

**INPUT AND PROCESS VARIABLES AS PREDICTORS OF  
EFFECTIVENESS IN PRIVATE SECONDARY SCHOOLS IN  
LAGOS STATE**

**BY**

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(BSc. Ed, M.Ed.)**

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***CERTIFICATION***

This is to certify that the Thesis:

**“INPUT AND PROCESS VARIABLES AS PREDICTORS OF  
EFFECTIVENESS IN PRIVATE SECONDARY SCHOOLS IN  
LAGOS STATE”**

Submitted to the  
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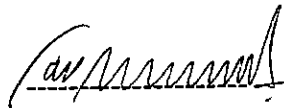
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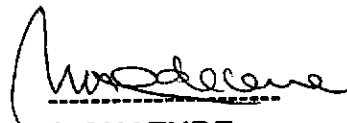
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## **DEDICATION**

This study is dedicated to my mother Mrs. Johnson, a woman of great strength, courage and ability - an outstanding parent, my treasure from above, my hero and to my husband, Olu and children, Laide, Tobi and Timi, my source of constant joy, strength and inspiration. This is for you – for your unflinching support, dedication and steadfastness. You were all crucial to my success and sanity.

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## ABSTRACT

This study investigated the relationship between input and process variables and school effectiveness in private secondary schools in Lagos State. The input variables were teacher qualification, teacher experience and equipment and facilities while the process variables were leader behaviour, school environment, academic emphasis, teacher expectations and monitoring of students' progress. The study is a descriptive survey research, carried out ex-post facto. The stratified random sampling technique was used to select 45 secondary schools out of the 231 registered private secondary schools in Lagos State as at the time of this study. The data were collected during the 2005/2006 academic session. The population was stratified by status – High, Middle and Lowbrow, taking into cognisance tuition fees charged. The selected schools were those that presented students for the Senior School Certificate Examination (SSCE), and had graduated a minimum of three sets of students. The school was the unit of analysis. Two major instruments were used in this study namely School Environment Questionnaire (SEQ) and School's Profile Checklist (SPC). The result of the SSCE provided data for students' academic achievement over a three-year period. Students' academic achievement was the measure of school effectiveness. Data for the SEQ was collected from 20 teachers selected at random in each school, giving a total of 900 teachers that responded to the study's questionnaire. Ten research questions were drawn up for the study. Out of the ten research questions, eight were converted to hypotheses while two were retained as research questions. The data collected were analysed to answer the specific research questions and hypotheses posited for the study. Both descriptive and inferential statistics were employed for data analysis. Means and frequencies were used to summarize and describe the data, while the Pearson Product Moment Correlation was used to measure the degree of relationship among the study variables. The Multiple Regression Analysis was used to determine the contribution of each variable to school effectiveness. The result of the data analysis showed that of the eight null hypotheses examined, only one was accepted at the  $P < .05$  level of significance.

Significant relationships were thus found between leader behaviour, monitoring of students' progress, academic emphasis, school environment, teacher expectations, school facilities and equipment, teacher experience and school effectiveness. The model developed for the study explained 60% of the variation in students' academic achievement. Findings further show that leader behaviour was the most influential of the school effectiveness variables, accounting fully for 41% of the variation in students' academic achievement. Monitoring of students' progress, academic emphasis and the school environment accounted for 9.2%, 5.9% and 3.2% respectively. No statistically significant relationship was found between teacher's qualification and school effectiveness. The study has therefore shown that process variables contribute more to the variability in school effectiveness among private secondary schools in Lagos State. The implications for policy, practice and research respectively were identified. These include: using school effectiveness research results as a basis for developing improvement programmes for schools; carrying out an effectiveness audit for schools periodically in order to provide sufficient strategic direction to enhance school improvement; establishing local school improvement units in every education district; establishing school-based management teams; providing principals as well as teachers with regular, effective training and development opportunities; abolishing low-ability classes that communicate negative, low expectations to students and; promoting a culture of school self-evaluation.

## CHAPTER ONE

### INTRODUCTION

#### ***Background***

The importance of education to human beings cannot be over-emphasized. Education is the pivot for meaningful and enduring human capital and socio-economic development of progressive economies. It plays a vital role in the development of any nation and has major impact on the reduction of poverty and ignorance. According to UNESCO (2005), education is the primary agent of transformation towards sustainable development, increasing people's capacities to transform their vision for society into reality. The development of human capital has been recognized by development planners as an essential pre-condition for a country's economic, political and socio-cultural transformation (Awopegba, 2002). Education is the process by which skills, knowledge and attitude are acquired for the performance of socio-economic responsibilities, social integration, improving personal competence and seeking better employment opportunities (Aigbokhan, Imahe & Ailemen, 2005). Consequently, education has become a bench mark for development all over the world.

In a developing country like Nigeria, the importance of education is stressed by all levels of government and members of the public because of its relevance as an instrument of change. The National Policy on Education (Federal Republic of Nigeria, (FRN) 2004), defines education as an instrument "par excellence" for effecting national development.

Over the years, Nigeria has expressed a commitment to education, in the belief that overcoming illiteracy and ignorance will form a basis for accelerated national development. On the basis of this, several attempts have been made by the Nigerian Government to increase the level of literacy in the country. The Universal Primary Education (UPE) scheme, embarked upon by the military government in 1976, was the first national attempt to promote literacy in the country. This was in an attempt to make primary education available to all children of school age in Nigeria. Thereafter, the scope of basic education was expanded in 1992 to include pre-primary, primary and junior secondary education. According to Okoro (Shofeyeke, 2005), with the expanded vision of basic education, Nigeria set itself the following goals to be achieved by 1995:

- Reduction by one-third, of the gap between the 1990 primary school enrollment/retention rates and the year 2000 goal for reaching universal access to basic education (84.6% enrollment);
- Achievement of primary education by at least 80% of the school age children (i.e. 6 to 11 years);
- Reduction of the gender gap in primary education in 1990 by one-third;
- Reduction of adult female illiteracy rate by one third of its 1990 level by the year 1995;
- Increase in the proportion of primary school children achieving minimum level of learning; and
- Expansion of access to pre-primary school children achieving minimum level of learning.

However, despite the laudable effort, these goals were not achieved. According to Shofoyeke (2005), about 7.3 million Nigerian children were not attending school, while drop out rate was on the increase and the gender gap remained wide in some states.

In an attempt to improve access to good quality education and in an effort to achieve the Education for All (EFA) goals as conceived in Jomtein, Thailand in March 1990, Nigeria launched the Universal Basic Education (UBE) Programme on 30<sup>th</sup> September 1999. The UBE programme provides for a nine-year universal free and compulsory education from primary to junior secondary school level. However, the recent past has witnessed a downward trend in almost every sector of the economy and the education system is probably the most adversely affected. According to Igbuzor (2006), the severe decline of the oil market in the early eighties, combined with the Structural Adjustment Programme (SAP), led to drastic reduction in spending on education. The result of this includes but is not limited to the degradation of education facilities at all levels and unpaid teachers' salaries with a consequent declining literacy rate in the country.

According to Aigbokhan, Imahe and Ailemen (2005) Nigeria was listed among low human development countries in the Human Development Report (2002), with an index of 0.462 lower than that of Togo (0.493), while public expenditure on education as a percentage of Gross National Product (GNP) for the periods of 1985-1987 and 1995-1997 were 1.7 and 0.7 percent respectively. These figures for Nigeria in the two periods were the least among 13 African countries under

the Low Human Development with respect to expenditure on education. With this structure of investment in education, it will be an uphill task for Nigeria to achieve sustainable growth and development (Awopegba, 2002).

Over a couple of years, mounting complaints from the public, educationists and policy makers have been raised about the poor state of education in Nigeria. Commenting on the state of education in Nigeria, Obanya (Fagbamiye, 2004) observed that Nigeria ranked 18<sup>th</sup> among 42 countries surveyed in Africa in terms of educational development. He noted that while the Education Development Index was 0.87 for South Africa, 0.80 for Namibia and Zimbabwe, 0.75 for Lesotho, it was only 0.57 for Nigeria, making Nigeria's performance in education one of the poorest even by African standards.

This poor state of education in the country is aptly captured in the National Empowerment Development Strategy as follows:

...the delivery of education in Nigeria has suffered from years of neglect, compounded by inadequate attention to policy frameworks within the sector. Findings from an ongoing educational sector analysis confirm the poor state of education in Nigeria the national literacy rate is currently 57%. Some 49% of the teaching force is unqualified. There are acute shortages of infrastructure and facilities at all level. Access to basic education inhibited by gender issues and socio-cultural beliefs and practices, among other factors. Wide disparities persist in educational standards and learning achievements. The



system emphasizes theoretical knowledge at the expense of technical, vocational and entrepreneurial education while school curricula need urgent review to make them relevant and practice oriented. (Nigeria National Economic Empowerment and Development Strategy, 2004,p.34)

Similarly, according to the Nigeria Development Goals 2005 report, Literacy level in the country has steadily and gradually deteriorated, especially within the 15-24 years group. By 1999, the overall literacy rate has declined to 64.1% from 71.9% in 1991. (Millennium Development Goals Report, 2005, p.14)

According to the Demographic and Health Survey (DHS) (2003 ; 2004), 60.1% of all children of primary school age were attending primary school at the time of the survey with far fewer children continuing their education at the secondary level. The official secondary school age in Nigeria is 12 to 17 years, however only 35.1% of the children in this age group were in secondary school according to the DHS.

The tale of statistical woe is endless. IRIN (2007) further reported that Nigeria is one of the E9 countries – the nine large population countries, which account for 70% of the world's illiterates.

Further pieces of evidence that point to a declining trend in quality and by implication, effectiveness of our secondary school system can be adduced. Undoubtedly, standards of performance at examinations have declined

considerably. The poor performance of secondary school students in the Senior Secondary Certificate Examination (SSCE) has been reported in many quarters. The West African Examinations Council (WAEC) (2006) reported the gloomy statistics of the 2006 Senior School Certificate Examinations (SSCE). Out of the 1,184,384 candidates that sat for the May/June 2006 examinations, only 177,800 scored credits in Mathematics, English Language and three other subjects, the minimum requirement for university admission in Nigeria. The success rate is a meager 15% of the total number of candidates who wrote the examination, leaving an alarming 85% unable to seek admission into universities.

The results of the 2007 May/June SSCE showed that of the 1,275,330 candidates that sat for the examination only 325,754 representing 25.54% obtained credits and above in English Language, Mathematics and three other subjects (WAEC 2007). WAEC further reported that out of a total of 378,018 candidates that sat for the November 2007 West African Senior School Certificate Examination (WASSCE), only 75,112 representing 19.87% candidates obtained credits in English Language, Mathematics and three other subjects. This woeful performance is a glaring indication of the near-collapse of our secondary education, and calls to question the effectiveness of teaching and administration of our schools as institutions.

The quality of university graduates has also deteriorated. Bello Salim, Head of the Joint Admissions and Matriculation Board (JAMB), denounced a school system that was “producing illiterates.” He noted that Nigerian Universities were today producing graduates who were less educated than the ‘Standard Six’ graduates of old. (Businessday, May 31, 2005).

Even more alarming is the fact that, not only has the percentage of success rate in the SSCE dropped drastically in the past couple of years, the occurrence of examination malpractices among secondary school students has increased astronomically. Unlike the past where students hid the acts, now they advertise them with positive blatancy. Ruwa (1997) reported that in the University of Maiduguri, about 25% of the students admitted to have engaged in one form of examination malpractice or the other. The situation of examination malpractice is so embarrassing to the nation, that the federal military government in 1994 promulgated Decree 20 to deal with it. Part of the Decree reads:

Any person who fraudulently or with intent to cheat or secure any unfair advantage to himself or any other person or in abuse of his office, produces, sells or buys or otherwise deals with any question paper intended for the examination of persons at any examination, or commits any of the offences specified in section 3(27)(C) of this Decree, shall be guilty of an offence and on conviction be sentenced to 21 years imprisonment... (Fagbemi, 1998, P.17)

This Decree was revised in 1999 by the Examination Malpractice Act 33 of 1999 which now stipulates punishment ranging from a fine of N50, 000.00 to N100, 000.00 and imprisonment for a term of 3-4 years with or without the option of a fine. Despite all the laws, examination malpractice continues to be on the increase. Bello Salim (2002) JAMB registrar said that 31 out of 161 examination towns were involved in cheating and malpractice in year 2002. The Federal

Ministry of Education was forced to de-recognize as many as 324 schools as centers for public examinations over a three-year period (2007-2010), insisting that the affected schools, through their proprietors, principals, teachers, supervisors, invigilators and even community leaders, work in concert to facilitate cheating by students.

The Businessday of Tuesday May 31, 2005, brings this home, when it reported that many private secondary schools that boast of 100% pass in the SSCE collude with corrupt examination supervisors to take out question papers during the day of the examination, have them solved by subject teachers, after which they are returned to students in the examination halls to copy. According to the paper, "they use it as a promotion gimmick to woo parents." It cited the example of a missionary school that experienced a drop in its performance at the SSCE, when a new principal that did not subscribe to the idea of teachers 'assisting' students was posted to the school. "For the first time in its history, its performance dropped tremendously." This problem appears to be fundamentally related to the failure of the school system to achieve some vital educational goals like cognitive development and moral integrity.

In terms of infrastructure, inadequacies are reported in virtually all states of the Federation. Many public secondary school buildings and other infrastructure are poorly maintained in many states of this country. Necessary learning facilities such as good chalkboards, instructional materials, textbooks and other learning materials are either inadequate or non-existent. Overcrowding is a major problem particularly in urban centers, while the delay in the payment

of teachers' salaries and poor working conditions in many states dampen the enthusiasm of even the most dedicated among teachers.

Other reasons for the disenchantment with public schools include, reduced teaching and learning time, absenteeism and lack of accountability on the part of teachers (Igbinedion, 2004). After visiting state schools in Lagos State, Tooley (Igbinedion, 2004), reported that only in about 53% of the state schools was there any "teaching activity" going on, while in 33%, the Head Teacher was absent. He noted that the low level of teaching activity occurred even in those schools with relatively good infrastructure. Furthermore, high dropout and failure rates, serve as indicators of declining quality and wastage in the education system.

Olayemi (2001) observed that "the depreciation that has endangered public schools is undoubtedly the major cause that led to the emergence of "private schools." Though privately owned secondary schools often present a sharp contrast to public schools, and research (Fagbamiye, 2000; Oyebade, 2000; Dronkers & Robert, 2003; Wilkinson, Denniss & Macintosh, 2004) has shown that private schools are more effective than public schools, private schools may not measure up to acceptable standard. However, the disenchantment with public schools continues to push an increasing number of parents to abandon the renovated public schools for even the worst of private schools. Okunola 1993 and Olagboye 1998, provides evidence of increased private sector participation in the provision of education in Nigeria. Whether these schools

meet and maintain the minimum standards laid down by the Federal Government to guide their operations is another matter.

This poor quality and limited relevance of much teaching and learning in schools remains an obstacle to economic growth and development. According to Igbuzor (2006) with current trends, the target of achieving universal primary education will not be attained by many countries (including Nigeria). The UNDP documents that:

If current trends continue, the target of achieving universal primary education by 2015 will be missed by at least a decade. There will be 47 million children out of school in 2015, 19 million of them in Sub-Saharan Africa. Forty six countries are going backwards or will not meet the target until after 2040. These countries account for 23 million of the of the 110 million children currently out of school in developing countries. (UNDP, 2005, P15)

Given this evident crisis, it is pertinent to investigate the importance of input (school facilities, teachers' qualification and teachers' experience) and process (leader behaviour, academic emphasis, monitoring of students' progress, school environment and teacher expectations of students) variables as predictors of school effectiveness so that appropriate remedies can be found.

### ***Statement of the Problem***

As the economies of nations compete for strong positions within a competitive global market place, many governments have become increasingly inclined to

viewing the relative performance of their education systems as a key element in strategies designed to achieve improvements in national economic development. This trend, coupled with increasing expenditure devoted to education, according to UNESCO (2005), has precipitated demands by governments and the public for higher levels of scrutiny and accountability concerning the quality of education. The importance, therefore, of high quality in teaching and learning and the need to improve the educational quality of our schools cannot be over-emphasized.

Over the years, several studies have been conducted on the effect of school-related factors on students' achievement. This was largely in response to the Coleman Report, published in 1966 and later from the interpretations of findings by Plowden (1967) and Jencks et al. (1972). These studies examined the possible influence of school factors on learning achievement and concluded that schools do not make a significant difference but rather, credited the students' family background as the main reason for student success in school. Although these studies tried to discount the influence that schools have on achievement, a great deal of evidence from research (Rutter, Maughan, and Ouston, 1979; Brookover, Beady, Flood, Schweitzer and Wisenbaker, 1979; Mortimore, Sammons, Stoll, Lewis and Ecob, 1988; Fagbamiye, 1977; and Darling-Hammond, 2000) suggests that schools, as well as families, influence students' achievement. Heyneman and Loxley (1982) found that the home background of students mattered much more than school quality in predicting student achievement in developed countries. However the reverse was the case in low income countries. Fuller (1987) considered more than 50 empirical

studies. His review suggests that: "The school institution exerts a greater influence on achievement within developing countries compared to industrialized nations, after accounting for the effect of pupil background". (pp 255-256).

Haddad, Carnoy, Rinaldi and Regel (1990) quote several sources to confirm that there are some consistent general findings from the research.

Variations in school inputs, such as teacher experience, teacher motivation, the presence of textbooks, homework and time spent in school during the year do contribute to varying pupil achievement, even when family background differences are accounted for. Haddad et al. (1990, p50).

The economic future of developing nations lies in their abilities and capabilities to transfer knowledge into new technologies and as Sammons (2006) observes, education continues to be seen by Governments in many countries as the key change susceptible to policy influence which is essential for both economic prosperity and social cohesion. The demands on schools in the 21<sup>st</sup> Century are thus increasing and coping with the rapid pace of change remains a major challenge.

All these call for the preparation of a highly competitive society that will stand up to the challenges of the future. Yet one of the perennial problems of education in Nigeria is how to upgrade the quality of education to meet these challenges. There are many factors that affect achievement in schools. These



factors need to be studied in order to identify school factors that will deliver better student outcomes. At this point, it becomes imperative to find what 'works' for Nigeria. This study has therefore become necessary in view of the fact that no study has combined both input and process variables as factors associated with school effectiveness in Nigeria.

In the light of the above, this study investigated input (school facilities, teachers' qualification and teachers' experience) and process (leader behaviour, academic emphasis, monitoring of students' progress, school environment and teacher expectations of students) variables that best predict effectiveness in private secondary schools in Lagos State. This will help to clarify factors that must be taken into consideration in the planning of improvement processes that respond to the realities of secondary education in Nigeria.

### ***Objective of the Study***

The objective of this study is to examine the inter-relationships of input and process variables and see how they collectively contribute to effectiveness in private secondary schools in Lagos State.

### ***Research Questions***

The current study attempts to answer the following questions:

1. What are the variations in the availability of facilities and equipment and academic achievement among private secondary schools in Lagos State?

2. What differences exist in students' academic achievement among the private school types in Lagos State?
3. What is the relationship between monitoring of students' progress and school effectiveness?
4. What is the relationship between academic emphasis and school effectiveness?
5. What is the relationship between teachers' qualification and school effectiveness?
6. How does the school environment relate to school effectiveness?
7. What is the relationship between leader behaviour and school effectiveness?
8. What is the relationship between teachers' expectations of students and school effectiveness?
9. To what extent does the provision of facilities and equipment relate to school effectiveness?
10. What is the relationship between teachers' experience and school effectiveness?

In this study, research questions 1 and 2 were answered while research questions 3-10 were converted into hypotheses for testing in order to provide answers to the problem.

