not teach well. This practice is also rampant among students of tertiary institutions.

School Leadership: Adegoroye (2004) conducted an investigation on the influence of Nigerian secondary school principals' personal attributes on teachers' job fulfilment and satisfaction. He found that friendliness at work, grasp of organizational policies, observing hierarchical structure, giving incentives for job performance are significantly related to the personal attributes of principals. The researcher used means, correlation coefficient in analyzing data. The findings of the study show that when teachers are satisfied with their boss attitude and promotion prospects, they will put in their best and ensure students' academic progress.

In a study conducted by Evans (2001) on morale, job satisfaction and motivation among education professionals, it was found that school leadership management, salary, educational policy and reforms, conditions of service significantly contribute to the satisfaction and motivation among education professionals. The researcher did a comparative analysis of the variables of study. He observed that the greatest influences on teacher morale, job satisfaction and motivation are school leadership and management.

School Calendar Stability: Pietro (2009) investigated the impact of academic calendar stability on students' performance in the United Kingdom. The researcher found that disruption in two-semester calendar structure had a negative impact on final examination scores. This result agrees significantly with the earlier findings in Patterson and King (2004).

In a similar study, disruption in school calendar stability

was found to increase the risk of academic failure and hinder educational achievement (National Centre for Mental Health Promotion and Youth Violence Prevention, 2010). Cooper et al. (2003) studied the effects of modified school calendar on students' academic achievement and on school and community attitudes. The researchers reported little or no effect of modified school calendar on students' academic achievement.

Savas and Gurel (2014) reported in a study of the variables affecting the success of students in Turkey. The researchers found that students who attended private institutions for a longer time are more successful than the ones who studied for a short time. In other words, the longer students attended private education institution, the higher their academic achievement is. The finding is consistent with those of Savas et al. (2010). In Nigeria, the School Calendar in private schools is generally more stable than in public schools and may tend to affect academic achievement accordingly.

School Plant: Good school environment is an essential ingredient in the attainment of quality education. Conducive learning environment improves students' performance in class work and examinations. Ukit (2003) defined school environment as the aggregate of external conditions or factors, which influence the activities of educational institutions. These conditions often include: economic, legal, political, socio-cultural, technological and physical factors.

In the same vein, Uwadiae (2001) described school environment as conditions (natural and man-made) prevalent in the school and include: climate, building and their structural designs, facilities/equipment for teaching and learning, library materials, recreational facilities, leadership style of the school management and the level of academic planning and involvement. Good school environment is very essential for the attainment of quality education and could influence students' academic performance. Good environment can lift one up and promote one's all round development and bad environment can let one down and make a person live a hopeless life.

In support of this, Mark (2002) reported that clean, quiet, safe, comfortable, and healthy environments are an important component of successful teaching and learning. According to him, poor indoor air quality makes teachers and students sick and sick students and teachers cannot perform as well as healthy ones.

Moreover, Sucharita (2004) carried out a study on the effect of school climate on social intelligence and found that qualities of the school environment interacted with general intellectual ability of the students in the process of development of their social intelligence. He employed the usage of 2 by 2-factorial design in his research where the two levels of intelligence interacted with the two types of school environment. The findings of the study showed

that average students in enriched climate scored significantly higher on social intelligence tests than average students in non-enriched school climate. In addition to this, it was found that temperature and humidity affected indoor air quality, which invariably affected students' academic outcomes.

Kennedy (2001), McGovern (1998), and Moore (1998) observed that schools need especially good ventilation because children breathe a greater volume of air in proportion to their body weight than adults do. One of the first symptoms of poor ventilation in a building is a build up of carbon dioxide caused by human respiration. When carbon dioxide levels reach 1000 parts per million, headaches, drowsiness and inability to concentrate ensue. In support of this, Myhrroid et al. (1996) found that increased carbon dioxide levels in classrooms owing to poor ventilation decreased students' performance in tests and increased students' complaints of health problems as compared to classes with lower carbon dioxide levels.

Good acoustics are also fundamental to good academic performance. Lemaster (1998) reported three key findings that higher student achievement is associated with schools that have less external noise, that outside noise causes increased student dissatisfaction within their classrooms, and that excessive noise causes stress on students.

There is also an evidence of cumulative effect of excessive classroom noise on a student's academic achievement level. These problems are more acute for students who may have hearing impediments and may affect the detection of such impediments (Nelson and Soli, 2000).