### ***Research Hypotheses***

The following hypotheses also guided the study:

1. Monitoring of student progress is not significantly related to students' academic achievement.
2. Academic emphasis is not related to students' academic achievement.

3. There is no significant relationship between teachers' qualification and students' academic achievement.
4. There is no significant relationship between school environment and students' academic achievement.
5. Leader behaviour is not significantly related to students' academic achievement.
6. There is no significant relationship between high expectations of student by staff and students' academic achievement.
7. There is no significant relationship between the provision of facilities and equipment and students' academic achievement.
8. Teachers' experience is not significantly related to students' academic achievement.

### ***Significance of the Study***

The review of literature showed that in the local context, there is no known study that has focused on the relationship between both input and process variables and school effectiveness in both public and private secondary schools. Therefore, the first significance of this study is to contribute towards further empirical research in the area of total school effectiveness.

It is also anticipated that the results of this study will become a pointer to the conditions that will provide higher quality outcomes in schools. The data generated will assist educational planners and decision makers in planning educational improvement activities that can respond to the realities of secondary education in public and private schools in Nigeria.

### ***Scope of the Study***

This study focused on private secondary schools in Lagos state. The study was limited to Lagos State. This is because, according to the Nigeria Handbook and Directory of Private Nursery, Primary and Secondary Schools (2004), private schools in the state accounted for 51% of the private schools in the South West Geopolitical Zone of the country. Not only that, Lagos being the most cosmopolitan of all urban conurbations in the country, is highly representative of what is to be found in the country as a whole. The study focused on input and process variables, external examination results and the totality of the school environment in the schools studied.

### ***Rationale for the study***

School quality in general is unsatisfactory in Nigeria, so improvement is necessary if the country is to develop. Information is needed to help formulate appropriate improvement strategies and develop policies. In Nigeria, private schools are perceived as being more effective. According to Charles (2002), this maybe because of the tendency for the private sector to promote innovation and experimentation; the preoccupation with costs, benefits and value and a concern for accountability and optimal use of assets. Some studies (Adeogun 2001, and Babayomi 1999) have in addition shown that private schools out-perform public schools. Investigating schools that are perceived as superior or effective in the belief that something can be learned from them is a step in the right direction. It is therefore necessary to examine the background of private sector participation in the provision of formal education in Nigeria.

## ***Background of Private Sector Participation in Education***

According to the Education Sector Analysis (2003), four non-mutually exclusive periods can be identified, under which the development in school ownership may be considered. These are:

### ***Missionary monopoly and control era (1884-1904)***

This period was characterized by total ownership of schools by religious groups, which took the initiative in different parts of the country. The religious organizations principally made up of the Wesleyan Methodist Society (WMS), Church Missionary Society (CMS), United Presbyterian Church (UPC), the American Southern Baptist Church (ASBC) and the Roman Catholic Mission (RCM) amongst others, undertook the provision of formal education as an instrument for converting 'heathen Nigerians' to Christianity and to train them for missionary work (Ibadin and Ilusanya, 2005).

The first formal school in Nigeria was established in 1843 in Badagry by the Wesleyan Methodist, while the Church Missionary Society established two schools in Abeokuta in 1846. In 1959, the first secondary school in Nigeria, the CMS Grammar School in Lagos was established by Reverend T.B. Macaulay. Prior to 1859, Nigerians that needed to acquire post-primary education travelled outside the country. Soon after the establishment of CMS Grammar School, the CMS mission gave annual grants for the sustenance of the school (Ejiogu, 2001).

After the successful take off of CMS Grammar School, other religious organizations established and managed other educational institutions. These include: CMS Girls' Grammar School, 1872; St. Gregory's College, Obalende, 1879; Methodist Boys' High School, 1879; Baptist Academy, Lagos 1885; Igbobi College, Yaba, 1932; Eko Boys' High School, 1913; Anwarul - Islam College, Agege, 1948; Ansar-ud-Deen College, Isolo, 1958 and Ansar-ud-Deen Grammar School, Surulere, 1958. According to Ironi (2000), it can safely be said that for many years, the business of establishing schools was the prerogative of the missionaries and that what has grown into the Nigerian educational system began as a private venture of the missionaries. According to Fafunwa (1979: 92):

Up to 1882, the colonial government in Nigeria paid little or no attention to the educational needs of the people and the field was left entirely to the missions. This period can therefore be justifiably termed the era of exclusive Christian missionary education in Southern Nigeria.

#### *Dual ownership and control era (1904-1970)*

This period was an offshoot of the 1887 Education Code, which led to the existence of government and Voluntary Agency schools operating simultaneously. By the end of 1912, there had been established fifty-one government primary schools and ninety-one mission schools receiving aid from the government. The count of secondary schools also showed a preponderance of private mission schools (Ironi, 2000).

By 1990, the British established the Nigerian Civil Service and in 1913, the South-North railway line was opened. The transport linkage encouraged Christians from the south to move to the north in search of jobs. Soon, these people began schools in their homes, which later became the centre of primary and secondary schools in the northern part of Nigeria (Adetoro J.A., 2005). These schools were funded, staffed and managed by private businesses or ethnic clubs (Irondi, 2000).

The period 1939-1960 saw a growth in private participation in the establishment of secondary schools in Nigeria. These include Molusi College, Ijebu Igbo, 1949; Origbo Community High School, Ipetumodu, 1959; Anglican Grammar School, Ile-Ife, 1955. During this period, the local communities not only established community schools, they also gave financial and material support to the existing Christian Mission Schools (Falodun, 2003). Some other schools established by private individuals, communities and ethnic clubs in the southern part of Nigeria include Mayflower School, Ikenne; Aggrey Memorial College, Arochukwu; Igbo National College, Kano; National High School, Arondizuogu, to mention a few.

#### *Government dominance and take-over of schools era (1970-1985)*

This period saw an even greater expansion of private schools as social demand for knowledge grew. This situation culminated in the introduction of Universal Primary Education (UPE) in the western and eastern regions of Nigeria. The UPE was later popularized all over the nation in 1976. With the introduction of the UPE scheme, government took over the fairly good schools and closed down

the sub-standard ones, since many of these schools were not structured to follow strict government regulations. Government dominance and complete take-over of schools was formalized by the "School Take-over Validation Decree" No.41 of 1977.

#### *Return of mission schools/partnership era (1985-2002)*

In 1980, the civilian administration in Lagos State outlawed private schools and many of the pupils were transferred into public schools (Adetoro, 2005). This policy was officially reversed with the provision of the Lagos State Education Policy (1988) which indicated that government would encourage private schools. The deplorable infrastructural state of public schools coupled with seemingly dwindling quality of instruction in such schools ignited a disenchantment with public schools (Ayodele, 2007), resulting in an upsurge in the establishment of private schools. According to the Lagos State Ministry of Education Publication on Social Output Indicators (2004), the rate of establishing private schools jumped from 16.63 per cent in 1997 to 27.06 per cent in 2004.

#### ***Assumptions***

The study was based on the following assumptions: that

1. Schools differ in effectiveness.
2. The effectiveness of schools can be measured.
3. Certain factors contribute to school effectiveness.
4. These factors can be measured.
5. The knowledge of the factors that are associated with school effectiveness can serve as a basis for developing a system of quality education.



## ***Theoretical Framework***

### ***Theoretical approaches to effectiveness.***

Organizational theorists often adhere to the thesis that the effectiveness of organizations cannot be described in a straightforward manner and thus adopt a pluralistic attitude. The interpretation chosen is often dependent on the organizational theory and the specific interest of the group posing the question of effectiveness (Cameron and Whetten, 1983). The main organizational approaches used in interpreting the concept of effectiveness are reviewed below.

### ***The economic rationality approach.***

This definition of effectiveness is derived from the idea that organizations function rationally, that is, with certain goals. Goals that can be operationalized as outputs to be pursued are the basis for choosing effect criteria (effect criteria being the variables used to measure effects, i.e. in the case of a school – student achievement) Economic rationality exists when goals are formulated as outputs of the primary production process of the school.

### ***The organic system approach.***

This model compares organizations to biological systems, which adapt to their environment by interacting openly with their surroundings. Such systems exert influence on their environment, rather than remain passive objects of environmental manipulation. This view is concerned with the organization's survival. Thus, this model highlights flexibility and adaptability as the most important conditions for effectiveness, that is, for survival. With reference to

schools, effectiveness may then be measured in terms of yearly intake which could in part be attributed to intense canvassing.

Niskanen (Scheerens 2000) observes that public sector organizations are primarily targeted at maximizing budgets despite the fact that there are insufficient external incentives for such organizations to encourage effectiveness and efficiency. Even though the organic system model is inclined towards inputs, it also has a concern for satisfying outputs, as in situations where the environment makes the availability of inputs dependent on the quantity and quality of previous achievement outputs.

### ***The human relations approach.***

A major problem with regard to the administration and structure of organizations, which are many autonomous sub-units, is how to create a harmonious whole. A means for this can be provided through appropriate social interactions and opportunities for professional development. In the human relations approach, the organizational analyst is concerned about people. According to Mintzberg (1979), the emphasis is on the well being of the individuals within an organization, as well as the importance of consensus and collegial relationships, motivation and human resource development. The most desired characteristics of the organization are measured by the level of job satisfaction of workers and their involvement within the organization. These criteria are used to measure effectiveness.

### ***The bureaucratic approach.***

The bureaucracy provides a means to administer and structure organizations (in particular, organizations such as schools, which have many relatively autonomous sub-units) by organizing, clearly defining and formalizing social relations with positions and duties being formally organized. From this perspective, certainty and continuity of the existing organizational structure are the effectiveness criteria.

### ***The political approach.***

Organizations have also been seen as political battlefields (Pfeffer and Salancik, 1978). According to this view, departments, individual workers and management staff use official duties and goals in order to achieve their own hidden – or less hidden- agendas. Good contacts with powerful outside bodies are regarded as very important for the standing of their department or of themselves. From this perspective, the question of the effectiveness of the organization as a whole is difficult to answer. A more relevant view might be the extent to which internal groups comply with the demands of certain external interested parties. In the case of schools, these bodies could be school governing bodies, parents, and/or the local business community.

Organizational concepts of effectiveness not only depend on theoretical answers to the question of how organizations are 'pieced together' but also on the position of the factions posing the question. With regard to economic rationality and the organic system models, the management of the organization poses the

effectiveness question, while the department heads and individual workers seek to achieve certain effects in the other models.

Scheerens (2000) posits that from the perspective of educational planning in developing countries, the most gainful position to adopt would appear to be one in which productivity, in terms of quantity and quality of school output is seen as the ultimate criterion and the other criteria are seen either as preconditions (responsiveness) or 'means' (criteria referring to organizational conditions) such as teacher satisfaction.

Vans Kesteren (Scheerens,2000) sums up the various perspectives to organizational effectiveness in his definition of the concept.

Organizational effectiveness is the degree to which an organization, on the basis of competent management, while avoiding unnecessary exertion, in the more or less complex environment in which it operates, manages to control internal organizational and environmental conditions in order to provide, by means of its own characteristic transformation process, the outputs expected by external constituencies.

### ***Social Cognitive Theory***

This body of theory was pioneered by Albert Bandura in 1986. The Social Cognitive Theory (SCT) defines human behavior as an interaction of personal factors, behavior, and the environment. According to Bandura (1986), in the Social Cognitive view, people are neither driven by inner forces nor

automatically shaped and controlled by external stimuli. Rather, human functioning is explained in terms of a model of triadic reciprocity in which behaviour, cognitive and other personal factors and environmental events operate as interacting determinants of each other.

The assumptions of the SCT are:

- People can learn by watching others.
- Learning is an internal process that may or may not change behaviour.
- Behaviour is directed towards particular goals.
- Behaviour eventually becomes self-regulated.
- Reinforcement and punishment have direct and indirect effects.

Bandura (1997) suggests that the concepts and assumptions of Social Cognitive Theory can be extended to organizations and are useful in examining school outcomes.

Social Cognitive Theory provides a framework that explains both individual and collective behaviour. A fundamental element of SCT is human agency (Bandura, 1997). Extended to the school organization/system, the parallel concept is organizational agency. *Agency* refers to the intentional pursuit of a course of action. According to Goddard, Sweetland and Hoy. (2000), school behaviour may be described as agentive, considering that schools act purposefully in pursuit of their educational goals. The purposive actions schools take as they strive to meet their goals thus reflect organizational intentionality or agency.

The principle of organizational agency suggests that schools may choose, through a number of individual and collective efforts, to value student

achievement and thus act purposefully to strengthen members' perceptions of the importance of student academic success.

Furthermore, SCT specifies that self and group perceptions of self and capability influence their actions. These actions therefore will be judged by the group relative to group norms such as those set by strong beliefs about the importance of academic pursuits in schools (Bandura, 1997). According to Coleman (1987), norms develop to permit group members some control over the actions of others, when those actions have consequences for the group. Thus if most members of the school are highly committed to academic performance, the normative and behavioural environment will pressure school members to persist in their educational effort so that students excel.

### ***Capital Theory of School Effectiveness and Improvement***

The capital theory of school effectiveness was proposed by Hargreaves in 2001.

The theory has four master concepts:

- Outcomes (both intended and unintended) of two kinds: cognitive and moral.
- Leverage: the relation between teacher input and educational output, or changes in students' intellectual and moral states, resulting from the teacher's effort. It stresses that outstanding schools use combinations of high leverage strategies.
- Intellectual capital: the sum knowledge and experience of the school's stakeholders. This capital grows through creation of new knowledge and

through the capacity to transfer knowledge between situations and people.

- Social capital: the level of trust and collaboration between people, and the existence of strong networks.

According to Hargreaves (2001), high levels of social capital in a school strengthen its intellectual capital (through sharing). Unlike financial capital, social and intellectual capital is increased rather than depleted by passing on to others. The author uses this model to present definitions of effective and improving schools.

Accordingly, an effective school mobilizes its intellectual capital (especially its capacity to create and transfer knowledge) and its social capital (especially its capacity to generate trust and sustained networks) to achieve the desired educational outcomes of intellectual and moral excellence, through the successful use of high leverage strategies grounded in evidence-informed and innovative professional practice. An improving school, on the other hand, increases its intellectual capital (especially its capacity to create and transfer knowledge) to achieve the educational outcomes of intellectual and moral excellence, by learning to use higher leverage strategies based on evidence of 'what works' and/or innovative professional practice.

### ***Systems Theory***

The Systems Theory according to Katz and Kahn (1966), this is basically concerned with problems of relationships, of structures and of interdependence. Scott (1967) observes that all systems are characterized by an assemblage or

combinations of parts whose relations make them interdependent even though they also suggest the bases for the differences among them.

Systems can be determined on the basis of how the boundaries are defined. According to Hall and Fagen (Hong, Al-khatib, Magagna, McLoughlin and Brenda Coe, 2003), whether a system is open or closed depends on how much of the universe is included in the system and how much in the environment. Systems may be closed or open. A closed system is neither related to, nor does it exchange matter with its environment. It is completely self-supporting, autonomous, enclosed and sealed off from the outside world. It is able to function without the consumption of external resources. An open system on the other hand, is related to and exchanges matter with its environment for survival. It consumes as well as exports resources to the environment and must continuously deal with the environment.

According to Katz and Kahn (1966), the systems approach begins by identifying and mapping repeated cycles of inputs, transformation, output and renewed inputs, which comprise the organizational pattern. Schools as a special class of open systems have properties in common with all open systems. These include the importation of energy from the environment; the throughput or transformation of the imported energy into some product form; the exporting of that product into the environment; and the re-energizing of the system from sources in the environment.

Thus, in the systems approach, the parts are as important as the whole, so that the fate of the components of a whole is determined by the fate of the whole and



vice-versa (Ejiogu, 1990). The systems approach in the context of educational management, therefore views every educational institution as a coordinated network of people, materials and events organized for optimal achievement of the nation's educational goals and objectives.

This research followed a systems approach for the following reasons: the capacity of learners to achieve their full potential is determined by a complicated number of factors. A systems approach promotes analysis and action across the whole of a system, rather than just a part of it; an approach that enables one to identify and influence the key interrelationships that affect behaviour over time. The researcher therefore believes this perspective is essential to policy makers and those leading implementation in education.

The application of the systems approach to evaluate secondary schools in Lagos State is further based on certain assumptions: Secondary schools in Lagos State

1. are open systems, influenced by their communities and in turn affect their communities.
2. are staffed by participants who fulfill specific roles and responsibilities.
3. are goal oriented. While student achievement is easily discernable, schools are expected to produce citizens who are able to make contributions to the well-being of the Nigerian society.
4. have structures that ensure the system is able to carry out its functions.
5. consist of interconnected parts that form a system. It can thus be assumed that a change in one part is likely to affect not just that part, but other parts connected to it in the system.

6. are characterized by a system of rules, both formal and informal.

7. have distinct orientations. These schools differ from each other in significant ways despite the fact that they follow the same curricula.

Their climates and cultures vary from school to school.

Based on these assumptions, the application of the systems approach is further justified.

### ***Theoretical Model***

From the foregoing, a working model showing the antecedents that influence internal school processes, which in turn affect student outcome was adapted from Scheerens (2000). Certain variables in the original model considered irrelevant to this study were removed. The present model integrates the approaches to School Effectiveness. In this way, a synthesis between production functions and school effectiveness has been possible. This was accomplished by including the key variables from each tradition with the factors divided into two categories – input and process variables. All of the variables interact with each other and are themselves influenced by the context surrounding the school. It is their interactions and integrations among them in a school that determines a school's quality and student academic achievement. Figure 1 represents a generalized overview of the model and the relationships postulated among the variables. This model views the schooling process in terms of **input variables** (school facilities, teachers' qualification, and teachers' experience), **school process variables** (leader behaviour, academic emphasis; monitoring of students' progress; school environment; and teacher expectations of students) and **outcome variable** (students' academic achievement).

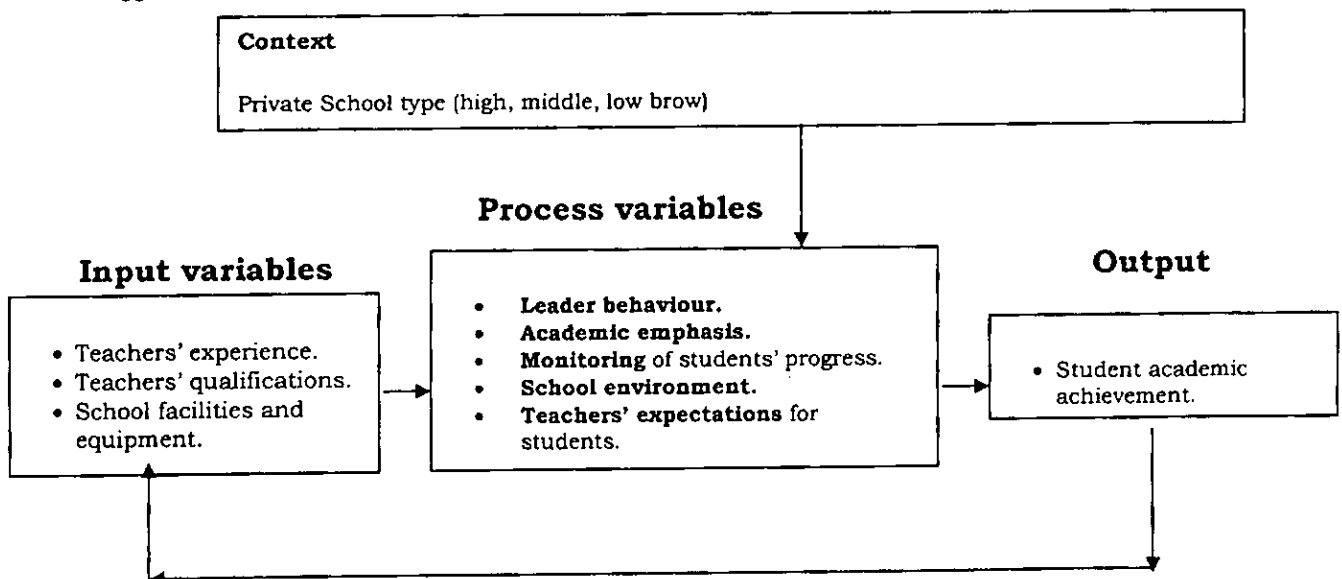
From the perspective of this model, the following indices and their definitions are critical in determining school effectiveness.

### ***Leader behaviour.***

This variable reflects a clear effort on the part of the leader to support improvement in effectiveness and student learning. It refers to the extent to which the school head ensures the availability of adequate resources to provide support for teachers. It also focuses on the extent to which the head pursues high instructional standards, communicates regularly and effectively with teachers, parents and community members and maintains high visibility and accessibility to pupils, teachers and parents.

*Figure 1*

### ***An Integrated Model of Factors that Determine School Effectiveness***



Source: Adapted from Schereens (2000).

### ***Academic emphasis.***

This factor indicates the extent to which the school is driven by a quest for academic excellence. The school's main priority, through the allocation of resources, school structure and rationale for decision, is students' learning. Distractions and interruptions of instruction and learning are minimized.

### ***School environment.***

This is the extent to which the school's atmosphere promotes openness, professionalism, trust, loyalty, commitment, pride, academic excellence and cooperation. This factor manifests in students' respect for the physical plant, strong parental involvement and positive staff and students' morale.

### ***Monitoring students' progress.***

This factor indicates that systematic procedures exist for measuring student achievement and that their performance is monitored regularly. It also refers to the extent to which such procedures document achievement in specific areas, establish a need for instructional improvement and develop priorities for the allocation of resources.

### ***Teachers' expectations.***

This factor refers to the extent to which the school staff is dedicated to having each student learn at the highest possible level, and the extent to which challenging experiences are provided so that students can contribute their best

work. It refers to the frequency with which students are given sufficient and challenging assignments so as to convey the high expectations and teachers' confidence in students. This expectation is translated into specific school and classroom policies, practices and behaviour.

### ***Operational Definition of Terms***

**Private School:** In this study, private schools refer to schools owned and managed by individual(s), groups, or voluntary agencies, as differentiated from public/state schools owned by government.

**Input:** The resources used directly or indirectly to facilitate teaching and learning in the school. In this study, these include teachers, and school facilities such as laboratories, equipment, utilities, etc.

**Process:** The procedures or techniques carried out in the school that determine the transition of inputs from the environment into products (output). In this study, these include leader behaviour, emphasis on learning objectives, monitoring of students' progress, teacher expectations for students and the school environment.

**Output:** The product, which results from the processing of input. In this study, this is students' academic achievement. The results of the Senior School Certificate Examination (SSCE) provided data on students' academic achievement.

**School effectiveness:** An effective school is one whose students achieve a high level of success in the Senior School Certificate Examinations (SSCE).

**Low-brow school:** In this study, this refers to any private secondary school whose school fee is below N150, 000.00 per annum.

**Middle-brow school:** Any private secondary school whose school fees fall between N151, 000.00 and N300, 000.00 per annum;

**High-brow school:** Any private secondary school whose school fee is above N300, 000 per annum.

## **CHAPTER TWO**

### ***LITERATURE REVIEW***

#### ***Introduction***

This chapter focuses on the review of literature related to this study.

In the past two decades, considerable research has shown that how much and how well students learn has to do with how “effective” a school is. These were conducted largely due to claims made in several reports of the middle to late 1960s (Coleman Report, 1966; Plowden, 1967) which purported that schools had little if any effect upon the achievement of students. The primary purpose of this study therefore, was to relate input and process variables to the level of effectiveness in private secondary schools. This review is compartmentalized thus: The notion of effectiveness and school effectiveness; school effectiveness in equal educational opportunity and production functions; effective schools and the correlates of effectiveness. It also focused on the following variables: teacher characteristics, teacher expectations, leader behaviour, the school environment, monitoring of students’ progress and academic emphasis.

#### ***The Notion of Effectiveness***

Hoy and Ferguson (1985) have noted that there is no general agreement on the definition of the concept of effectiveness, let alone its measurement. However, according to Scheerens (2000), different nuances are provided by the different perspectives of various disciplines notably economics and organizational sciences. Yet despite these different perspectives, a relatively simple scheme,

consisting of a set of malleable condition of schooling and a small range of types of criteria may be considered as a basis of the definition. In economics, concepts such as effectiveness and efficiency are related to the production process of an organization. This can be summed up as the transformation of 'inputs' into 'outputs'. In a school, inputs include pupils with given characteristics, financial and material resources, while outputs include pupil attainment at the end of schooling. The transformation process includes all the instruction methods, curriculum choices and organizational preconditions that make it possible for pupils to acquire knowledge. The longer-term outputs are denoted by the term 'outcomes'.

Effectiveness, with regard to the econometric input-output model, is thus defined as the extent to which the desired level of output is achieved, while efficiency refers to the desired output level against the lowest possible cost. Efficiency is therefore effectiveness with the additional requirement that it is achieved in the cheapest possible manner (Scheerens, 2000). Cheng (1993) elaborates further by incorporating the dimension of short-term output versus long-term outcomes. He defines *technical* effectiveness and efficiency as school outputs limited to those in school or just after schooling (e.g. learning behaviour, skills obtained, attitude changes etc.) while *social* effectiveness and efficiency are associated with effects at the societal level or the life-long effects on individuals (e.g. social mobility, earnings, work productivity).

The economic analysis of efficiency and effectiveness must be able to express the value of inputs and outputs in financial terms. To determine efficiency, the



cost of using inputs such as teaching materials and teachers must be known. When the outputs can also be expressed in financial terms, efficiency determination resembles a cost-benefit analysis (Lockheed and Komenan, 1988).

It must however be noted that several problems arise with the above-mentioned economic characterization of effectiveness of schools. Hanushek (1986), after reviewing the input-output, product-function research literature on education, suggests that the typical industry and aggregate production function specifications provide little direct guidance in educational analysis, because they are rarely designed to deal with the detailed policy questions that have been central to the investigations of schools. Some of these include how to define the 'desired output' of a school, for instance, whether the 'production' or returns of a secondary school should be measured by the number of pupils who successfully pass their final examinations, in which case, the unit of measurement is the pupil having passed his or her final examination.

Often however, one seeks a more precise measurement, in which case, it is relevant to look at, for example, the grades achieved by pupils in various examination subjects. In addition, according to Scheerens (2000), there are various choices to be made with regard to the scope of effectiveness measures, like whether one should concern oneself with only higher cognitive processes at the expense of social and/or affective returns on education. Other problems related to the economic analysis of schools include the difficulty in determining the monetary value of inputs and processes, and the lack of clarity on how the

production process operates (precisely which procedural and technical measures are necessary to achieve maximum output).

### ***The Notion of School Effectiveness***

According to Scheerens (2000), school effectiveness is defined as the performance of the organizational unit called 'school'; the performance of which can be expressed as the output of the school, which in turn is measured in terms of the average achievement of the pupils at the end of a period of formal schooling. It is seen as the degree to which schools achieve their goals in comparison with other schools that are 'equalized', in terms of student intake, through the manipulation of certain conditions by the school itself or the immediate school context. He posits that the concept of school effectiveness must be seen as a formal, 'empty' concept, indiscriminate with respect to the kinds of measures of school performances that are chosen.

The term 'school effectiveness' had been used to describe educational research concerned with exploring differences within and between schools (Goldstein, 1997). It also focuses on pupils' progress that might be expected considering their background and initial attainment (Mortimore, 1991). In other words, an effective school adds extra value to its students' outcomes in comparison with other schools serving similar intakes, while an ineffective school is one in which students make less progress than expected given their characteristics at intake (Sammons, Hillman & Mortimore, 1995). Nevertheless, as Bezirtzoglou (2004) notes, school effectiveness research seeks to describe what an effective school looks like.

Some authors however have argued that there is no cross-cultural agreement on the definition of school effectiveness (Chapman & Aspin, 1997; Cuttance, 1992; Reynolds et al., 1994; Stoll & Reynolds, 1997), nor agreement on what makes schools effective (Reynolds & Packer, 1992). According to Scheerens and Bosker (1997), terms such as efficiency, productivity, and the survival power of an organization are often used as synonyms for effectiveness; stressing however, that the appropriateness of their use is questionable. Slee and Weiner (1998), on the other hand, describe school effectiveness as being epistemologically problematic and politically promiscuous and malleable.

Other researchers (Cooper, 1993; Madaus, Airasian & Kellaghan, 1980; Townsend, 1994) however, have attempted to provide some definitions of the key components of school effectiveness by defining school effectiveness and efficiency as congruence between goals and achievements.

Various schools of thought have offered a variety of models/orientations for examining school effectiveness. These include the rational goal, open systems, internal process and human resource models. These four approaches to school effectiveness are defined along three bi-polar dimensions, two of which focus on organizational characteristics. In the first, organizational focus, an internal, person-oriented focus is opposed to an external, organization-oriented emphasis. The second, structure contrasts stability and control with flexibility and change. The third dimension, organizational means and ends, contrasts the

process or means (e.g. goal setting) to organizational outcomes and the outcomes or ends (e.g. productivity) themselves.

In the rational goal model (Etzioni, 1961), control and an external focus are key organizational concerns; planning and goal settings are means and productivity and efficiency are ends. The open system model (Yuchtman and Seashore, 1967), on the other end, emphasizes flexibility and an external focus; readiness and flexibility are means, and growth, resource acquisition and external support are ends. The internal process model (Likert, 1967) emphasizes control and an internal focus stressing communication processes as means and stability, control and a psychological sense of continuity for participants as ends. The human resource model (Keeley, 1978; Wagner and Schneider, 1987) emphasizes flexibility and an internal focus, with cohesion and morale as means and human resource development and participation satisfaction as ends.

Relationships among organizational performance and the organizational characteristics associated with each model are likely to differ across schools as a function of different domains (Cameron, 1981). The competing values framework implies that organizational characteristics emphasizing structure, control and an external focus (the rational goal model) should distinguish efficient schools. Similarly, an internal, person-oriented focus and flexibility (the human resource model) are consistent with effectiveness.

According to Scheerens (Barker, Wendel and Richmond, 1999), the rational goal model has limitations, in that it does not specify which educational objectives are most relevant, particularly since educational objectives, other than skill and knowledge acquisition, are seen to be important. These would include, for example, social, emotional and moral development...[that] may require somewhat different teaching approaches and different school organizational arrangement than the process variables that have been shown to matter in the traditional school effectiveness models.

In Scheeren's (1995) view, each of the models has a role to play in determining overall school effectiveness. Together, the models provide an enhanced view of the process variables that affect educational outcomes. The key difference among the models relates to flexibility and control on the one hand, and the degree to which they focus on internal and external requirements and circumstances on the other hand. They however all contribute to outputs, outcomes and overall educational quality. A description of the process variables found in each model is appropriate.

The Human relations Model is strongly concerned with the work satisfaction of teachers. In this vein, Louis and Smith (1990) identified a number of qualities of work life indicators:

- Respect from relevant adults, such as the school and district administrators, parents and the community at large;
- Participation in decision-making that enhances the teachers' sense of influence and control over their work;

- Frequent and stimulating professional interaction among peers within the school;
- Structures and procedures that contribute to a high sense of efficacy generally provided through mechanisms that provide teachers with feedback about their performance and the effects of their performance on student learning;
- Opportunities to make full use of existing skills and knowledge and to acquire new skills and knowledge;
- Adequate resources to do the job and a pleasant, orderly physical environment; and
- A sense of congruence between personal goals and the school's goals.

The Open Systems Model describes the school's responsiveness to external environmental requirements. The capacity of a school to deal with increasingly demanding and dynamic environments is described, by such terms as "the policy-making potential of the school and the self-renewing capacity of the schools (Scheerens, 1995). School organizational characteristics that contribute to this area include:

- Leadership.
- Collegiality.
- Capacity for self-evaluation and learning.
- Overt school marketing activities.
- Strong parental involvement.
- Boundary-spanning positions.
- Support of external change agents.

The Internal Process Model is focused on formalizing and structuring of the school environment. Consequently, the following areas are important:

- Explicit planning documents.
- Clear rules regarding discipline.
- Formalization of positions.
- Continuity in leadership and staffing.
- Integrated curricula.

Scheerens (1995) identified a series of process indicators that are of interest within each of the orientations to overall school effectiveness. Table 1 contains a summary of this material. A cursory examination shows that there are commonalities that need to be considered regardless of the orientation of school effectiveness. These include:

- Leadership.
- Coordination among staff members.
- Continuity and integration of curricula.
- Evaluation procedures (staff and students).

**Table 1**

**Summary of Process Indicators by School Effectiveness Model**

Human relations Model	Internal Process Model	Open Systems Model
Quality of work life indicators that include: <ul style="list-style-type: none"> <li>• Respect.</li> <li>• Participation in decision-making.</li> <li>• Professional interaction.</li> <li>• Performance feedback.</li> <li>• Opportunity to use skills.</li> <li>• Resources.</li> <li>• Congruence among personal and school goals.</li> </ul>	<ul style="list-style-type: none"> <li>• Planning documents.</li> <li>• Disciplinary rules.</li> <li>• Management information systems.</li> <li>• Formalization of positions.</li> <li>• Continuity in staffing and leadership</li> <li>• Integrated curricula.</li> <li>• Attendance rates.</li> <li>• Preparation time.</li> </ul>	<ul style="list-style-type: none"> <li>• Leadership.</li> <li>• Collegiality.</li> <li>• Capacity for self-evaluation and learning.</li> <li>• Overt school marketing activities.</li> <li>• Parental involvement.</li> <li>• Boundary-spanning positions.</li> <li>• External change agents.</li> <li>• Student enrolment figures.</li> <li>• resources</li> </ul>

Source: Barker, Wendel & Richmond (1999, p.19)

From the fore-going, it can be suggested that different configurations of organizational characteristic variations should be associated with effectiveness.

According to Ostroff and Schmitt (1993), effective schools are likely to be person-oriented, with a positive internal environment, a high degree of participation, strong goals for student achievement, parental involvement and some emphasis on structural context. Informal processes must be developed so that the context, rules and regulations promoting efficiency do not frustrate effectiveness (Cameron, 1996).

Thus effective schools should be characterized by a positive internal environment, some degree of participation in decision-making, and some degree of goal-emphasis, along with rules and regulations and low principal turnover. Likewise, schools that are not effective would have a poor balance of indicators such as poor climate, weak goal emphasis, strong rule adherence and high principal turnover (Ostroff and Schmitt, 1993).

A great deal of research in the field of school effectiveness was conducted in the last two decades (Mortimore, 1991; Sammons, 1994). According to Goldstein (Bezirtzoglou, 2004), the term 'school effectiveness' has been used to describe educational research concerned with exploring differences within and between schools. Research on effective schools focuses on the totality of school environments and tries to identify the attributes and characteristics that



distinguish "effective" schools and "effective" teachers from their less effective counterparts.

According to Scheerens (2000), the most distinguishing feature of effective-schools research is the fact that it has attempted to break open the 'black box' of the school by studying characteristics related to organization, form and content of schools. However, Purkey and Smith (1983) commented that "reviews do not always find the same features to be characteristic of effective schools, even when considering basically the same literature and while all reviews assume that effective schools can be differentiated from ineffective ones, there is no consensus yet on just what the salient characteristics happen to be."

Research in school effectiveness varies according to the emphasis that is put on the various conditions of educational outputs, with these traditions having a disciplinary basis. According to Scheerens (2004), all school effectiveness research associates outputs or outcomes of schooling with antecedent conditions (input, process or contextual). School effectiveness research can be classified into various strands or traditions as follows: Effective schools; equality of opportunities in education and the significance of the school in this context; and economic studies on education production functions.

### ***Effective Schools***

Though the early research in the area of school effectiveness was somewhat fragmented, it was instrumental in establishing the basic framework for the effective schools movement. Beginning with the study of Klitgaard and Hall

(1973), one of the first major studies to address the notion of effective schools, researchers amassed a great volume of data concerning characteristics that made some schools more effective than others.

Researchers of the early 1970s (Amor, 1976; Weber, 1971), consistently found, for example, that leadership of school administrators was critical to improvement in student achievement. It was not however until the work of Brookover et. al.,(1979), Edmonds (1979) and Lezotte (1990) that the research was synthesized and individual sets of effective school characteristics were identified.

The results of the early effective schools research converged around five factors (Edmonds, 1979): strong leadership of principal; emphasis on mastery of basic skills; clean, orderly and secure environment; high teacher expectations of pupils' performance and monitoring of students to assess their progress. This summary is sometimes identified as the "five-factor model of school effectiveness" (Scheerens, 2000).

As the 1980s began, researchers (Teddle and Stringfield, 1992; Levine and Lezotte, 1990; Mortimore, 1988) attempted to refine the characteristics of effective schools. Longitudinal research in the United States (Louisiana School Effectiveness Project) by Teddle and Stringfield from 1980 – 1992, examined both the school and classroom levels to determine characteristics of effectiveness. The study found that in comparison to ineffective schools, effective schools had high time on task; presented new material; used

independent practice for students; possessed and communicated high expectations; used positive reinforcement; had small numbers of interruptions during class periods; had firm discipline and a friendly ambience; displayed student work and the physical state and the appearance of the classroom were positive.

Stringfield and Teddlie (1992) provided a list of characteristics for one school that was seen to be highly effective and another for one school that was seen to be ineffective. The two lists are provided in Table 2.

In addition, Levine and Lezotte (1990), focused on the school as a whole (culture, climate, parent involvement) and on what they termed "outstanding leadership". The summary of the results of their study is shown in Table 3.

Similarly, Mortimore et al (1988) identified twelve key characteristics of effective primary schools as: Purposeful leadership of the staff by the head-teacher; the involvement of the deputy head-teacher; the involvement of teachers; consistency among teachers; structured lessons; intellectually challenging teaching; work-centered environment; limited focus within sessions; maximum communication between teachers and students; record keeping; parental involvement and positive climate. In the same vein, Lezotte (1989) developed the 'five-factor' theory of school effectiveness in order to describe schools with high academic performance. These include strong principal leadership and attention to the quality of instruction; a pervasive and broadly understood instructional focus; an orderly, safe climate conducive to teaching and learning; teacher behaviours that convey the expectation that all students are expected to obtain

at least a basic mastery of simple skills and; the use of measures of pupil achievement as the basis for program evaluation.