Fisher (2000) buttressed this view by observing that high noise level causes stress. Noise levels influence verbal interaction, reading comprehension, blood pressure and cognitive task success and may induce feelings of helplessness, inability to concentrate and lack of extended application to learning tasks.

Physical and Material Resources: Ayodele (1999) investigated resource situation in Nigerian schools as correlate of students' academic performance and found that inadequate resource situation in schools for teaching and learning may lead to low students' academic achievement. The study further showed that a positive and significant relationship exists between resource situation and students' academic performance. The findings of the study showed that there is no significant difference in the resource situation between old generation and new generation schools. The study also showed a positive and significant relationship between physical and material resource situation and students' academic performance. The findings of this study are consistent with those of Oni (1992), which stated that the presence of unqualified teachers in the school system

has the tendency to cause low students' performance since qualified teachers have been seen as the drivers of effective educational system.

Adequacy of Educational Infrastructure: Ajila and Olutola (2000) reported on impact of parents' socio-economic status on university students' academic performance and found that availability of suitable places to read, adequacy of educational infrastructure and well equipped laboratories had significant contributions to students' academic performance. The researchers made use of descriptive survey design. A self-designed questionnaire was also used and data analysis was done using analysis of variance.

Udoh (1990) holds consistent view with Fabiyi and Fagbamiye (2001) who state that physical and material resources contributed significantly to students' academic achievement. These findings are also in line with that of Ayodele (1999) who states that inadequate resources for teaching and learning may lead to low students' academic achievement. In addition to this, Bassi (2001) holds consistent view with Oni (1992) who states that the presence of unqualified teachers in the school system has the tendency to cause low students' academic achievement.

Library Facilities: Wilkins (2002) conducted an empirical investigation on linking resources to learning. The report suggested that resource management contributed to higher academic achievement. According to the researcher, pupils' number should be given increased emphasis as the determinants of school budgets with the intended consequences.

In a study by Fabiyi and Fagbamiye (2001) on teaching resources and teaching effectiveness in selected colleges of education in Nigeria, it was discovered that teachers' welfare package, staff development scheme, promotion prospects are significantly related to students' academic achievement. The researchers made use of Pearson moment correlation coefficient and multiple linear regression in data analysis. The result of the findings showed that only one out of the six institutions used for the study recorded a significant relationship between the usage of physical and material resources and teaching effectiveness. The result further showed that students' achievement scores in mathematics, integrated science, English language and social studies are not significantly related to teaching effectiveness as this is confirmed for mathematics, English language and technical education, whereas teaching effectiveness is significantly correlated with students' achievement in integrated science and social studies. The findings also revealed no significant relationship between resource availability and their utilization. However, these findings are not consistent with those of Udoh (1990), which observed that the use of physical and material resources contributes significantly

to students' academic achievement. To buttress these findings, Oladele (1985) also observed that the quality, quantity and use of physical facilities could influence teaching effectiveness. However, it can be summed up that if physical and material resources were optimally used, teaching effectiveness would be better enhanced. The non-significance of utilization of resources on teaching effectiveness may not be unrelated to the sense of frustration experienced by teachers as a result of general inadequacies in the availability of resources. The study also showed that subject areas that recorded acute shortage of teaching personnel had the highest failure rates at the senior secondary school level.

Furthermore, Wilkins (2002) and Bazargan (2002) hold similar views that students' enrolment number, and students' population, contributed significantly to students' academic achievement. Moreover, McLaughlin and Driori (2002)'s findings are consistent with that of Evans (2001) who states that principal's leadership ability or school leadership management had a significant impact on students' academic achievement.

Finally, the findings of Franklin (1995) that institutional environment and organizational characteristics contributed to students' academic achievement are consistent with that of Broder and Dorfman (1994) who states that enthusiasm for teaching, consideration, interest in students, instructor's characteristics had significant contribution to students' academic achievement.

RESEARCH METHODS

Research design

The research design employed for the study is *ex-post facto* using a survey design and a multiple regression design. This is because some of the variables of the study are already in existence. Asika (1991) stated that *ex-post facto* research is a systematic empirical study in which the researcher does not in any way control and manipulate the independent variables because the situation for the study already exists or has already taken place. The author further opined that the researcher could not manipulate the independent variables because they cannot be manipulated. However, the researcher can indeed create or contrive a situation that will generate the requisite data for analysis.

Population

The population for the study consisted of 1,900 lecturers and 12,420 200 Level and 300 Level NCE students in federal, state and private NCE-awarding institutions in South Western Nigeria: Ekiti, Lagos, Ogun, Ondo, Osun and Oyo States.