**Table 2**

**Comparison of an Effective and an Ineffective School**  
(Teddlie and Stringfield)

Effective School	Ineffective School
<p><b>The Principal:</b></p> <ol style="list-style-type: none"> <li>1. Stable appropriate leadership.</li> <li>2. Appropriate informal academic structure</li> <li>3. Shared academic leadership</li> <li>4. Resistant to external change.</li> <li>5. Close relationship among administrators.</li> <li>6. Good use of academic support staff.</li> </ol> <p><b>Faculty:</b></p> <ol style="list-style-type: none"> <li>7. Faculty is warm and friendly.</li> <li>8. Strong faculty cohesiveness.</li> <li>9. No obvious personality conflicts among faculty.</li> <li>10. Integration of support staff into faculty.</li> </ol> <ol style="list-style-type: none"> <li>11. Cooperative efforts to enhance teaching.</li> <li>12. High faculty stability.</li> <li>13. High time on task/positive classroom climate.</li> <li>14. Fairly uniform teaching across classes.</li> <li>15. Assistance freely given to new faculty members.</li> </ol> <p><b>Students:</b></p> <ol style="list-style-type: none"> <li>16. Excellent discipline and understanding of the rules.</li> <li>17. students involved in running of the school.</li> <li>18. Little use of corporal punishment.</li> <li>19. Student-oriented climate.</li> <li>20. Consistently high student achievement.</li> </ol>	<p><b>The Principal:</b></p> <p>Unstable, inappropriate leadership. Inappropriate informal organizational structures. Non-shared academic leadership. Accepting of external change. Strained relationships among administrators. Unimaginative use of academic support staff.</p> <p><b>Faculty:</b></p> <p>Faculty is cold and guarded. Lack of faculty cohesiveness. Open bickering among faculty.</p> <p>Inappropriate integration of support staff in faculty. Top-down effects to enhance teaching. Low faculty stability. Low time on task/evidence of negative climate. Large variances in teaching across classes. Little assistance given to new faculty members.</p> <p><b>Students:</b></p> <p>Poor discipline and understanding of the rules. Little or no student involvement in running of the school. Excessive use of corporal punishment. Adult-oriented climate. Consistently low student achievement.</p>

Source: Barker, Wendel and Richmond (1999). p.22. *Linking the literature: School effectiveness and virtual schools. Vancouver, BC: FutureEd.*

**Table 3**

**Characteristics of Unusually Effective Schools**  
(Levine and Lezotte)

<b>Area</b>	<b>Characteristics</b>
Productive School Climate and Culture.	1. Orderly environment. 2. Faculty commitment to a shared and articulated mission focused on achievement. 3. Faculty cohesion, collaboration, consensus, communications and collegiality. 4. Faculty input into decision making. 5. School-wide emphasis in recognizing positive performance.
Focus on Student Acquisition of Learning skills.	6. Maximum availability and use of time for learning. 7. Emphasis in mastery of central learning skills.
Practice-Oriented Staff Development at the school Site.	
Appropriate Monitoring of Student Progress.	
Outstanding Leadership	8. Vigorous selection and replacement of teachers. 9. "Maverick" orientation and buffering. 10. Frequent, personal monitoring of school activities and sense making. 11. High expenditure of time and energy for school improvement actions. 12. Support for teachers. 13. Acquisition of resources. 14. Superior instructional leadership. 15. Availability and effective utilization of instructional support personnel.
Salient Parent Involvement	
Effective Instructional Arrangements and implementation.	16. Successful grouping and related organizational arrangements. 17. Appropriate pacing and alignments. 18. Active/enriched learning. 19. Effective teaching practices. 20. Emphasis on higher-order learning in assessing instructional outcomes. 21. Coordination in curriculum and instruction. 22. Easy availability of abundant and appropriate instructional materials. 23. Classroom adaptation. 24. Stealing time for reading, language and math.
Highly Operationalized Expectations and Requirements for Students	
Other Possible Correlates	25. Student sense of efficacy/futility. 26. Multicultural instruction and sensitivity. 27. Personal development of students. 28. Rigorous and equitable student promotion policies and practices.

Source: Barker, Wendel and Richmond (1999). p.23. *Linking the literature: School effectiveness and virtual schools*. Vancouver, BC: FutureEd.

Reynolds (Riddell and Brown, 1991) summarized the findings of Rutter et al.(1979) with regard to academic effectiveness as "irrelevant and relevant" factors. 'Irrelevant' factors were: the schools' average class sizes; the formal organization of the academic system of schools (e.g. having mixed ability or streamed ability grouping arrangements); school location arrangements (e.g. being split or not); the schools' sizes and; the ages and physical characteristics of the school buildings.

Factors linked with effectiveness were grouped under the following broad headings: *The pupil control system* - effective schools use rewards, praise, encouragement and appreciation more than punishments. *The school environment* - effective schools provide good working conditions for pupils and their teachers are responsive to pupils' needs and also provide buildings that are well maintained and well decorated. *The involvement of pupils* - effective schools give ample opportunities for pupils to take positions of responsibility and to participate in the running of the school and in the educational activities within the classrooms. *The academic development of pupils* - effective schools make positive use of homework, set clear and explicit academic goals, while the teachers in effective schools have high expectations of, and positive views of the capabilities of their pupils. *The behaviour of teachers* - effective schools provide good models of behaviour through teachers exhibiting good time keeping and a clearly apparent willingness to deal with pupils' personal and social problems. *Management in the classroom* - effective schools have teachers who prepare lessons in advance; keep the attention of the whole class; manage to maintain

discipline in an unobtrusive way; focus upon rewarding good behaviour and take swift action to deal with any disruptive pupils. *The management structure* - effective schools combine firm leadership by the head teacher with a decision making process which carries teachers along.

In the same vein, Stockard and Mayberry (1992) opined that, the impact of school-level variables on school climate and student achievement can be seen as involving four broad areas: Academic expectations and excellence, strong collaborative school leadership, orderly environments and school coherence, and high student and teacher morale. They stress that these all appear to involve, in a general sense, the norms and common values that promote learning within a school and the nature of relationships among school members.

In their review, Sammons et al (1995) focused on the British context and identified eleven factors associated with the academically effective school. These are as follows: Professional leadership- firm and purposeful, participative approach, the leading professional; shared vision and goals- unity of purpose, consistency of practice, collegiality and cooperation; a learning environment- an orderly atmosphere, an attractive learning environment; concentration on teaching and learning- maximization of learning time, academic emphasis, focus on achievement; purposeful teaching- efficient organization, clarity of purpose, structured lessons, adaptive practice; high expectations all round, communicating expectations, providing intellectual challenge; positive reinforcement- clear and fair discipline, feedback; monitoring progress- monitoring pupil performance, evaluating school performance; pupil rights and

responsibilities- raising self-esteem, positions of responsibilities, control of work; home-school partnership- parental involvement in their children's learning; a learning organization- school based staff development.

Adewuyi (2000) carried out an ethnographic study of six Nigerian secondary schools, with a view to finding out the instructional strategies that result in student achievement in English language classrooms in Nigeria. The conceptual framework consisted of contextual internal and external school effectiveness components. The internal factors consisted of school level inputs; general instructional strategies; and specific language classroom instructional strategies. External factors included student background variables; federal, state and district environmental factors; and educational policy that drives the schools' administration.

The study found that effective schools had:

Internal features such as:

- strong, supportive and action-driven principals.
- teachers that are more satisfied with their jobs.
- positive relationship with the communities in which they are located.
- positive school climate and culture conducive to meaningful teaching and learning activities.
- clear and goal-oriented programmes.
- teachers that develop and use instructional strategies to ensure students' achievement.

The study also pointed out the following external characteristics:

- Public secondary schools located in urban areas are more effective than those located in the rural areas.



- Private secondary schools are more effective than public secondary schools.
- Federal government secondary schools are more effective than state government schools.
- Both the quantity and quality of the teaching staff determine school effectiveness.
- Class size affects school effectiveness.
- School effectiveness is strongly associated with family socio-economic status of the students.

In view of the fore-going, Scheerens (2004) noted that the focal point of interest in the reviews is the “what works” question, emphasizing that the reviews often present lists of effectiveness enhancing conditions. However, it can be said that there is noticeably a fairly large consensus on the main categories of variables that are distinguished as effectiveness-enhancing conditions. This concern is largest with respect to the following factors: achievement orientation and high expectations; cooperation; educational leadership; frequent monitoring; effective learning time; opportunity to learn and ‘structure’ as the main instructional condition.

In the light of this, Scheerens and Bosker (Scheerens, 2000) analyzed 10 empirical school effectiveness studies and identified factors that are considered to ‘work’ in schooling. The summary is presented in Table 4.

Table 4

## Components of thirteen effectiveness-enhancing factors

Factors	Components
Achievement, orientation, high expectations.	clear focus on the mastering of basic subjects high expectations (school level) high expectations (teacher level) records on pupils' achievement
Educational leadership	general leadership skills school leader as information provider orchestrator or participative decision making school leader as coordinator meta-controller of classroom processes time educational/administrative leadership counselor and quality controller of classroom teachers initiator and facilitator of staff professionalization
Consensus and cohesion among staff	types and frequency of meetings and consultations contents of cooperation satisfaction about cooperation importance attributed to cooperation indicators of successful cooperation
Curriculum quality/ opportunity to learn	the way curricular priorities are set choice of methods and text books application of methods and text books opportunity to learn satisfaction with the curriculum
school climate	<i>orderly atmosphere</i> the importance given to an orderly climate rules and regulations punishment and reward absenteeism and drop out good conduct and behaviour of pupils satisfaction with orderly school climate  <i>climate in terms of effectiveness orientation and good internal relationships</i> priorities in an effectiveness-enhancing school climate perceptions on effectiveness-enhancing conditions relationships between pupils relationships between teachers and pupils relationships between staff relationships: the role of the head teacher engagement of pupils appraisal of roles and tasks job appraisal in terms of facilities, conditions of labour, task load and general satisfaction facilities and building
Evaluative potential	evaluation emphasis monitoring pupils' progress use of pupil monitoring systems school process evaluation use of evaluation results keeping records on pupils' performance satisfaction with evaluation activities

Parental involvement	emphasis on parental involvement in school policy contacts with parents satisfaction with parental involvement
Classroom climate	relationships within the classroom order work attitude satisfaction
Effective learning time	importance of effective learning time monitoring of absenteeism time at school time at classroom level classroom management homework

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Source: Schecrens (2000). p.14. Improving school effectiveness. *Fundamentals of Educational Planning*, 68. IIEP, Unesco.

The conclusion that can be reached is that schools do have a crucial role to play in promoting students' outcomes. In any event, schools can promote greater outcomes when all efforts are geared to helping students grow in a healthy school environment.

### ***Correlates of Effective Schools***

Gauthier, Pechonc, Shoemaker and Mackenzie (1985) reported that seven basic characteristics of school effectiveness seemed to be constantly present in all studies of School Effectiveness. The authors conducted extensive reviews of the research literature and described what they thought to be the most common characteristics of school effectiveness. These include: safe and orderly environment; instructional leadership; clear mission; high expectations; opportunity to learn and time on task; frequent monitoring of student progress; and, home and school relations.

Though there is some uncertainty concerning the weight each characteristic might have in relation to a school's total effectiveness and the probability that other characteristics may have additional influence on the effectiveness of a school, substantial research does exist showing the high correlation of these characteristics and the achievement of students regardless of their socioeconomic status (Westbrook, 1982).

### ***Teacher characteristics and school effectiveness.***

Teachers are an integral part of the school environment. Several studies have examined how teachers' years of education; teaching experience; the match of their education with regards to the type of school; and their own ability level affect students' achievement. The results of the studies on teacher characteristics have been mixed. Bridge, Judd, & Moock (1979) reviewed a number of studies in this area. Few of the studies reported significant influences of teachers' level of education on achievement. Half of these results showed a positive influence, while half showed a negative influence. Some revealed that elementary teachers who had graduated from more prestigious schools had students with higher verbal or reading achievement, while others (Guthrie, Kleindorfer, Levin, & Stout 1971) indicate that teachers with more years of teaching experience have students with higher achievement scores. However, Murnane (1975) and Bridge et al. (1979) opine that the effect of teaching experience may be curvilinear, with the greatest effect in the first few years.

Some studies on the effectiveness of certain personal characteristics of teachers (Medley and Mitzel, 1963; Rosenshine and Furst, 1973) found that there was hardly any consistency between personal characteristics of teachers and pupil achievement, while other researchers gave more explicit attention to the relationship between observed teacher behaviour and pupil achievement.

Weeda (1980) found such variables as: *Clarity*: clear presentation adapted to suit the cognitive level of pupils; *flexibility* - varying teaching behaviour and teaching aids, organizing different activities etc; *enthusiasm*, expressed in verbal and non-verbal behaviour of the teacher; *task related and/or business-like behaviour* such as directing the pupils to complete tasks, duties, exercises etc. in a business-like manner as impacting positively on pupils' achievement. Negative criticism has a negative effect on pupil achievement. *Indirect activity* such as taking up ideas, accepting pupils' feelings and stimulating individual activity; *providing the pupils with an opportunity to learn criterion material* - that is to say, a clear correspondence between what is taught in class and what is tested in examination and assessments; making use of *stimulating comments*; directing the thinking of pupils to the question; summarizing a discussion; initiating the beginning or end of a lesson; emphasizing certain features of the course material; and *varying the level* of both cognitive questions and cognitive interaction are all positively related to students' learning.

Economists have amassed a body of work that further emphasizes the measurable influence that teachers have on student performance (Rivkin, Hanusek, and Kain, 2005). Some studies (Ferguson, 1998; Ferguson and Ladd,

1996; Strauss and Sawyer 1986) have correlated teacher test scores on basic skills tests and college entrance examinations with the scores of their students on standardized tests and have found that high-scoring teachers are more likely to elicit significant gains in student achievement than their low scoring counterparts. Bilesanmi (1999) found that teacher qualification, mode of study and scientific attitude, gender, and attitude to the teaching profession had only a direct causal effect on students' achievement in ecology. While Adeniji (1999) found that teacher qualification, teaching experience and job satisfaction, have a direct, causal influence on teacher job performance.

According to Hanusek (2002), "having three years of good teachers in a row would overcome the average achievement deficit between low-income kids and others." Marzano (2001), added that "if we identify what those highly effective teachers do, then even more of the differences in student achievement can be accounted for." Rivers and Sanders (2002) further contend that, both short-term and long-term effects of incompetent teachers on students are tremendous.

There is a lot less consensus about certification. While some research reports (Abell Foundation, 2001), claim that certified teachers are no better than uncertified teachers, others (Laczko-Kerr and Berliner, 2002; Darling-Hammond 2004) assert that certification is an important step in ensuring quality teaching

Other studies (Murnane and Philips, 1981; Fetler, 1999) have also shown that teaching experience appears to have an influence on student achievement. Teachers with less teaching experience typically produce smaller learning gains

in their students, compared with more seasoned teachers. However, most of these studies have also discovered that the benefits of experience level off after the first five years or so of teaching.

### ***Teacher expectations and school effectiveness.***

Teacher expectations have been related to school effectiveness more consistently than any other variable (Edmunds 1979; Rutter et al. 1979). In essence, according to Slackney (1988), high expectations refer to a climate where the staff expects students to do well, believe in their ability to influence student achievement, and are held accountable for student learning. This expectation is translated into specific school and classroom policies, practices and behaviours. For example, teachers with high expectations for student learning will emphasize punctuality, time-on-task, completion of assignments, willingness to see pupils about their problems at any time, and mastery learning.

A high expectation on the part of the principal for staff performance (as well as students) has also been associated with student outcomes (Edmonds, 1979; Brookover and Lezotte, 1979). According to Slackney (1988), whatever the reasons, high expectation for teacher performance has been identified as a crucial variable in student outcomes. Slackney further specifies the behaviours that principals who elicit high expectations engage in. These include being an assertive instructional leader, an excellent role model; developing a well articulated school mission; engaging in planning and decision-making through collaborative processes; emphasizing the importance of academics; maintaining

an on-going, effective staff development programme; and regularly receiving and discussing staff performance. Additionally, effective principals tend to be assertive, more effective disciplinarians, and more inclined to assume responsibility.

From their work with secondary school students, McDill, Rigsby, & Meyers, (1969) and Rigsby (1973) suggest that schools in which teachers and students are seen as emphasizing intellectualism, subject matter, competency, and a commitment to academic excellence are more likely to have higher levels of mathematics achievement and higher levels of educational aspirations. These climate variables significantly influence students, even when individual attributes such as socioeconomic background, ability, academic values and the socioeconomic context of their schools are controlled.

Sarah Lightfoot's (1983) extensive ethnographic work suggests that high-achieving secondary schools are those in which the staff are concerned with the rationale, coherence and integrity of the curriculum and are committed to academic pursuits. Similarly, McDill and Rigsby (1973) suggested that schools that offer students either the opportunity for advanced placement or the opportunity to participate in an accelerated curriculum demonstrate a commitment to academic excellence and, in turn, nurture that commitment in student and faculty. Brookover, Schweitzer, Schneider, Beady, Flood, & Wisenbaker (1978), Brookover and Lezotte (1979) and in their studies of elementary schools, reported that school members' attributes are related to increasing levels of school achievement. Most important among these are staff commitment to improving students' academic performance, high and/or



increasing expectations of teachers about students, such as high opinions of student abilities, peer norms emphasizing academics, and staff insistence on reaching basic reading and mathematics goals.

Phi Delta Kappa International, PDK (1980) noted that high staff and student expectations appear to lower a student's "sense of futility" and convey the impression that teachers do care and students can succeed. In general, these studies consistently indicate that schools with teachers and students, who see high achievement as a real and attainable goal, actually do have higher achievement.

Other studies (Brookover et al., 1979; Rutter et al., 1979; Wynne, 1980) indicate that, in addition to valuing and expecting academic excellence, frequent and public rewards and praise for academic accomplishments and good behaviour help to create a positive learning climate. Metz (1986), however, suggests that, if the learning climate of the school is to be enhanced, rewards and praise need to be based on student's individual progress rather than on the comparison of students with one another.

Edmunds (1986), Howard (1990), Levin (1988), Rutter et al. (1979) and Slavin et al. (1989) report on research that they conducted in schools in London. Their findings show considerable differences in their school's rates of delinquency, behavioural disturbance, attendance, and academic attainment (even after controlling for family 'risk' factors). The successful schools share certain characteristics such as an emphasis on academics, clear expectations and regulations, high levels of student participation, and alternative resources such as library facilities, vocational work opportunities, art, music and

extracurricular activities. One of the most significant findings is that the longer students attend such schools, the less they exhibit problem behaviours.

Research on successful programs for students at risk of academic failure has clearly demonstrated that high expectations, with concomitant support, is a critical factor in decreasing the number of students who drop out of school and in increasing the number of students who go on to college (Mehan et al. 1994).

Howard (1990) intimated that, conveying positive and high expectations to students occur in several ways. One of the most obvious and powerful is through personal relationships in which teachers and other school staff communicates to students, 'this work is important; I know you can do it; I won't give up on you'. Youth who are succeeding against the odds talk of being respected and of having their strengths and abilities recognized (McLaughlin et al. 1994; Mehan et al. 1994). Schools also communicate expectations in the way they structure and organize learning (Weinstein et al. 1991).

Furthermore, teachers who teach through a broad range of learning styles and multiple intelligences communicate that the school values the unique strengths and intelligence of each individual (Gardner, 1985). Mehan et al. (1994) also stress that schools that encourage critical thinking and inquiry and the development of a critical consciousness are not only able to engage youth, but are especially effective at communicating the expectation that students are truly capable of complex problem-solving and decision-making.

Gardner (1985) further stresses that evaluation is one more component of schooling through which we convey either high or low expectations. Schools

that motivate young people to learn do not rely on standardized tests that assess only one or two types of intelligence, usually linguistic and logical-mathematical. Nor do they focus on 'right answer' questions and assessments. Instead, they use several assessment approaches, problem solving, and assessments that validate children's different intelligences, strengths and learning styles.

Expectations also play a role in motivating students and instilling in them a responsibility for learning. Schools that are especially successful in promoting resiliency, build on students' intrinsic motivation. These schools actively engage students in a variety of rich and experiential activities (Anderman & Maehr, 1994; Weinstein et al. 1991). In addition, they count on students' active participation and decision-making in the daily life of the classroom and school to build responsibility for learning. These in turn become intrinsic motivators for further learning and resiliency.

According to Levine and Lezotte (1990), the presence of high expectations has been cited as a crucial characteristic of virtually all unusually effective schools described in case studies. Bamburg (1999) notes that there are various conceptions concerning what would fall under the umbrella of teacher expectations. He suggested that the perception of the teacher regarding where a student is at the present moment, how much academic progress the student will make over a specific period of time, and the degree to which a teacher over- or underestimates a student's present level of performance is critical in this area.

Cotton (2000) observes that through high expectations, a supportive environment for learning in the classroom is created. It is the responsibility of each and every staff member of the school "to operationalize high expectations.... Something is being done systematically and vigorously to communicate and ensure a strong academic press and climate conducive to learning" (Levine and Lezotte, 1990).

Furthermore, Cotton (2000) contends that it is critical for high expectations to be communicated to students and staff alike. With regard to students, teachers should hold learners accountable for completing assigned work and for class participation. Teachers, in providing opportunities for students to reach their full potential, should allow the "time, instruction, and encouragement necessary to help low achievers."

Marzano (2003) equates high expectations with goal-setting and feedback, where teachers acknowledge individual's strengths and talents and possess a sincere interest in and caring for students. Lezotte and Levine (1994) stress that teachers who hold high expectations have an awareness of the influence of factors which place students at-risk of academic failure, yet while these factors are considered, they are never viewed as an obstacle that could not be overcome.

### ***Leader behaviour and school effectiveness.***

Strong, administrative leadership is one of the variables most often noted in school effectiveness research. Lezotte (1992) opines that just as world-class orchestras of virtuoso musicians require world-class conductors, schools

require the principal's instructional leadership. According to Levine and Lezotte (1990), the principal should be considered the most critical leadership determinant of effectiveness. Lipham (1981) cited leadership as the most crucial element of school quality and effectiveness, stating that he had never seen a good school with a poor principal or a poor school with a good principal.

Several researchers (Brookover and Lezotte 1979; Edmonds 1979; Klitgaard and Hall 1973; Purkey and Smith 1983; Levine 1990; Fullan 1990; Lezotte, 1992; Cotton, 2000) have found that effective administrators are linked with both academic learning and cohesive relations within a school, stressing that, effective principals seem to promote higher achievement by actively encouraging high expectations for students and promoting teaching situations that allow the most effective and extensive instructional contacts. Cotton (2000) stated that an effective principal ensures the alignment of curriculum, instruction and assessment. While reinforcing a high level of achievement for all students, the principal spearheads efforts to collect, analyze and discuss achievement data and subsequently assists in the development of a school plan to remedy identified areas of need. The principal is instrumental in fostering an environment of continuous improvement.

Moreover, Cotton (2000) stated that, when necessary, the principal would model effective strategies and practices. In addition, in the event that further support was needed, effective principals were likely to utilize the services of specialists in the area of curriculum and instruction to support their efforts (Levine and Lezotte, 1990). In the same vein, according to Cotton (2000) and Davis and Thomas (1989), an effective school administrator is responsible for securing

necessary resources, including professional development opportunities, and will be in attendance for staff development taking place.

According to Stockard and Mayberry (1992), much of the early work in the school climate tradition was oriented toward facilitating better matches between school climates and leadership styles of potential administrators and suggests that the congruence between the perceptions and orientations of various members of a school is important in defining a school's climate, noting that an effective principal is portrayed as one who creates an environment that emphasizes achievement and intellectualism; offers staff members help, support and recognition; develops a sense of collegiality with the faculty; and allots staff and students maximum participation in the decision-making process. In addition, successful school leaders possess various leadership traits, including courage, resourcefulness, an orientation to established goals, and a proactive mentality (Davis and Thomas , 1989).

### ***The school environment.***

Effective school climates are characterized by an atmosphere that is orderly without being rigid (Edmonds, 1979); maintains a consistent set of rules and regulations that clearly map out school goals and policies (Phi Delta Kappa, 1980; Rutter et al. 1979), and 'purposefulness' and pleasure in learning (Weber, 1979). Such an atmosphere, according to Levin (1990), appears to enhance students' learning as well as cohesive relationship among school members.

Murphy et al (1985), claim that effective schools maintain a safe and orderly environment for learning. They contend that there are two parts to this variable.

The first refers to the climate in which students are free from the danger of harm to themselves or their property. While a second aspect of this attribute is such that the school has a systematic set of discipline policies and practices.

Slackney (1988) notes that effective schools tend to emphasize a few major rules that are specific and easy to understand, which have been agreed to by students, teachers and parents. Murphy and Hallinger (1985) further indicated that the consequences of breaking rules are incremental in nature, immediate, hard to avoid, and consistent throughout the school.

An orderly environment appears to affect achievement in a variety of ways. It provides a disciplinary climate within which students' and teachers' opportunities to conduct task-related work are maximized (Coleman, 1982; Peng, Bailey & Ekland, 1982; Hoffer, Greely, & Coleman, 1987) and promotes a sense of efficiency among teachers and students, which in turn enhances teaching and learning performances (Metz, 1986; Newmann et al 1989; McDill and Rigsby 1973; Rutter et al. 1979).

Studies (Rutter et al 1979; Wynne, 1980) have noted the relationship between staff involvement in decision-making and student achievement. Kalis (1980) and Newmann, Rutter, & Smith (1989) have indicated that teachers who report satisfaction with their work setting are more likely to express high morale and perceive the school climate as open and supportive of their role. In turn, students who perceive their teachers as satisfied with their jobs are more likely to exhibit high levels of attendance and achievement (Brookover & Lezotte 1979). In general, an orderly and coherent school environment appears to promote an atmosphere of trust, caring, and cooperation (Metz, 1986).

### ***Monitoring of students' progress.***

In the effective school, pupil progress over the essential objectives is measured frequently, monitored frequently and the result of those assessments are used to improve the individual student's behaviour and performances, as well as to improve the curriculum as a whole (Lezotte, 2001).

Gandal and McGiffert (2003) see monitoring of student progress like medical tests that help diagnose and treat patients, in the sense that rigorous and meaningful education assessments can help ensure the academic health of all students. According to Levine and Lezotte (1990), student assessment information provides data to 'drive' school improvement efforts toward greater excellence and equity.

Bernhardt (2003) further notes that looking at student achievement results in conjunction with the context of the school and the processes that create the results give teachers and administrators important information about what they need to do to improve learning for all students.

Brimijoin, Marquissee, and Tomlinson (2003) state that the role of the teacher as "data-collector" is three dimensional: "to determine students' prior understanding and achievement, to track their responses to moderate challenges and to measure their outcomes against expected performance goals."

Attention to standardized testing has been found to have strong correlation with the achievement of students. According to Edmonds (1985),



Effective schools were guided by the performance of standardized tests. They monitored the results and spent as much time avoiding things that did not get results as they did trying to discover things to improve achievement. Ineffective schools tended to be unmoved by pupil performance on standardized tests, especially when the data showed middle class students were doing fine and poor students were doing poorly. Effective schools, in contrast, were driven by pupil performance on standard tests. When effective schools were not achieving the results they wanted they tried something else.

He added, "The effective schools characteristic Frequent Monitoring of Student Progress is probably the most powerful of all the effective schools characteristics, in the sense that it has the capacity to drive the rest of them".

The importance of monitoring of student progress has been well documented. According to Lezotte (1985), frequent monitoring of student progress in effective schools was based upon two premises. First, the effective school has the expectation that all students will participate in performance exercise. Second, the effective school incorporated the assumption that teachers would use feedback derived from the monitoring of student performance as assessment of instructional progress. He stated,

When these were accepted and in place, teachers were better able to monitor and adjust the instructional program. By identifying who had and who had not mastered the lesson, the teachers were

able to adjust, readjust, and re-teach at the most appropriate moment. In every such case, the teacher was able to improve instructional effectiveness.

For maximum effective utilization of the monitoring process, Shoemaker (1985) identified the following:

1. The entire staff participated in the analysis of testing results.
2. Classroom assessment was frequent and based upon discernable, well-articulated objectives.
3. Results were reported to the students promptly.
4. Teachers aided the students in the interpretation of results and assisted in correcting existing errors.
5. Results were used to adjust instruction.
6. Results were charted to determine the existence of any patterns.
7. Levels of expectations were determined and communicated.
8. Results were communicated to the home setting.
9. Test data were compared to national and local norms.
10. Criteria for grading were established and standardized across the school.

### ***Academic emphasis.***

One construct that captures a number of aspects highlighted by early effective school research is the academic emphasis of schools (Hoy and DiPaola, 2007). Edmonds (1979) was the first researcher on effective schools to offer evidence

that school factors other than student socio-economic status was related to student achievement.

Other researchers (Bosset, 1988; Purkey and Smith, 1983; Stedman, 1987, Wimpelberg, Teddlie and Stringfield, 1989) subsequently supported Edmond's findings. Later, Hoy and his colleagues (Hoy and Sabo, 1998; Hoy and Tarter, 1997; Hoy, Tarter and Kottkamp, 1991) captured many of these effectiveness characteristics in a construct labeled 'academic emphasis', a single factor of school climate identified in three separate analytic studies.

Research suggests that successful schools maintain a focus on academics. Smylie, Lazarus and Brownlee-Conyers (1996) found that schools that improved instruction through participative decision-making maintained a core focus on student learning. In addition, Beck and Murphy (1996) refer to such a school focus as the "learning imperative".

Academic emphasis according to Hoy and DiPaola (2007), is the extent to which the school is driven by a quest for academic excellence. In such schools, teachers set high but achievable goals; they believe in the capacity of their students to achieve; the school environment is orderly and serious and; students, teachers as well as the principal, pursue and respect academic success.

### ***Equality of Educational Opportunities***

The Coleman report published in 1966 as a result of the research into educational opportunity and the studies by Plowden (1967) and Jencks et al. (1972), were the precursor of school effectiveness studies. Coleman's study was

intended to show the extent to which school achievement is related to students' ethnic background. After statistically eliminating the influence of ethnic origin and socio-economic status, it appeared that teacher characteristics, material facilities and curriculum and characteristics of the groups in which pupils were placed together accounted for 10% of the variance in pupil performance. The finding suggested that student performance is more highly related to conditions outside the school, more specifically socio-economic and ethnic origin than those within the control of the school

Supporting the Coleman finding was the study conducted by Jencks et al. (1972) under the title: *A re-assessment of the effects of family and schooling in America*. The study concluded that educational inequality is linked to income and social class. Other large-scale studies (Hauser, Sewell and Alvin, 1976) also focused primarily on providing data on equality of opportunity. They also indicated a relatively high correlation between socio-economic and ethnic family characteristics compared to a small or even negligible influence from school and instruction characteristics.

The interpretation of the findings of these studies implies that schools do not make a difference to student outcomes. Nevertheless, as Wyatt (1996) notes, subsequent research (Rutter et al, 1979; Mortimore et al 1988; Mortimore, Sammons, Stoll, Lewis, & Ecob, 1988), examining the relative progress made by students concluded that while background variables are important, schools can have a significant impact. Bourke and Schofield (2004) buttress this when they observed that combinations of school and classroom variables have been

found to affect student attitudes to school, social development, self-esteem, educational progress and attainment, and attendance. Conservative estimates suggest that class and school effects together account for between 8 and 18% of variance in student outcomes (Creemers, 1994, Reynolds, Teddlie, Creemers, Nesselrodt, Schaffer & Stringfield, 1994; Stoll & Reynolds, 1997). According to Creemers (1994), the identification of class, school, and combination of class and school effects have been described as the most significant breakthrough from more recent school effectiveness research. Other researchers (Fagbamiye, 1977; Fagbamiye and Osunkalu, 1979; Fagbamiye, 1986; Darling-Hammond, 2000; Reynolds & Packer, 1992; Sammons, Nuttall, Thomas & Cuttance, 1993; Teddlie, 1995) have suggested that while there was no question that family factors, especially socioeconomic status, affect student outcomes and attitudes at school, the more profound impact on student outcomes was related to school and class factors such as school and class climate, leadership, structure, and teaching practices.

### ***Economic Studies on Educational Production Functions***

Economic approaches to school effectiveness seek to find which inputs can increase outputs. Such emphasize that if reliable knowledge exists on the extent to which a set of inputs are related to a set of outputs, then it would be possible to define a function that is characteristic of the production process and this would indicate how a change in inputs would affect the outputs. This research tradition is often referred to as input-output studies or education production function studies.

Several studies have shown that significant positive associations exist between pupil achievement or other educational outcomes and certain resource input factors. Hedges, Laine and Greenwald (1994) found significant effects for several input variables, especially the effect of per-pupil expenditure, while Card and Krueger (1992) indicated a positive association between school resources and differences in earnings amongst workers.

Cohn and Rossmiller (1987) stress that even though there are differences between developed countries and less developed countries (LDCs), there are also great similarities in the determinants of academic performance. While drawing implications for educational policy in LDCs, they noted that adequate facilities, equipment, books and other instructional materials are necessary if a school is to be effective, but stress that facilities and materials alone will not ensure effectiveness, if those who teach in them are not competent or if their decision making is unduly constrained. According to them, highly effective teachers will find it difficult to teach effectively if facilities are inadequate or if the necessary instructional materials are lacking.

According to Haddad, Martin, Rinaldi, & Regel (1990), there are nevertheless "variations in school inputs, such as teacher experience, teacher motivation, the presence of textbooks, homework and time spent in school during the year that contribute to varying pupil achievement, even when family backgrounds are accounted for." Mwamwenda and Mwamwenda (1987) found that the availability of classrooms, desks, seats and books all produce a significantly

better performance in standard 7 examinations in Botswana. Their findings indicate that school facilities are critical to academic achievement.

Vulliamy (1987) research in Papua New Guinea secondary schools found that the lack of most basic facilities depresses staff and student morale and impedes effective teaching and learning.

Urwick and Junaidu (1991), in a study of Nigerian primary schools, found the existence of multiple links between the quality of school facilities and a number of educational process variables widely considered to be important determinants of the quality of schooling. They found that textbooks, teaching aids, writing materials and furniture had some effects on four aspects of teaching, namely: the extent to which teaching methods were pupil-centered, the variety of activities organized during lessons, the frequency with which assignments and homework were set, and the variety of methods of communication used during lessons. They also found that certain classroom learning conditions such as the time required for learning activities to take place, orderliness and ease of movement in the classroom, pupil attentiveness and pupils' opportunities for developing reading and writing skills were also affected by many aspects of the school facilities, including ancillary services, such as first aid, toilets, water supply, classroom maintenance, textbook and furniture availability, and space. Effects were also observed for other school variables such as of breadth of the basic curriculum, the range of co-curricular activities, and teacher morale. They found indifference on the part of teachers in more deprived schools as a major factor, while teacher morale was influenced by the physical condition and appearance of the school.

Lockheed (1986) analyzed longitudinal data from a sample of eighth grade mathematics classrooms in Thailand and concluded that textbooks contribute to student learning in developing countries by substituting for post secondary teacher education and by delivering a more comprehensive curriculum.

More generally, Hallak (1990) intimated that,

textbooks are the institutional device par excellence, and are central to teaching. In the least developed countries, they often contribute 85% of recurrent expenditure on materials. Classrooms deprived of textbooks promote little in the way of reading skills, and are obliged to content themselves with rote learning, recitation, copying from blackboards and taking lecture notes.

Lockheed and Verspoor (1991) also reported that the availability of textbooks and other instructional materials had a consistently positive effect on student achievement in developing countries. They recommend the provision of good textbooks and teacher guides for teachers. Nevertheless, they observed that priorities differ among countries. While some see the provision of textbooks as more crucial than the physical plant, the reverse is true for other countries.

Levin and Lockheed (1993) further observed that the most recent summaries of school effectiveness research in developing countries have included the following factors as important in an effective school, and the necessary basic inputs include: Instructional materials such as textbooks, supplementary



teachers' guides and materials, library books, etc; a curriculum with appropriate scope and sequence and a content related to pupils' experience; time for learning (the number and length of school days); and teaching practices (active student learning, to include discussion, group work etc).

On the other hand, facilitating conditions include: community involvement, to include good school/community relations and parental involvement in the school; school-based professionalism to include leadership by the school head, teacher collegiality and commitment, accountability through assessment and supervision, and support; flexibility relevant to pupil curricular, adjustments in level and pace, organizational flexibility to include school clusters, multi-grade teaching, and pedagogical flexibility to include teaching innovations; and the will to act, that is, having visions and using de-centralized, school-based solutions to problems (Lockheed and Verspoor, (1991).

In the same vein, Adeogun (2001) found a very strong positive significant relationship between instructional resources and academic performance in both private and public secondary schools in Lagos State, confirming an earlier study conducted by Babayomi (1999) that private schools performed better than public schools because of the availability and adequacy of teaching and learning resources.

### ***Misconceptions about School Effectiveness Research***

As pointed out by Reynolds and Parker (1992), studies on school effectiveness carried out in various countries and the conclusions drawn from such may no longer be wholly acceptable. These misconceptions include the following:

1. Size of school effect: early beliefs that school influence might be as large as family or community influences might have been misplaced.
2. Cause of school effects: early beliefs that school influences were distinct from teacher and classroom influences were misplaced.
3. Consistency of school effects: early beliefs that 'effective' or 'ineffective' schools stayed so over a considerable period of time (five to seven years) were invalid.
4. Consistency of performance of schools across a range of outcome measures: early belief that the 'effective school' was effective across a range of both academic and social outcomes no longer holds. It has now become apparent that schools are not always effective or ineffective 'across the board'.
5. Effectiveness across different groups of pupils: the traditional belief that schools are effective or ineffective for all sub-groups of pupils within them is no longer tenable.
6. Factors that make schools more or less effective: the traditional belief (Edmonds, 1979), that there was a blueprint or 'recipe' independent of school history, context or personnel is no longer tenable. School effectiveness tends to imply mechanistic solutions, assuming schools to be rational organizations rather than the complex mix of cultures, subcultures and interactions that they are.

Eraut (1999) points out a weakness of the search for effectiveness:

The notion of effective methods has great political appeal, especially when linked to ideas of evidence-based practice imported from the field of medicine. But not more than 20% of medical decisions and virtually no teaching decisions can be made on the basis of gold standard evidence from meta-analyses and randomized control trials. Educational diagnoses and treatments show so much natural variation that the construct of an effective method is highly questionable.

7. It is clear that there is no agreement on what makes schools effective.

### ***Summary***

Considerable literature was available in the area of school effectiveness in developed countries. However little literature is available on school effectiveness in Africa as a whole. In agreement, Reviere (2004) noted that this dearth of published material can be illustrated by looking at the results of searches of the extensive Educational Resource Information Centre (ERIC) database. A search with the parameters "Effective Schools Research" and "Africa" returned zero citations from the period 1966 to 1989 and six for the period beginning in 1990. Broadening the ERIC search to include "Effective Schools Research" in all "Developing Nations" yielded a total of eight citations from 1966 on to the present. A search for "Effective Schools Research" and "Developing Countries" yielded 33 citations. Similar results were obtained using related keywords. The review further showed that no substantive impact on process variables was apparent, as the few studies reviewed from Nigeria focused mainly on input variables, while studies on the influence of both input and process variables on school effectiveness in this country was almost non-existent.

One basic reason for this lies with the fact that the motivation in school research in Nigeria has been a quest for efficiency. On the one hand, research focused on school effects to prove that investments in education were worthwhile, and on the other hand, to identify which inputs provided the greatest returns on the investments. (Reviere, 2004)

Notwithstanding the above, the review showed much of the early work was critical of the role schools played in the education of children, with notions like, "schools do not make a difference" (Coleman et. al., 1966). As studies in developed countries focused more on school processes than tangible input, researchers began to find that certain school characteristics were found more often in effective than ineffective schools.

These findings suggested that the effectiveness of schools depended more on process than input variables despite the fact that input variables were also important. It was further revealed that aside from the existence of several definitions of effectiveness, the number of effective schools characteristics also varied. While some criticisms existed about effective schools research methodology, there appeared to be a consensus among researchers that the earlier findings which stated that schools made no difference were wrong. The review showed that many of the determinants of school achievement are within the control of schools.