Sample and sampling technique

The sample for the study was drawn from the Colleges of Education in each of the six States of the South Western Nigeria. The population was stratified into the homogeneous groups of federal, states and private Colleges of Education. Subsequently, random

sampling technique was applied to pick the institutions for the study. In all, there are seventeen Colleges of Education in the population. On the basis of this selection process, the sampled Colleges of Education are listed in Appendix 1 of this research report.

Some States (Osun, Ekiti and Ondo) have no privately owned Colleges of Education at the time the study was conducted. Hence, the sample of privately owned Colleges of Education is limited to two States.

One hundred students were randomly selected for the study from each of the institutions and questionnaires were administered on them. In addition to this, questionnaire was administered on at least ten lecturers from each of the institutions in order to make the data robust.

The questionnaire required the students to rank the institutional variables that affect students' academic achievement from the most significant variable to the least. Students were also required to state other factors that are not listed in the instrument, which affect their academic achievement. Opinions of lecturers were also sought on factors they thought were likely to affect students' academic achievement.

Research instruments

Two similarly structured questionnaires were used for the study. The first questionnaire was designed for the students while the second was targeted at the lecturers. The instruments are 4-point likert scale questionnaires aimed at eliciting the respondents' perceptions of institutional factors that are likely to affect students' academic achievement in the State, Federal, and Private Colleges of Education in South Western Nigeria.

Part One of the questionnaires sought information on demographic data such as sex, age, name of institution, department, state of origin, level of schooling, qualifications, residential area, parental social-economic status, grade point average in school tests, exercises and assignments.

Part two of the questionnaire required the respondents to supply information on institutional factors that affect their academic achievement. The data gathered were analyzed using multiple regression.

Part three of the questionnaire requested the respondents to rank the institutional variables affecting students' academic achievement from the most highly ranked to the least. Such ranking enabled the comparison of the multiple regression results with the ranking of the variables by respondents. This aspect of the study represented a significant contribution of the study to knowledge as the theoretical multiple regression results are evaluated side by side with the rankings.

Instrument validation

Content Validity. Validation is the process of ensuring the degree of effectiveness of each of the items in the research instrument. It is the process of determining the extent to which each of the items measures what it is designed to measure. The draft questionnaires were given to some advanced students in two Colleges of Education who were to serve as the representative sample of the population of subjects to be used for the study. Their comments were noted and these were considered in preparing the second draft. This approach was necessary to ensure that the items were clear enough and easily understood and to know whether there was a need to include more items.

The draft questionnaires were also given to lecturers in Olabisi Onabanjo University who are experts in the fields of education and

institutional management to enable them make their inputs. These were subsequently incorporated before the final questionnaires were printed.

Reliability of the Instrument: Reliability is necessary to ascertain whether the instruments are capable of reproducing consistent or similar results after a number of repeated administrations. Copies of the final drafts were administered to 30 students and 10 lecturers in Colleges of Education. Their responses were found to be consistent and reliable, after two administrations. Reliability tests were also carried out to determine whether the measuring instruments were consistent and reproducible. The results are Cronbach alpha (α) 0.79 (students) and 0.73 (lecturers); Guttman split-half 0.78 (students) and 0.71 (lecturers); and Spearman-Brown equal length results are 0.69 (students) and 0.70 (lecturers). Given these results, the questionnaires were considered reliable for the study.

Data collection

Primary and secondary data were generated and used for the study. The two sources of data were exploited to ensure that reasonably robust and reliable analyses were made.

Primary data collection

Primary data were derived from respondents' opinions on the items in the questionnaires to be administered. This was used to ensure that the researcher got direct information from respondents. The method would afford the researcher the opportunity to structure the questions in such a way that respondents would understand them. In addition to this, their responses would be easier to manage because the questionnaire items are structured.

This method however is not without some shortcomings. The researcher was not able to retrieve the entire questionnaire sent out. Respondents might have reacted similarly as the instruments were administered at the same time in the same environment. In addition to this, respondents might have been biased in their responses and this might make the findings to be subjective. However, the administration of the questionnaire was carried out as independently as possible from one respondent to the other. Also, the benefits of using the questionnaires appeared to outweigh the costs to be incurred.

Secondary data collection

The data realized from this source consist of relevant data not directly prepared for the current study. The most relevant of these is the students' Cumulative Grade Point Average (CGPA), which constitutes the dependent variable. The two sources of data (primary and secondary) were used in order to generate sufficient facts for the study.

Method/procedure for data analysis

Model development for the components of Institutional Factors Responsible for Students' Academic Achievement. Correlation and multiple regression techniques were employed to analyze the data obtained. These techniques have been employed in many prior studies (De Berard et al., 2004; Adesoji and Oladele, 2003; Fabiyi and Fagbamiye, 2001; Pascarella and Terenzini, 1996; Kallio, 1995). The model regressed ACADACH on institutional factors thus:

$$ACADACH = \beta_0 + \beta_1STRATIO + \beta_2LINTCOM + \beta_3TEACHMET + \beta_4SCHLEAD + \beta_5SCALENDS + \beta_6SCHPLANT + \beta_7LIBFAC + \epsilon \tag{1}$$

- Academic achievement (ACADACH)
- Student-Teacher Ratio (STRATIO)
- Lecturers' Interest and Commitment (LINTCOM)
- Teaching Method (TEACHMET)
- School Leadership (SCHLEAD)
- School Calendar Stability (SCALENDS)
- School Plant (SCHPLANT)
- Library Facilities (LIBFAC)
- β_0 = constant term
- ϵ = residual term

The variables of this study are operationalized by representing the dependent variable (Academic Achievement) by the cumulative grade point average collected from the students' records in the various institutions. The data for the independent variables are gathered through the responses to the questionnaire items.

Statistical tools/analytical procedure of survey data

The statistical tools that were used for the survey part of this study were means, variances and standard deviations. These enabled the researcher compare the variables identified easily. Parametric and non-parametric statistics were used to test for differences in perceptions of some of the independent variables while the differences between two means scores in pairs were also tested. Kendall's W (coefficient of concordance) was used. In addition, various weights were attached to the rankings of the institutional factors affecting students' academic achievement collected through Part Three of the questionnaires. The weights used are:

Ranking	Weights
7	7
6	6
5	5
4	4
3	3
2	2
1	1

These weights enabled the calculation of the total scores per variable, which were subsequently ranked for the purpose of determining the rank-order correlation coefficients.

RESULTS

Research Question 1: To what extent are there any difference in the influences of components of institutional factors affecting educational achievement across federal, state and private colleges of education in South Western Nigeria?

Table 1 presents the descriptive statistics for 1,100 students' ranking of the seven components of institutional factors proposed to affect academic achievement (student-teacher ratio, lecturers' interest and commitment, teaching method, school leadership, school calendar stability, school plant and library facilities).

The ranks range from a minimum of 1.00 to a maximum of 7.00. This range of ranks applies to all the components

of institutional factors. The table reveals that teaching method with a mean rank of 5.0973 and a standard deviation of 1.76215 is rated as the most important institutional variable.

The next two highly ranked variables are lecturers' interest and commitment (mean = 4.9591; standard deviation = 1.72261) and student teacher ratio (mean = 4.7591; standard deviation = 1.82669). The least ranked components of institutional factors are school calendar stability (mean = 4.2791; standard deviation = 1.92236) and school plant (mean = 3.8445; standard deviation = 1.96799) respectively.

The inferential statistical test -- Kendall's W Test (coefficient of concordance) is applied to determine if there is any significant difference in the various rankings of institutional factors. The resulting statistic represents the level of agreement among the groups of Federal, State and Private colleges of education students in the South Western Nigeria. The result of this test is presented in Table 2.

From Table 2 Kendall's coefficient of concordance is 0.064. The p-value is 0.000. This shows that there is a significant difference among the rankings of the various components of institutional factors. The components are significantly different in accounting for students' academic achievement.

The descriptive statistics for lecturers' ranking of the seven components of institutional factors proposed to affect academic achievement (student-teacher ratio, lecturers' interest and commitment, teaching method, school leadership, school calendar stability, school plant and library facilities) are presented in Table 3.

The lecturers from the three groups of colleges of education, like their students are in agreement in their ranking of three institutional variables (lecturers' interest and commitment with a mean of 5.3727 and standard deviation of 1.61336; student-teacher ratio giving a mean of 5.3273 and a standard deviation of 1.67611; and teaching method with a mean and standard deviation of 5.2000 and 1.51929 respectively). In contrast, the students and the lecturers also returned a similar ranking of the two relatively insignificant institutional variables. These are school calendar stability (mean = 4.5455; standard deviation = 1.65145) and school plant (mean = 3.9273; standard deviation = 1.67392).