The general conclusion, when reviewing the bulk of research was that the results obtained from school effectiveness research depend mostly on studies in industrialized countries. Though many lessons are to be learnt from such research findings, many differences exist in the importance of school-related factors in determining school achievement between such schools and typical schools in a developing country such as Nigeria. Furthermore, most of the studies were carried out in elementary schools and

were supported by multi-national corporations and government agencies (Block, 1983).

Though it can be argued that school effectiveness research findings from industrialized countries may not be totally valid in Nigeria's context, it is clear none-the-less that each system of education needs to conduct its own research into the identification of variables and factors associated with school effectiveness.

This research will therefore fill this gap. It focused on input and process variables in order to identify those factors that are associated with school effectiveness in this country.

## CHAPTER THREE

### RESEARCH METHODOLOGY

#### *Research Design*

This study was conducted using survey (descriptive) research and a correlational and causal comparative or ex post facto design. Survey research studies large and small populations by selecting and studying samples in order to discover the relative incidence, distribution and interrelations of sociological and psychological variables (Kerlinger, 1964). The term ex post facto (causal comparative) indicates a study in which the researcher is unable to cause a variable to occur by creating a treatment, and must examine the effects of a naturalistically occurring treatment after it has occurred. According to Tuckman (1999), the researcher attempts to relate this after-the-fact treatment to an outcome or dependent measure. The term ex-post facto means "from a thing done afterwards". It implies some type of subsequent action. The variables are studied in retrospect, in search of possible relationships or effects.

Although the independent variables have already occurred, it does not mean the researcher is ignorant of them when planning the research. In this study, the independent variables were considered in the context of research so far completed. The independent variables in this study are: School facilities and equipment, teachers' qualification, teachers' experience, leader behaviour, academic emphasis, monitoring of students' progress, school environment and teacher expectations of students. The dependent variable is school effectiveness.

### ***Population of the Study***

There were 231 government approved private secondary schools in Lagos State, (Lagos State Ministry of Education, 2004) as at the time the data for the study were collected (2005/2006 session). Of this number, 10 schools serving expatriates, different language groups or minorities were excluded. These schools do not present their students for the Senior School Certificate Examinations (SSCE) at the end of their secondary education. A further five schools were also excluded, as they had not graduated a minimum of three sets of students, leaving a total of 216 government approved secondary schools. They constituted the population for this study.

### ***Sample and Sampling Procedure***

There are two categories of sampling procedures. These are probability and non-probability sampling. In probability sampling, every element of the population has a known chance of being selected. In a non-probability sample, such a nonzero chance of being selected is unknown. For the purpose of this study, the probability sampling procedure was adopted.

The stratified random sampling technique was used to select schools from three strata. This sampling technique involves a process in which certain subgroups or strata are selected from the sample in the same proportion, as they exist in the population (Ffranekel and Wallen, 1990). First the sampling frame (list) of the private schools in Lagos state was obtained from the Lagos State Ministry of

Education. The schools were then divided into three groups. The population was stratified by status – High, Middle and Low - brow, taking into cognizance the tuition fees charged. The population of 216 registered private schools consisted of 127 low-brow, 67 middle-brow and 22 high-brow schools.

Twenty per cent of schools were randomly selected from each stratum. A total of 26 low-brow, 14 middle-brow and 5 high-brow schools constituted the sample, resulting in 45 schools in all. The proportions of low-, middle- and high-brow schools were the same in the population as they were in the sample. The schools were broadly representative of private schools across Lagos State.

Twenty teachers selected at random from each participating school completed the School Environment Questionnaire. Out of the 900 questionnaires administered, 840 were returned completed (97.1% response rate). In addition, one School's Profile Checklist was administered to every school sampled. The researcher completed the checklist by verifying what was available on ground in each school in terms of facilities and equipment against the facilities and equipment every school is expected to have.

### ***Research Instruments***

After specifying the population and drawing the sample, the next step was to collect data for solving the problem under study. A wide variety of techniques for collection of data are available, however, the questionnaire and checklist were adopted for use in this study. The questionnaire is useful in many ways: it can secure uniformity of responses from respondents in all aspects of the problem under consideration; it is suitable for group administration and is



economical. Two instruments were developed by the researcher for use in this study after reviewing the relevant literature and consulting experts in the field. These are The School Environment Questionnaire (SEQ) and The Schools' Profile checklist (SPC).

### **School Environment Questionnaire (SEQ).**

This is a 100-items, two-part, self-administered, Likert-type structured questionnaire. The first part focused on the relevant attribute and demographic characteristics of the respondents such as age, sex, educational qualification, and years of teaching experience. The second part consisted of itemized statements focusing on leader behaviour, school climate, teacher expectations, academic emphasis and student monitoring. Twenty teachers from each school sampled gave their views on the school environment on a four-point modified Likert scale, ranging from Strongly Agree to Strongly Disagree.

### **Schools' Profile Checklist (SPC).**

This is a structured checklist that assessed the availability and adequacy of facilities, equipment, other resources and utilities in the schools. It had two parts. The first part sought general information about the school such as school name, population, location, type, that is, whether co-educational or single-sex and the tuition fees charged. The second part consisted of a standard and comprehensive list of facilities, equipment, items/tools, materials and chemicals as recommended by the Federal Ministry of Education. This part sought information on the availability and quantity of items and equipment in the physics, chemistry, biology, agricultural, music and home economics

laboratories as well as the introductory technology, and technical drawing workshops and the fine art room. These subject areas require the use of either a laboratory or workshop to facilitate the teaching and learning process.

The main sources used are the Standard Guide for Secondary School Physical Development (FME, 1988) and the Standardisation and Specification of Science Equipment (FME, 1983).

The results of the Senior School Certificate Examinations (SSCE) served as the main output measure and provided data on students' academic achievement over a three-year period (2003/2004, 2004/2005 and 2005/2006 sessions). In Nigeria, students take the Senior School Certificate Examinations (SSCE) at the end of the senior secondary school course. The SSCE performance is critical for a student's future career opportunities and entry into tertiary institutions. Parents choose private rather than public schools for different reasons, but the decision of many is influenced by the belief that a private school, often with smaller classes and better resources, will raise their child's examination performance.

In the SSC examinations, a separate grade is awarded in each subject entered. At the time of the study, there were nine possible grades A1, A2, A3 (excellent); C4, C5, C6 (credit); P7, P8 (pass); and F9 (fail). Students who intend to gain admission into post-secondary institutions typically take eight or nine subjects and must achieve grades A to C (credits) in five subjects including English and Mathematics which are the entry requirements for University admission. The primary measure of a school's performance in this study therefore was the

proportion of the students that obtained grades A to C in a minimum of five subjects including English and Mathematics in the SSCE. Since SSCE is a criterion-referred examination, grades are awarded on the basis of some predefined criterion of what is a correct answer and there are no predetermined quotas for the number of students who may secure credits. Therefore it becomes easy to determine an effective school.

A threshold of a three year average was set for a school to qualify as highly effective, effective, less effective and not effective as follows: If

- 75% - 100% of students obtained five credits including English and mathematics the school was highly effective.
- 50% - 75% of students obtained five credits including English and mathematics the school was effective.
- 25% - 50% of students obtained five credits including English and mathematics the school was less effective.
- 0% - 25% of students obtained five credits including English and mathematics the school was not effective.

The results were obtained from the West African examinations Council (WAEC).

### ***Validity of instruments***

The validity of a test is the extent to which the instrument measures what it purports to measure (Tuckman, 1999). A detailed review of literature was conducted and the questionnaire items were constructed to cover the known content represented in the literature, based on previous research and theory. To

further strengthen the content validity, existing survey instruments that focused on similar or relevant content areas were referenced. Thereafter, the instrument was subjected to criticisms from colleagues, experts and authorities in the field of enquiry. The instruments were given to four lecturers in the Department of Educational Administration, University of Lagos, who adjudged them as adequate in terms of content, clarity, appropriateness of language and expressions, including the appropriateness of the instruction to respondents. Thus face and content validity was assured.

### ***Pilot Study***

The questionnaires, having been amended to enhance their validity, were pilot tested. A pilot study is the pre-testing or 'trying out' of a particular research instrument (Baker, 1994). One of the advantages of conducting a pilot study is that it might give advance warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated. Copies of the SEQ were delivered to respondents in the pilot schools, which comprised one from each of the low-, middle- and high-brow private secondary schools in Lagos State. Data were collected at random from 20 teachers in each school. The schools used were not included in the main study.

### ***Reliability of instruments***

No instrument is useful unless it is reliable. Reliability of an instrument refers to the consistency with which it measures what it purports to measure. For the purpose of this study, the split-half reliability method was used. This

determines internal consistency and involves the administration of a single test/questionnaire to a group of individuals and then scoring the test to obtain scores for the same person. The whole test was administered to a select group, the test was then divided into two comparable halves, by separating the respondents' scores in all odd-number items from even-number items and then correlating the two subsets of scores which yielded an estimate called the split-half reliability. The obtained correlation coefficient was then entered into the Spearman Brown's formula to obtain a correlation coefficient which is the whole test reliability. The coefficient indicates the degree to which the two halves of the test are correlated. High correlation shows that the test is internally consistent and reliable. The reliability coefficients of the School Environment Questionnaire (SEQ) are shown in Table 5.

**Table 5**

**Reliability Test Results for the School Environment**

**Questionnaire**

Instrument	Mean	SD	Variable	Reliability Coefficient
School Environment Questionnaire	4.01	.30	Leader behaviour	.85
	3.41	.91	Academic emphasis	.80
	3.25	.65	School climate	.86
	3.30	.86	Monitoring student's progress	.81
	3.99	.46	Teacher expectations	.87

The reliability coefficients in table 5 indicate that the instrument was reliable. Some of the data sought by the Schools' Profile Checklist were obtained from school records, while others were collected by verifying what was on ground. Such data cannot be changed and are therefore considered reliable.

### ***Procedure for Data Collection***

A team of eight research assistants was trained to assist the researcher in administering the instruments and making observations. An interval of two weeks was allowed for the completion of the questionnaire and checklist.

The Schools' Profile Checklist was used to gather data from the various laboratories and workshops and an inventory of materials and equipment was made. This could not be completed in one visit, therefore repeated visits had to be made to the schools.

### ***Method of Data Analysis***

Both descriptive and inferential statistics were employed for data analysis. Means and frequencies were used to summarize and describe the data. The Pearson Product Moment Correlation was used to measure the degree of relationship between the studied variables. The  $t$  Test for  $r$  was used to test the study hypotheses. According to Fraenkel and Wallen (1990), this test is used to determine whether a correlation coefficient calculated on sample data is significant or not. It is similar to the  $t$  test used for comparing means, except that here the statistic being dealt with is a correlation coefficient ( $r$ ) rather than a difference between means. The test produces a value for  $t$ , called an obtained

or calculated  $t$ , against which one checks in a statistical probability table to see if it is statistically significant. The Multiple Regression Analysis was used to determine the relationship between the input and process variables and school effectiveness. The 0.05 level of significance was adopted for testing the hypotheses.

## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### *Introduction*

This chapter focuses on data analysis and findings of the study. Twenty teachers, selected at random from each participating school completed the school environment questionnaire. A total of 45 schools took part in the survey. Out of the 900 questionnaires administered, 840 were returned completed (97.1% response rate). The main reason accounting for this is the fact that, not all the schools had up to twenty teachers. In such cases, all the teachers present were sampled. The data for this study were analyzed to answer the research questions and to test the research hypotheses.

Table 6 gives a general picture of the demographic characteristics of the participants in the three school types. The percentages of male and female teachers in the school types were relatively the same. There were also more female than male teachers, with the largest percentage (52.4%) of female teachers found in low-brow schools. Further analysis shows that majority of the teachers (low-brow 65.8%, middle-brow 63.3% and high-brow 57.7%) were aged between 30 and 39 years.

The table further shows that most of the teachers (74.9%) were professionally qualified, with 34.2% in low-brow, 37.1% in middle-brow and 39.6% in high-brow schools holding a bachelor's degree or Higher National Diploma (HND) and a Postgraduate Diploma in Education (PGDE).



Table 6

## Demographic Characteristics of Participants

Category	Low-brow		Middle-brow		High-brow		Total(All Type)	
	n	%	n	%	n	%	n	%
<u>Gender</u>								
Male	233	(47.6%)	123	(49.0%)	55	(49.5%)	411	(48.3%)
Female	256	(52.4%)	128	(51.0%)	56	(50.5%)	440	(51.7%)
<u>Age</u>								
20 – 29yrs	62	(12.7%)	39	(15.5%)	19	(17.1%)	120	(14.1%)
30 – 39yrs	322	(65.8%)	159	(63.3%)	64	(57.7%)	545	(64.0%)
40 – 49yrs	100	(20.4%)	51	(20.3%)	26	(23.4%)	177	(20.8%)
50yrs & above	5	(1.0%)	2	(0.8%)	2	(1.8%)		
<u>Teachers' Qualification</u>								
OND/NCE	46	(9.4%)	10	(4.0%)	57	(34.1%)	57	(12.5%)
BA/BSc/HND	100	(20.4%)	43	(17.1%)	16	(9.6%)	159	(17.5%)
BA/BSc Ed, B.Ed/HND & PGDE	167	(34.2%)	93	(37.1%)	44	(26.3%)	304	(33.5%)
BA/BSc/HND & MA/MSc	37	(7.6%)	21	(8.4%)	11	(6.6%)	69	(7.6%)
BA/BSc/HND & PGDE & MA/MSc	28	(5.7%)	16	(6.4%)	3	(1.8%)	47	(5.2%)
BA/BSc.Ed & MA/MSc	100	(20.4%)	51	(20.3%)	24	(14.4%)	175	(19.3%)
M.Ed	4	(0.8%)	12	(4.8%)	8	(4.8%)	24	(2.6%)
Others	7	(1.4%)	5	(2.0%)	4	(2.4%)	16	(1.8%)
<u>Teachers' Experience</u>								
1 – 3 years	105	(21.9%)	51	(20.5%)	24	(21.8%)	180	(21.5%)
4 – 7 years	112	(23.4%)	72	(28.9%)	28	(25.5%)	212	(25.3%)
8 – 12 years	152	(31.7%)	66	(26.5%)	31	(28.2%)	249	(29.7%)
13 years & above	110	(23.0%)	60	(24.1%)	27	(24.5%)	197	(23.5%)

Only 2.6% of the teachers had a Master's Degree in Education, while about 7.6% held a Master's Degree without a PGDE in other disciplines. Both middle-brow and high-brow schools had the highest percentage (7.2%) of the highest professional qualification (M.Ed).

Relatively, little difference was found in teachers' experience among the school types. The highest percentage of teachers in low-brow (31.7%) and high-brow (28.2%) schools had between 8 and 12 years of teaching experience.

## **Answers to Research Questions**

### **Question 1**

What are the variations in the availability of facilities and equipment among private secondary schools in Lagos State?

**Table 7**

**Availability of Facilities and Equipment among Private Schools in Lagos State**

(Laboratories, workshops, tools / equipment and chemicals / reagents)					
School Type	Number Expected	Number Observed	%	Minimum (%)	Maximum (%)
Lowbrow	766	188	27.02	13.7	52.3
Middlebrow	766	257	36.97	16.7	66.7
Highbrow	766	493	64.42	55.4	71.9

Table 7 shows that differences exist in the provision of facilities and equipment among private school types in Lagos state. The low-brow schools on the whole, had 27% of facilities and equipment needed. Middle-brow schools provided about 36% of the required facilities and equipment, while High-brow schools had 64% of the required facilities and equipment. The table also shows that some low-brow schools had as low as 13% facilities and equipment provision and some middle-brow schools as low as 16% facilities and equipment provision. The maximum facilities and equipment provision of 71% could be found among the high-brow schools.

## Question 2

What differences exist in student academic performance among the private school types in Lagos?

**Table 8**

**School Type and Students' Academic Achievement.  
SSCE May/June 2003 – 2005**

School Type	P E R F O R M A N C E in SSCE							
	2003		2004		2005		Average Performance Over three years	
	NE	NP (%)	NE	NP (%)	NE	NP %		
Lowbrow	3099	1967 (49.96)	3472	1788 (48.13)	2860	1100 (47.45)	4855	(48.51)
Middlebrow	908	571 (63.33)	860	576 (65.98)	939	731 (75.46)	1878	(68.26)
Highbrow	171	140 (76.88)	207	151 (69.58)	245	210 (82.62)	501	(76.36)

Key: NE – Number Entered

NP – Number Passed

Table 8 shows that 48.51% of students in lowbrow schools passed with five credits including English and Mathematics over a period of three years (2003-2005), 68.26% and 76.36% of students in middlebrow and highbrow schools respectively, passed over the same period. There was about a 19-percentage point between the performance of lowbrow schools and middlebrow schools and just about 8-percentage point between the performance of middlebrow schools and highbrow schools. Though lowbrow schools entered the highest number of students (4855) for the SSCE over the three-year period, their performance was below average. The middle-brow and high-brow schools, with considerably fewer numbers of candidates, performed above average.

**Table 9**

**Inter-relationships among the Variables in the Study**

Variables	MSP	SE	LB	AE	TE	F&E	TQ	TE	AA
1. MSP	1.000								
2. SE	.475**	1.000							
3. LB	.610**	.515**	1.000						
4. EL	.058	.027	.134**	1.000					
5. TE	.836**	.359**	.453**	.058	1.000				
6. F&E	.655**	.300**	.447**	.090**	.773**	1.000			
7. TQ	.030	.024	.065	.031	.019	.056	1.000		
8. TE	.044	.036	.076*	.067	.041	.047	.586**	1.000	
9. AA	.636**	.536**	.649**	.318**	.514**	.430**	.028	.060	1.000

\*\* Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed)

**Key:**

MSP – Monitoring of Students Progress

SE – School Environment

LB – Leader Behaviour

AE – Academic Emphasis

TE – Teacher Expectations

F&E – Facilities & Equipment

TQ – Teachers' Qualification

TE – Teachers' Experience

AA – Academic Achievement

Table 9 displays the correlation coefficients of the relationships among the variables of the study. The analysis indicates that most of the observed relationships are positive and strong. Monitoring of students' progress had a strong, positive, significant ( $P < 0.01$ ) relationship with teacher expectations ( $r = .836$ ), facilities and equipment provision ( $r = .655$ ), academic achievement ( $r = .636$ ), leader behaviour ( $r = .610$ ) and school climate ( $r = .475$ ). This indicates that the more the progress of students was monitored, the higher the expectations held for students, the more the provision of facilities and equipment and the better students' academic performance became.

Teacher expectations was highly, positively and significantly ( $P < 0.01$ ) correlated with facilities and equipment provision ( $r = .773$ ) and academic achievement ( $r = .514$ ).

School climate ( $r = .536$ ), academic emphasis ( $r = .318$ ), leader behaviour ( $r = .649$ ), and facilities and equipment ( $r = .430$ ), were also positively and significantly related to students' academic achievement at 0.05 alpha level. This shows that, the better, more orderly and conducive the school climate; the higher the expectations held for students by staff; the more facilities and equipment provided; the stronger the emphasis on learning, the higher students' academic achievement became.

Leader behaviour had a positive, significant relationship with high expectations ( $r = .435$ ), facilities and equipment provision ( $r = .447$ ) and emphasis on learning ( $r = .134$ ). School climate also had a positive significant relationship with leader behaviour ( $r = .515$ ), high expectations ( $r = .359$ ) and facilities and equipment ( $r = .300$ ). A strong, positive, significant relationship was found between teachers' qualification and teachers' experience ( $r = .586$ ). However academic achievement had very weak positive correlation with teachers' qualification ( $r = .028$ ) and teachers' experience ( $r = .060$ ).