Kendall's Coefficient of Concordance for lecturers' ranking of the components of institutional variable yields 0.146 and a p-value < 0.001. The resulting statistic represents the level of agreement among the lecturers in Federal, State and Private colleges of education in the South Western Nigeria. The result of this test is presented in Table 4.

This suggests that there is a significant difference among the rankings of the various components of institutional factors. The components are significantly different in accounting for students' academic performance.

Table 1. Descriptive Statistics of Institutional Factors (Students).

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
stratio	1100	4.7591	1.82669	1.00	7.00
lec_int	1100	4.9591	1.72261	1.00	7.00
teacmeth	1100	5.9073	1.76215	1.00	7.00
schlead	1100	4.3909	1.76919	1.00	7.00
schcal	1100	4.2791	1.92236	1.00	7.00
schplant	1100	3.8445	1.96799	1.00	7.00
libfacil	1100	4.2318	2.09811	1.00	7.00

Source: SPSS output.

Table 2. Kendall's W Test (Students' Ranking of Institutional Factors).

Ranks	
	N
stratio	4.23
lec_int	4.53
teacmeth	4.73
schlead	3.80
schcal	3.73
schplant	3.23
libfacil	3.74

Test Statistics	
	N
N	1100
Kendall's W ^a	.064
ChiSquare	425.188
Df	6
Asymp. Sig	.000

a. Kendall's Coefficient of Concordance.

Source: SPSS output

Research Question 2: What is the significance of institutional factors as predictors of students' academic achievement in the colleges of education studied in the South Western Nigeria?

The analysis undertaken to answer the second research question proceeds to regress CGPA on the components of institutional factors. The results of the multiple regression model for the CGPA (a measure of academic achievement) and the seven components of institutional factors are shown in Table 5. It is evident that the Variance Inflation factor (VIF) statistics are sufficiently low as to preclude the existence of multicollinearity.

The adjusted R^2 shows that 63% of the variance in the

academic achievement of colleges of education students is accounted for by the independent variables included in this regression model. The regression model coefficients in Table 2 shows that STUDENT-TEACHER RATIO ($p < 0.01$), LECTURERS' INTEREST AND COMMITMENT ($p < 0.00$), and SCHOOL CALENDAR STABILITY ($p < 0.01$) were significant in explaining academic achievement. The result of the regression further suggests that SCHOOL LEADERSHIP ($p > 0.05$), SCHOOL PLANT ($p > 0.05$) and LIBRARY FACILITIES ($p > 0.05$) were not particularly significant as predictors. With the above results, hypothesis ii which states that there is no significant relationship in institutional factors and academic achievement of students in Colleges of Education in South Western Nigeria cannot be accepted.

DISCUSSION

This study found that a number of institutional factors (student-teacher ratio, lecturers' interest, school calendar stability and to a lesser extent teaching method) were significant predictors of academic achievement in the Colleges of Education. The findings of the current study, that student-teacher ratio is a predictor of academic achievement. It was corroborated by Bassi (2001) and Rivera-Batiz and Martin (1995). The significance of this predictor cuts across both developing and industrialized countries to underline its importance.

Lecturers' interest and commitment is not only found to be significant in the current research, it was also upheld by Adetoro (1999). In addition, teaching method was found to be a significant predictor of academic achievement in the current study at ten per cent level.

This corroborated the findings in Howard (1995), Kingdom (1996) and Osarenren (1998).

A number of other institutional factors were not found to be significant predictors of academic achievement in this study, for example, school leadership. The finding in the

Table 3. Descriptive Statistics of Institutional Factors (Lecturers)

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Istratio	110	5.3273	1.67611	1.00	7.00
lintcom	110	5.3727	1.61336	1.00	7.00
lteacmeth	110	5.2000	1.51929	1.00	7.00
lschlead	110	4.6818	1.45218	1.00	7.00
lschcal	110	4.5455	1.65145	1.00	7.00
lschplant	110	3.9273	1.67392	1.00	7.00
llibfacil	110	4.9182	1.70876	1.00	7.00

Source: SPSS output.

Table 4. Kendall's W Test (Lecturers' Ranking of Institutional Factors).

Ranks	
	Mean Rank
Istratio	4.71
lintcom	4.81
lteacmeth	4.49
lschlead	3.60
lschcal	3.61
lschplant	2.64
llibfacil	4.14

Test Statistics	
N	110
Kendall's W ^a	.146
Chi-Square	96.274
df	6
Asymp. Sig	.000

a. Kendall's Coefficient of Concordance

Source: SPSS output

current study was contrary to those of Adegoroye (2004) and Evans (2001).