### ***Testing of Research Hypotheses***

#### **Hypothesis 1**

There is no significant relationship between monitoring of students' progress and academic achievement.

**Table 10**

**Relationship between Monitoring of Students' Progress and  
Academic Achievement**

Variable	N	Mean	SD	df	r	t <sub>calc</sub>	t <sub>critical</sub>	Remarks
Monitoring of students' progress	850	6.33	1.55	893	.636	24.58	1.645	rejected
Students' academic achievement	45	20.42	4.52					

P < .05

Table 10 shows that there was a positive correlation ( $r=.636$ ) between monitoring of students' progress and academic achievement. The calculated t value is greater than the critical t value, hence, the null hypothesis is rejected and the alternative hypothesis is accepted, implying that there is a significant relationship between monitoring of students' progress and academic achievement.

### **Hypothesis 2**

Academic emphasis is not significantly related to academic achievement.

**Table 11**

**Relationship between Academic Emphasis and Academic  
Achievement**

Variable	N	Mean	SD	df	r	t <sub>calc</sub>	t <sub>critical</sub>	Remarks
Academic Emphasis	850	5.81	1.43	893	.318	10.56	1.645	rejected
Students' academic achievement	45	20.42	4.52					

P < .05

Table 11 shows that the correlation between academic emphasis and academic achievement was positive ( $r=.318$ ). The calculated  $t$  value is greater than the critical  $t$  value at the 0.05 level of significance. Therefore, the null hypothesis is rejected in favour of the alternative hypothesis. There is thus a significant relationship between academic emphasis and academic achievement.

### Hypothesis 3

There is no significant relationship between school climate and academic achievement.

**Table 12**

#### Relationship between School Environment and Academic Achievement

Variable	N	Mean	SD	df	r	$t_{\text{calc}}$	$t_{\text{critical}}$	Remarks
School environment	850	4.76	1.12	893	.536	19.07	1.645	rejected
Students' academic achievement	45	20.42	4.52					

$P < .05$

Table 12 shows that there was moderate, positive correlation ( $r=.536$ ) between school environment and academic achievement). The calculated  $t$  value is greater than the critical  $t$  value at the 0.05 level of significance. The null hypothesis is therefore rejected. The alternative hypothesis which says that there is a significant relationship between school environment and students' academic achievement is thus accepted.

#### Hypothesis 4

There is no significant relationship between teachers' qualification and academic achievement.

**Table 13**

#### **Relationship between Teachers' Qualification and Academic Achievement**

Variable	N	Mean	SD	df	r	t <sub>calc</sub>	t <sub>critical</sub>	Remarks
Teachers' Qualification	850	5.52	1.95	893	.028	0.85	1.645	accepted
Students' academic achievement	45	20.42	4.52					

$P > .05$

Table 13 shows a very slight, almost negligible correlation ( $r=.028$ ) between teachers' qualification and academic achievement. The calculated t value is less than the critical t value at the 0.05 level of significance. The null hypothesis, which states that there is no significant relationship between teachers' qualification and academic achievement, is thus accepted.

#### Hypothesis 5

Leader behaviour is not significantly related to academic achievement.

Table 14 shows that the correlation between leader behaviour and academic achievement was high and positive ( $r=.649$ ). The calculated t value is greater than the critical value at the 0.05 level of significance. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted, indicating that there is a significant relationship between leader behaviour and academic achievement.



**Table 14**

**Relationship between Leader Behaviour and Academic  
Achievement**

Variable	N	Mean	SD	df	r	t <sub>calc</sub>	t <sub>critical</sub>	Remarks
Leader Behaviour	850	4.00	1.23	893	.649	19.18	1.645	rejected
Students' academic achievement	45	20.42	4.52					

P < .05

**Hypothesis 6**

There is no significant relationship between teacher expectations of students and their academic achievement

**Table 15**

**Relationship between Teacher Expectations and Academic  
Achievement**

Variable	N	Mean	SD	df	r	t <sub>calc</sub>	t <sub>critical</sub>	Remarks
Teacher expectations	850	6.34	1.54	893	.514	17.86	1.645	rejected
Students' academic achievement	45	20.42	4.52					

P < .05

Table 15 shows that there was a moderate, positive correlation ( $r=.514$ ) between teacher expectations of student and academic achievement. The calculated t value is greater than the critical t value at the 0.05 level of significance. The

null hypothesis is therefore rejected and the alternative hypothesis, which states that there is a significant relationship between teacher expectations of students and academic achievement, is accepted.

### **Hypothesis 7**

There is no significant relationship between school facilities and equipment and academic achievement.

Table 16 shows that there was a moderate, positive correlation ( $r=.430$ ) between school facilities and equipment and academic achievement. The relationship between school facilities and equipment and students' academic achievement is significant. This is because the calculated  $t$  value is greater than the critical  $t$  value at the 0.05 level of significance. The null hypothesis that there is no significant relationship between school facilities and equipment and student academic achievement is hence rejected and the alternative hypothesis is accepted.

**Table 16**

#### **Relationship between Availability of School Facilities and Equipment and Academic Achievement**

Variable	N	Mean	SD	df	r	$t_{calc}$	$t_{critical}$	Remarks
School facilities & Equipment	850	6.29	1.47	893	.430	14.28	1.645	rejected
Students' academic achievement	45	20.42	4.52					
P < .05								

## Hypothesis 8

Teachers' experience is not significantly related to academic achievement.

**Table 17**

### **Relationship between Teachers' Experience and Academic Achievement.**

Variable	N	Mean	SD	df	r	t <sub>calc</sub>	t <sub>critical</sub>	Remarks
Teachers' Experience	850	3.46	1.43	893	.060	1.75	1.645	rejected
Students' academic achievement	45	20.42	4.52					

$P < .05$

From Table 17, the correlation between teachers' experience and academic achievement is positive but very weak. The calculated t value is greater than the critical t value at the 0.05 level of significance. The null hypothesis, which states that there is no significant relationship between teachers' experience and students' academic achievement, is therefore rejected in place of the alternative hypothesis, indicating that there is a significant relationship between teachers' experience and academic achievement.

### **Multiple Regression Analysis**

In order to go beyond bivariate relationships, and select the variables which could best account for academic achievement, the stepwise multiple regression analysis was used. This estimates not only the statistical significance of relationships between variables but also their magnitude (Borg and Gall 1983).

Through this method, the variables were entered in the regression equation one at a time (stepwise). Out of all the variables, four were selected as significant predictors.

As can be seen from Table 18, leader behaviour entered the model first as the most important, single, significant predictor of students' academic achievement (beta = .647,  $P = .000$ ), accounting fully for 41.8% (Adjusted  $r^2 = .418$ ) of the variation in students' academic achievement, suggesting that schools with better students' academic achievement, have leaders with more effective behaviour. Monitoring of students' progress (beta = .382,  $P = .000$ ) is the next strongest predictor, accounting for 9.2% of the variation in students' academic achievement.

**Table 18**

**Predictors of Academic Achievement**

Model	Predictor	r	r <sup>2</sup>	Adj r <sup>2</sup>	Beta	t	% Variance in Students' Academic Achievement	F	Sig.
1	Leader Behaviour	.647	.419	.418	.647	24.6	41.8%	608.436	.000
2	Leader Behaviour Monitoring of Students' progress	.715	.511	.510	.382	12.6	9.2%	440.542	.000
3	Leader Behaviour Monitoring of Students' progress Academic emphasis	.755	.570	.568	.245	10.7	5.8%	372.043	.000
4	Leader Behaviour Monitoring of Students' progress Academic emphasis School climate	.776	.602	.600	.216	8.3	3.2%	318.645	.000

Third in the regression model is academic emphasis ( $\beta = .245$ ,  $P = .000$ ), accounting for 5.8% of the variation in students' academic achievement. Lastly, school climate ( $\beta = .216$ ,  $P = .000$ ) entered the model as a statistically significant predictor of students' academic achievement.

All Beta values were positive, suggesting that the better the leader behaviour, monitoring of students' progress, emphasis on learning and the school environment became, the better the students' academic achievement. This model explained 60.0% of the variation in students' academic achievement.

### ***Summary of Findings***

The study investigated the input and process variables that best predict school effectiveness in private secondary schools in Lagos State. The following are the major findings based on the research hypotheses formulated for the study:

1. There exists significant differences in the provision of facilities and equipment among the private secondary schools.
2. There is a significant difference in students' academic performance among private secondary school types.
3. There is a significant relationship between monitoring of students' progress and academic achievement.
4. There is a significant relationship between academic emphasis and academic achievement.

5. There is a significant relationship between school environment and academic achievement.
6. There is no significant relationship between teachers' qualification and students' academic achievement.
7. There is a significant relationship between leader behaviour and academic achievement.
8. There is a significant relationship between teacher expectation of student and academic achievement.
9. There is a significant relationship between availability of school facilities and equipment and academic achievement.
10. There is a significant relationship between teachers' experience and academic achievement.
11. Leader behaviour is the most important, single, significant predictor of students' academic achievement.

The findings of this study offer support for previous research findings in the effective school movement. All of the significant correlations in this study between input and process variables and academic achievement were in the moderate to high range. Therefore strong conclusions can be drawn.

The first point to note in the results is that all but one of the independent variables was significantly correlated with student achievement and these are more often than not found in effective schools. The second point is that no one factor accounts for effectiveness in schools. Neither this study nor any of the studies reported in the review of literature on effective schools found only one

variable associated with student achievement. This confirms Robinson's (1985) observation that it takes many policies, behaviours and attitudes working together to achieve success.

### ***Discussion of Findings***

The discussion of the findings is done under the following headings: variation in availability of facilities and equipment and academic performance in private secondary school types; availability of school facilities and equipment; monitoring of students' progress; academic emphasis; school environment; teachers' qualification and experience; leader behaviour; and teacher expectations.

#### ***Variation in availability of facilities and equipment and academic performance in private school types.***

The study showed that high-brow schools on the whole had the highest and low-brow schools the least facilities and equipment provision respectively. The study further showed that students in high-brow schools performed better than those in both middle-brow and low-brow schools (Table 8), while students in middle-brow schools performed better than low brow schools. This result finds support in earlier research. Lamb, Rumberger, Jesson, Teese (2004) found that students from lower socioeconomic backgrounds do not perform as well as students from higher SES families and that student performance in the Victorian Certificate of Education (VCE) varied depending on the type of school attended. Gilmore (1991) investigated relationships between tuition and

institutional quality and found that tuition was positively and significantly correlated with institutional quality variables, indicating that institutions that charged higher fees generally performed better with respect to student educational outcomes, than do lower priced institutions, although some lower priced institutions out-performed some higher priced institutions. Fees charged remained significant even after controlling for the effects of other factors, indicating that price may be a motivating factor for student achievement.

Further implication of this finding is that, it is not that the system as a whole is ineffective, but that students with low grades are not randomly distributed among the school types, but appear to be concentrated in some schools. The concentration produces differences in the mean academic performance of the schools.

There is however no simple answer to explain these differences in average academic achievement. There are nevertheless clear findings. It may be argued that the socio-economic status of the school may be a crucial factor in determining academic achievement at school-level. Higher achievers were found in schools that charge higher fees and lower achievers in school charging lower fees.

This may of course be due to the fact that high fee institutions may have access to better facilities and resources, as is presented in Table 7, where it was shown that on the average, high brow schools had the highest percentage (64%) of facilities and equipment provision. High fee institutions are more likely to have



more funds at their disposal and thus be able to attract and retain better qualified teachers, all other things being equal.

### ***Monitoring of students' progress.***

In today's educational climate, school success is defined as ensuring achievement for every student. Research has demonstrated that when teachers use student progress monitoring, students learn more, teacher decision-making improves and students become more aware of their own performance. The body of educational research literature which has come to be known as the effective schooling research identifies the practice of monitoring student learning as an essential component of high-quality education (Cotton, 2000). The careful monitoring of student progress is shown in the literature to be one of the major factors differentiating effective schools and teachers from ineffective ones. Indeed, those analyses which have sought to determine the relative effect sizes of different instructional practices have identified monitoring of students' progress as a strong predictor of student achievement.

Table 10 shows that monitoring of students' progress is positively and significantly related with student academic achievement. This corroborates the work of Blum (1990), Scheerens and Creemers (1989), Brubaker and Partine (1986), Lockheed and Komenan (1989), Fuchs and Fuchs (2002) that frequent monitoring of students' progress in conjunction with prompt constructive feedback is a factor that enhances student motivation and school effectiveness. According to Fuchs and Fuchs (2002),

When teachers use systematic progress monitoring to track their students' progress.... They are better able to identify students in need of additional or different forms of instruction, they design stronger instructional programmes and their students achieve better.

### ***Academic emphasis.***

Academic emphasis refers to the extent to which a school is driven by a quest for academic excellence (Hoy, Tarter and Kottkamp, 1991). This refers to the extent to which teachers set high but achievable goals; and students, teachers and principals pursue and respect academic success. Research suggests that successful schools maintain a focus on academics. Smylie, Lazarus and Brownleconyers (1996) found that schools that emphasize improved instruction through participative decision making, maintained a core focus on student learning. From Table 11, it was shown that the relationship between academic emphasis and academic achievement was statistically significant.

This result confirms those of other studies (Hoy and Sabo, 1998; Hoy and Tarter, 1997; Hoy, Tarter and Kottkamp, 1991), that academic emphasis is positively related to student achievement. The results of the regression analysis on Table 18 show that academic emphasis was a significant predictor of academic achievement, explaining about 6% of the variation in academic achievement. It should come as no surprise that a school atmosphere in which teachers set reasonable goals and believe in the students' abilities to achieve and where the students work hard to succeed and respect those who do, has a

positive impact on student achievement. Therefore, to the extent that the value of academic emphasis can be communicated to school members, enhanced student learning is a likely outcome.

### ***School environment.***

School environment as used in this study is the extent to which the school's atmosphere promotes openness, professionalism, trust, loyalty, commitment, pride, academic excellence and cooperation. Research (Bulach, Malone and Catleman, 1994) has pointed out a significant difference in student achievement between schools with a good environment and those with a poor environment. Table 12 shows the result of the test of relationship between environment and academic achievement. It shows that the relationship is significant and positive.

This finding supports the contention that schools must be safe, well-run and orderly if effective instruction is to take place. It appears that providing a safe and orderly environment is a necessary pre-requisite for effective instruction and positive student achievement.

### ***Teacher quality.***

The relationship between teacher qualification and student achievement has been the subject of several studies (Avalos & Haddad, 1979; Heyneman & Loxley, 1982; Ferguson, 1998; Bilesanmi, 1999; Hanusek, 2002; Rivkin, Hanusek & Kain, 2005). The results of some of these studies indicated a relatively positive relationship between the two. However, results from this

study (Table 13), found that the relationship between teacher's qualification and student achievement in private secondary schools in Lagos State is not significant. This agrees with the work of some other studies that have reported different findings from the ones above.

Avalos & Haddad (1979) reported on studies conducted in Latin America which found varied results. The authors noted studies which found a negative relationship between student achievement and teacher qualification at the first-grade level. Lockheed and Komenan (1989) found varying results in their studies in Nigeria and Swaziland. After controlling for student background, school and other classroom effects, the researchers did not find any positive relationship between teacher education and student achievement.

The result obtained in this study maybe due to the fact that data were obtained for this study from private secondary schools only, where, according to results on Table 9, teacher qualification did not differ significantly among the schools. Notwithstanding this finding, it is pertinent to note that simply looking at a teacher's qualification may not tap the more subtle influences of an outstanding teacher. Studies (Hanusek, 1989; McLaughlin & Talbert 1990) have demonstrated that teachers vary greatly in their skills and effectiveness. Perhaps therefore, the measure of teacher qualification used could not tap these differences. In addition it is important to note that the fact that teacher qualification is not related to academic achievement in this study may not totally be surprising. Despite the fact that schools that charge more are likely to recruit more qualified teachers, other factors also come into play. Parents with

higher socio-economic status also spend more money to provide even more support for academic work in the form of extra classes and 'lesson teachers', in addition to providing other learning materials in the home. Socio-economic status has been shown to have strong correlations with student achievement. These are perhaps the kinds of findings that Coleman et. al. (1966) used to reach their conclusions that "schools bring little to bear on a child's achievement that is independent of his background and general social context". (p.323). It is important therefore to note that in Nigeria, parental background as well as school factors are important in considering student academic achievement.

Research has been consistent in finding positive correlations between years of teaching experience and higher student achievement. The present study shows a positive relationship between teacher experience and student academic achievement (see Table 17) and confirms the views of Greenwald, Hedges, and Laine (1996), Rivkin, Hanushek, & Kain (2005), and Fetler (2001 ). Teachers with more than a five-year experience in the classroom seem to be the most effective. Conversely, inexperience is shown to have a strong negative effect on student performance. A comprehensive analysis by Greenwald, Hedges, and Laine (1996) examined data from 60 studies and found a positive relationship between years of teacher experience and student test scores. Similarly, the Texas Schools Project data showed that students of experienced teachers attained significantly higher levels of achievement than did students of new teachers (those with one to three years of experience) (Rivkin, Hanushek, & Kain, 2005).

### ***Leader behaviour.***

Another finding of this study concerns leader behaviour. The study found a significant relationship between leader behaviour and school effectiveness (Table 14). Leader behaviour was found to be the most important, single, significant predictor of students' academic achievement, accounting fully for 41.8% of the variation in students' academic achievement.

This finding is in congruence with results from previous research (Purkey and Smith 1983; Levine 1990; Fullan 1990; Lezotte, 1992; Cotton, 2000; Walberg, 2002). According to Kelly (1980), more than half of what happens at a school, whether good or bad, can be directly attributed to the influence of the principal if the principal has been at the same school for three years or longer. Williams (1983) found that practically every major activity by the principal had an impact on school climate. Lipham (1981) stated that many studies did not begin with the idea of observing the principal and his effect on the school, but soon discovered that indeed, the principal was the key to the success or lack of success in the school. He noted further that, If a school is a vibrant, innovative, child-centered place; If it has a reputation for excellence in teaching; if students are performing to the best of their ability, one can almost always point to the principal's leadership as the key to success. (Lipham, 1981)

The literature on school effectiveness has indicated that administrative as well as professional leadership is a pivotal factor of effectiveness. It is believed that once administrative leadership is firmly established in a school, the other characteristics are likely to follow (Kelly, 1991).

### ***Teacher expectations.***

Teacher expectations in this study refer to a climate where the staff expects students to do well, where they believe in their ability to influence student achievement and are held accountable for student learning.

This study showed a significant relationship between teacher expectations and academic achievement (see Table 15). This finding supports those of Edmonds (1979), Slackney (1988), Mehn et al (1994), Levine and Lezotte (1990), dealing with the need for teacher expectations. According to Levine & Lezotte, the presence of high expectations has been cited as a crucial characteristic of virtually all unusually effective schools described in case studies. In their study, (Goddard et al 2000) found that schools that hold high expectations for their students see higher student achievement scores on standardized tests

While it would be misleading and inaccurate to state that teacher expectations determine a student's success, the research clearly establishes that teacher expectations do play a significant role in determining how well and how much students learn. It becomes important therefore to center on the need to advance consciousness among teachers of their potential influence on the achievement levels of their students. Communication of high expectations and related teaching competencies, specifically of a diagnostic-prescriptive nature, might be helpful in raising student achievement.

### ***School facilities and equipment.***

The literature has shown that the provision of proper and adequate facilities and equipment is an important aspect of effective schools. This study shows a

significant relationship between school facilities and equipment and student academic achievement see Table 16. This corroborates the work of Urwick and Junaidu (1991), Fuller and Heyneman (1989), Lockheed and Verspoor (1991), Babayomi (1999), and Adeogun (2001). Focusing on Nigerian Primary schools, Urwick and Junaidu (1991) found the existence of multiple links between the quality of school facilities and a number of educational process variables considered to be important determinants of the quality of schooling.