Although Lemaster (1998) found school plant to be a significant predictor of academic achievement, the current study did not find the factor to be statistically significant. This might be due to environmental difference in the study designs.

Policy Implications of Research Findings: The purpose of Nigerian educational policy is to provide the needed manpower development to stir the nation's socio-economic exigencies left by the colonial masters. The non-directional policy issues have been the bane of the educational system particularly with reference to the curriculum structure. So far, the country has had three different systems borne out of incessant changes in policies: 9-5-4 (nine years of elementary education, five

years of secondary and four years of tertiary education); 6-3-3-4 (six years of elementary education, three years of junior secondary, three years of senior secondary and four years of tertiary education); and now 9-3-4 (nine years of basic education, three years of secondary and four years of tertiary education). It has become a tradition to abandon policy mid-stream. The effect of this policy somersault cannot be over-stressed. Lack of initiative, innovation, skills, independent/constructive mind and creative ideas has been held to characterize the current system of Nigerian education. This system encourages memorization in learning processes and theoretical explanation to areas that need practical illustration. The system favours cognitive development above other domains of education. Bolaji (2007) argues that Nigeria's school system is geared toward building students with cultural orientation with deficiency in problem-solving approach that requires more than simply recall or performance of rudimentary skills. Philosophers in the field of education are yet to come to terms with a national ideology with the cardinal objective to build a self-reliant nation contrary to what is apparent in the present system of education. Oduolowu (2001) opines that no positive impact whatsoever will be made with a system that promotes theoretical knowledge, places emphasis on paper certification rather than stressing the development of innate abilities in a learner evolving through training and practice. In other words, there exists an aberration in policy formulation and implementation. The need to revisit the existing educational policy has become necessary; hence the urgent need to save Nigeria's educational system from the gully of irrelevances, hopelessness that manifest in poor academic achievement. In all these policy changes, the services of high quality graduates of Colleges of Education are of great significance.

Conclusion

The current study has been able to ascertain some relevant institutional variables that educational stakeholders

Table 5. Model 1: Regression of CGPA on the Components of Institutional Factors.

Model		Coefficients ^a				Collinearity VIF
		Unstandardized Coefficients B	Std. Error	t	Sig.	
1	(Constant)	1.614	.378	4.274	.000	
	log_student-teacher_ratio	.681	.191	3.570	.000	2.300
	log_lecturer_interest_commitment	.468	.095	4.920	.000	1.000
	log_school_leadership	.612	.367	1.668	.961	1.210
	log_school_calender_stability	.274	.116	2.370	.020	1.175
	log_school_plant	-.149	2.340	.061	.949	1.000
	log_library_facilities	.062	.342	.181	.856	1.323
	log_teaching_method	.778	.200	3.880	.096	1.008

a. Dependent Variable:cgpa

Model Statistics: Adj. R² = 0.63; F(7, 30.89) p < 0.001.

Source: SPSS Output.

need to address in order to improve the quality of educational outcomes in the NCE students in Nigeria. Educational stakeholders, especially, the regulators, need to, as a matter of policy, commission research into the dynamic relationship among institutional factors and academic performance. This may involve the provision of research funds and the sensitisation of researchers to promptly access the required funds. There is also the need to set up a feedback mechanism to continually assess the extent to which policy objectives have been achieved. The current study focussed on Colleges of Education in the South Western Nigeria, though the study sample appeared to be robust, in order to improve the level of generalisation of findings future research should extend this frontier to cover all the educational institutions in Nigeria.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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APPENDIX 1:

SAMPLED COLLEGES OF EDUCATION

Federal Colleges of Education:

1. Federal College of Education (Tech.), Akoka, Lagos State
 2. Federal College of Education, Osiele, Abeokuta, Ogun State.
 3. Adeyemi College of Education, Ondo
 4. Federal College of Education (Special) Oyo.
- Ekiti and Osun States have no federal Colleges of Education.

State Colleges of Education:

1. Adeniran Ogunsanya College of Education Lagos, Lagos State
2. Tai Solarin College of Education Omu (IjebuOde).
3. Oyo State College of Education, Oyo.
4. College of Education, Ila-Orangun, Osun State.
5. College of Education, Ikere-Ekiti, Ekiti State.

Privately Owned Colleges of Education:

1. Saint Augustine College of Education (Project Time), Akoka.
2. Yewa Central College of Education, Ogun State.