According to Babayomi (1999), private schools performed better than public schools because of the availability and adequacy of teaching and learning resources. School facilities also emerged as a factor of school effectiveness in the case research of Vulliamy (1987). The study found that the lack of the most basic facilities in many schools in developing countries not only depresses staff and student morale, but also acts as an impediment to effective teaching and learning.

Although some studies ( Rossmiller, 1982; Childs and Shakeshaft, 1986) have not shown much significance of facilities and equipment in promoting school effectiveness in developed countries, this can be largely attributed to the fact that both human and material resources in education in developed countries are distributed in a relatively homogenous way among schools, in other words, schools do not differ much (Scheerens, 1999). However there exist a large variation in the provision of facilities and equipment in schools in developing countries and therefore, the relevance of proper and adequate facilities and equipment provision to effective schooling cannot be over-emphasized.



The results of the regression analysis (Table 18) indicate that only leader behaviour, monitoring of students' progress, academic emphasis and the school environment are the significant predictors of students' academic achievement, accounting for the 60% of the variation in students' academic achievement explained by the model. This appears to suggest that process variables are more important in predicting positive student outcomes than input variables. This agrees with Cohn and Rossmiller (1987) when they noted that though resources are necessary if a school is to be effective, facilities and materials alone will not ensure effectiveness if those who teach in them are not competent or if their decision-making is unduly constrained. Lending credence to this, Fuller (1987) stressed that focus must not be on effects of material inputs, but on how these materials are actually mobilized and organized within schools and classrooms. This is why leader behaviour is very important in promoting the teaching learning process.

## CHAPTER FIVE

### SUMMARY, IMPLICATIONS AND CONCLUSION

#### *Summary*

The purpose of this study was to assess the relationship between input (school facilities, teachers' qualification and teachers' experience) and process variables (leader behaviour, academic emphasis, monitoring of students' progress, school environment and teacher expectations) and school effectiveness.

The problem under consideration was expressed in the following ten research questions: What are the variations in the availability of facilities and equipment among private secondary schools in Lagos State? What differences exist in students' academic achievement among the private school types in Lagos State? What is the relationship between monitoring of students' progress and school effectiveness? What is the relationship between emphasis on learning and school effectiveness? What is the relationship between teachers' qualification and school effectiveness? How does the school environment relate to school effectiveness? What is the relationship between leader behaviour and school effectiveness? What is the relationship between teacher expectations of students and school effectiveness? To what extent does the provision of facilities and equipment relate to school effectiveness? What is the relationship between teachers' experience and school effectiveness? For the purpose of this study two research questions were answered while eight were converted to null hypotheses.

Information was gathered from the administration of a School Environment Questionnaire (SEQ); a Schools Profile Checklist (SPC) and results of the Senior School Certificate Examination (SSCE), to provide the possible answers.

The study sample comprised 45 private secondary schools in Lagos State, selected by the stratified random sampling technique from the 216 registered private secondary schools in the state in the 2005/2006 session. Eight hundred and forty teachers were included in the study. The instruments used were constructed after review of literature and consisted of 100 items utilizing the Likert style range of responses. The instruments were adjudged to be valid and reliable.

Student achievement scores were derived from the Senior School Certificate Examination (SSCE). The analysis of data from the questionnaire and checklist employed two statistical tests: The Pearson Moment Correlation and the Multiple Regression Analysis. The Statistical Package utilized was the Statistical Package for the Social Sciences (SPSS).

The study found that significant differences existed in the provision of facilities and equipment, and students' academic performance among private secondary schools. There were also significant relationships between the independent variables (monitoring of students' progress, academic emphasis, school environment, teachers' experience, leader behaviour, teachers' expectation of students, school facilities) and the dependent variable, students' academic

achievement. Leader behaviour was the most important, single, significant predictor of students' academic achievement.

### **Conclusion**

This research supports the notion that schools are different and can have an important influence on the lives of their students. Moreover, schools not only can and do make a difference to students' academic achievement, but that these differences in outcomes are systematically related to variations in the school's climate, culture and their quality as social systems. Therefore two students from similar social backgrounds and of similar intellectual abilities can perform differently at two outwardly similar schools because of the unique blend of the academic and social circumstances to be found within the two establishments. Indeed teachers and schools have the ability to change their present direction and become really efficient and effective agents of student learning and development.

The fact that there were relationships between school variables and student academic achievement is a reason to continue to examine schools in greater depth. All the variables studied (monitoring of students' progress, academic emphasis, school environment, leader behaviour, facilities and equipment, teacher experience and teacher expectations), except one (teacher qualification) were significantly related to students' academic achievement. These findings are consistent with those of other researchers which also found positive correlations between these variables and school effectiveness (Edmonds, 1979; Mortimore, 1991; Sammons, 1994; Schereens, 2000). These findings also

suggest that the school will be a good place to start if the goal is to raise students' academic achievements.

The study also found significant differences among private school types in the provision of facilities and equipment. On the average, none of the schools studied had more than 65% of the facilities and equipment recommended by the government. Significant differences were also found in the students' academic performance among the private school types, with highbrow schools out-performing both middle and lowbrow schools. The study further showed that process variables as being more important than input variables in raising achievement levels in schools.

The study also showed that leadership was the most influential among the variables studied. Principals can thus be seen as the main agents in effective schools. It is safe therefore to conclude that the leader behaviour is the most potent of the school effectiveness characteristics in bringing about school improvement effects and higher academic achievement levels.

### ***Implications of Findings for Policy***

It is of utmost importance that policy makers and practitioners recognize the benefits of using research and inspection evidence to promote improvement.

Policy makers must develop policies that ensure that an educational effectiveness audit is instituted. The purpose of this would be to examine the degree to which a school meets set levels of effectiveness and to identify areas of

a school system operation which can and should be improved. The audit will then serve as a basis for school system improvement and allocation of resources. The audit will assist the system to:

- examine appropriateness of the school's system goals and objectives.
- analyze pupil performance information and establish the degree to which schools are effective.
- analyze the perceptions of various groups toward effective school practices and their implementation in the school system.
- establish appropriate school improvement programmes based on school effectiveness research.
- establish accountability structures to validate school improvement.

It is an examination of the entire system as a whole and unlike the traditional school inspections, is not an examination of individual teachers or individual administrators.

The purpose of the audit must be explicit to ensure the effective participation of an informed school community. The review or inspection reports must be made public and provide the school community with information which is fair, reliable and objective about what schools are doing and strategic direction as to how they might improve. The recommendation must provide sufficient strategic direction to enhance school improvement, and specify the modifications required to a school's internal organization to implement the recommendation successfully. Policy makers must match accountability pressure by support for schools (professional, curriculum, financial and material resources).

External accountability and the identification of under-performing schools will act as a catalyst for change and promote public confidence in the quality of the education system. Policy to ensure that schools' results on the national tests be published with the purpose of monitoring progress and identifying under-performance should be instituted. This will ensure that schools are held accountable and are under pressure to positively change student outcomes.

The government should establish local school improvement units based on effectiveness research in every education district. Such will work in collaboration with schools to encourage, facilitate and assist schools in designing, implementing and evaluating the school's improvement effort.

This study showed that the principal's leadership is the single most important factor in the success of the school. Policy makers must ensure that principals are provided with effective training and development opportunities, so that they possess the necessary knowledge, skill and understanding to develop and lead their schools successfully in an era of constant change.

The study further showed that there was a wide gap between the list of facilities and equipment expected generally among the private schools and the actual facilities and equipment available. The study also revealed that facilities and equipment are related positively and significantly to students' academic achievement. The policy implications of these results are clear. As a country, we cannot skimp on educational facilities and resources and expect schools to be

effective. Policy makers must therefore ensure that adequate facilities and equipment are provided and equitably distributed and utilized. Resources must be channeled into schools lacking basic facilities, from sound, safe buildings and sanitation, to ICT facilities and laboratory equipment.

There is the need for the Ministry of Education officials to enforce the laid down regulations with regard to the provision of secondary education. A situation where school inspections are either far in-between or non-existent, or as in other cases where guidelines on the need for specific facilities, staff qualifications and so on, are selectively applied by officials, will not augur well for the education system. Effective monitoring units should be set up by state ministries of education and provided with necessary logistic support to ensure that minimum standards are maintained in both public and private schools. Schools that do not meet the minimum standards specified should be closed down and re-opened only after the proprietor/proprietress complies with laid down standards.

Financial limitation is a familiar phenomenon in developing countries. Government can work with financial institutions in order to extend credit facilities to schools. So far, the ability of private schools especially low-brow private schools to expand operations and upgrade facilities has been constrained by a lack of medium- and long-term financing. Most of these schools need support to finance construction, other capital costs and purchase educational materials to deliver quality education to students.

Annual dues levied private schools by government should be contributed to a fund to improve government schools.



The results of the study also show that teacher expectation is significantly related to student achievement. Policies to abolish low-ability classes must be instituted, as these communicate low expectations to students. Once students see themselves in such settings and begin to believe they have failed because they lack ability, they tend to lose hope for future success.

The study has further shown that process variables are more important in raising achievement levels in schools, showing that focus must not be on the effects of inputs alone, but how these are utilized and organized within schools. Policy makers should focus on the school variables that affect student performance like the learning climate and curriculum content.

### ***Implications of Findings for Practice***

The prospects for school improvement appear greater now than ever before. This opportunity for change is the result of the convergence of literature on school effectiveness. School improvement will not occur quickly and schools will need to move from a rigid and conservative organizational culture, to a learning community. For this to occur, a major re-engineering of educational bureaucracy will be required to ensure the conditions for school improvement are embedded in the values of our education system.

This study showed that the principal's leadership is the single most important factor in the success of the school. In a situation where education continues to be an instrument for effecting national development, those leading schools have

an enormous responsibility. Fullan (2002) has gone as far as to conclude that effective school leaders are key to large-scale sustainable education reform. Louis and Kruse (1995) have shown the important role of school-level leadership in the development of a professional community. Teacher morale, efficacy, conditions of work and professional autonomy have all been shown to be crucial to the emotional lives of teachers (Hargreaves, 2000). There is no doubt that teachers prefer principals who are honest, communicative, participatory, collegial, informal, supportive and demanding and reasonable in their expectations with a clear vision for the school (Day et al, 2000). Leaders must, as a part of their role, value and support teachers (working with rather than through them); focus on sustaining school improvement by building school capacities; must have knowledge and understanding of what happens in the classroom; and should know and be able to help with teaching strategies and assessment procedures.

Another variable found to be significantly related to student academic achievement is the school environment. As measured by the SEQ, this variable emphasizes an orderly, purposeful atmosphere free from the threat of physical harm, disciplined, yet not oppressive and conducive to teaching and learning. Mackenzie (1983) points out that it is nearly impossible to have effective classroom instruction if the total school environment is disorderly. The school environment is thus an area where schools can also work for improvement. There are several ways the environment of a school can be improved. However all emphasize that improvement depends on a high degree of involvement by the total school population. Schools must therefore carry out careful assessment of

current conditions and develop a clear set of guidelines, agreed on by teachers and students, rather than the imposition of a strict set of rules and regulations decided upon by the principal. There will then be a need for an evaluation of the implementation and continued effort.

From the findings of the study, it was further revealed that monitoring of students' progress is related to student academic achievement. There is thus the need for well-established mechanisms for monitoring students' progress in the classroom and evaluating the school's performance as a whole. Schools must keep up-to-date records of student performance as well as inform and involve the students in the process and use feedback derived from monitoring as assessment of instructional progress. In addition, it is important that schools guard against the over-use of assessment procedures which could lead to a shift of focus away from the teaching and learning process. Practitioners must monitor equity in outcomes and focus on reducing the achievement gap with greater attention to early intervention.

Schools may also develop school-based improvement teams composed of teachers, students and parents that will be in charge of monitoring the implementation and development of effective characteristics in their respective schools.

Administrators should promote a culture of reflective practice and institutional self-evaluation and use the results of research to support practice. They must also ensure that planning for improvement is seen as a norm. The basic principle behind self-evaluation is that the school continuously examines its

own processes and outcomes and seeks ways to improve them as a matter of course.

Schools will do well to develop effective discipline policies that contribute to the academic atmosphere by emphasizing the importance of regular attendance, punctuality, respect for teachers and academic work and good conduct. Schools must also monitor daily attendance to discourage unexplained absences and class-cutting.

The present study found a significant relationship between teacher experience and school effectiveness. Learning, as a core business of education, is perhaps the least effective component of employee development that occurs in some education systems. Ironically, this is also true for our education system. However, training is a critical factor in effective change management (Fullan, 1991) and a condition for school improvement (Ainscom and Hopkins, 1992). Practitioners must develop programmes that ensure that all teachers have access to further professional training and development throughout their careers in order to equip teachers with new methodologies that should impact positively on teaching and learning. Furthermore, they must ensure that teachers are well prepared for their task. This means that there must be basic requirements to be satisfied before teachers are allowed into classrooms.

In effective schools, the school climate puts academics first. How much time students are actively engaged in learning contributes strongly to their achievement. This research has shown a positive relationship between

academic emphasis and student academic achievement. Classrooms with few interruptions and less time spent on management and other tasks, have higher achievement than classrooms that do not guard time set aside for students' academic work. Students who are actively involved in activities which are focused on specific instructional goals make more progress towards these goals. The length of instructional time has been consistently shown to have a positive effect on student achievement (Fuller and Clarke, 1994). The more instructional time provided means that teachers and students could more intensely discuss the topics covered in the curriculum. Schools should therefore motivate teachers to use instructional time more efficiently and effectively; discourage disorder and disruptions; focus on learning; foster collaboration and create a positive culture for learning with high expectations.

The results of the study also indicate that teacher expectation is significantly related to student achievement. Administrators, teachers, and schools must have high expectations for their students and communicate these expectations clearly to the students and set challenges that will match these expectations. They must also then assist students to meet these expectations. Much of the literature on teacher expectations (Bamburg, 1994; Cotton, 2000; Marzano, 2003) calls attention to the fact that students have different ability levels and require different instructional approaches, materials and rates. None suggested that teachers should hold the same expectations for all students, or that they should deliver identical instruction to all of them.

Researchers cite several ways in which high expectations for students are communicated among staff to students. These include:

- Setting goals which are expressed as minimally acceptable levels of achievement rather than using prior achievement data to establish ceiling levels beyond which students would not be expected to progress (Good, 1987).
- Developing and applying policies which protect instructional time, for example, policies regarding attendance, interruptions during basic skills instructional periods, etc. (Murphy, et al, 1982).
- Establishing policies which emphasize the importance of academic achievement to students, for instance, the minimally acceptable levels of achievement to qualify for participation in co-curricular activities (Murphy and Hallinger, 1985).
- Having staff members who hold high expectations for themselves as leaders and teachers taking responsibility for student performance (Murphy, et al. 1982; Murphy and Hallinger, 1985).
- Using slogans which communicate high expectations, for example, "academic plus" etc. (Newberg and Glatthorn 1982).
- Establishing a positive learning climate (Murphy, et al., 1982).
- "Insistent coaching" of students who are experiencing learning difficulty (Good, 1987; Taylor, 1990).

In the final analysis, policy makers and practitioners must recognize that schools do make a difference and they must celebrate, study and spread successful practice.

### ***Implications for Further Research***

This study was based on the measurement of a single outcome - academic achievement at a point in time. Schools are multi-product organizations whose objective is to produce other outcomes in the affective and psychomotor domains like student attitude, behaviour, motivation and self-esteem in addition to cognitive achievement. In order to get strong, robust measures of school effectiveness, further research should use multiple outcome indicators which would lead to a more profound understanding of school effectiveness.

Further research must also involve cohort (longitudinal) studies, so that the actual increment in children's learning and their progress over time can be structured. Furthermore, research must include multiple measures of outside-school, or intake factors including a wide range of family, student and enrolment factors, so as to ensure that the influences of schools are not over-estimated because of under-specification of intake factors.

Clearly, the patterns of relationships found in this study indicate that achievement is a complex matter that involves numerous elements and processes. There is the need to consider many variables in an attempt to explain school effects. Further research must thus move beyond simple to multi-level analysis to enable school level, individual level and classroom level effects to be investigated simultaneously. This is essential if we are to develop a comprehensive understanding of the processes that influence and underlie student academic success.

Further research into the psychosocial (as opposed to the physical) environment of schools in order to reveal the nature of principal/teacher interaction and teacher/student interaction will give a clearer understanding of what sort of interactions happen in effective schools.

The research work may be replicated to include other types of private school as well as public schools in order to validate or invalidate some of the findings of the study.

### ***Contributions to Knowledge***

1. A major contribution of this study lies in the relating of input and process variables to school effectiveness, especially since studies which emphasize process variables rather than inputs alone have been virtually overlooked in Nigeria.
2. This study has also further indicated parental background plays a more significant role than teacher quality in private secondary schools and as such both parental background as well as school factors are important when considering student academic achievement in private secondary schools in Lagos State.
3. This study has demonstrated that schools can make a difference to students' educational outcome, by identifying the crucial variables that directly affect student achievement and higher quality outcomes in private secondary schools. Educational planners and policy makers can thus use the research to clarify factors which must be taken into consideration in the planning of improvement in schools.



4. The study has highlighted the issues of effectiveness especially in different categories of private schools in Lagos State.

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# **APPENDIX A** **SCHOOLS' PROFILE CHECKLIST (SPC)**

## **GENERAL INFORMATION**

Name of school-----

Location/Address----- LED-----

School Population-----

Type of school:

Boys only ☐ Girls only ☐ Co-educational ☐

Day school ☐ Boarding school ☐ Day & Boarding ☐

*Please tick as appropriate*

## **LABORATORIES, WORKSHOPS, HALLS & OFFICES**

TYPE	AVAILABILITY	
	AVAILABLE	NOT AVAILABLE
<b>LABORATORY</b>		
Agricultural Lab/ Farm		
Biology Laboratory		
Chemistry Laboratory		
Language lab		
Music Lab		
Physics Laboratory		
<b>WORKSHOPS</b>		
Clothing & Textile		
Food & Nutrition		
Introductory Tech.		
Local craft		
Metal work		
Shorthand		
Typewriting		
Woodwork		
<b>SPECIAL ROOMS</b>		
Staff room		
Computer room		
Counselling room		
Fine Art room		
Technical Drawing room		
Library		
School Hall		
Sickbay		
Dinning room		

## ***MATERIALS AND EQUIPMENT***

TYPE	AVAILABILITY	
	AVAILABLE	NOT AVAILABLE
<b>PHYSICS LABORATORY</b>		
12v, 24w filament bulb		
Ammeter FSD 1 A or 1.5 A		
Beaker 100cm <sup>3</sup> , 250cm <sup>3</sup> , 1 litre		
Blu-tack		
Boiling tube, 150mm x 25mm card		
Cells, 1.5V		
Connecting leads		
Crocodile clips		
d.c power supply – variable to 12V		
G-clamp		
Half-metre rule		
Lens		
Low voltage (2.5V) filament bulbs		
Masses, 50g, 100g		
Measuring cylinder		
Metre rule		
Microscope slides		
Mirror, plane, 50mm x 10mm		
Nichrome wire, 28swg (0.38)		
Pendulum bob		
Pin board		
Pivot		
Plastic or polystyrene cup		
Plasticine		
Protractor		
Resistors		
Retort stand, boss and clamp		
Cellotape		
Spring balance		
Stopwatch		
Switch		
Thermometer		
Thread		
Tracing paper		
Voltmeter FSD 1V,		
Wooden board		
Copper wire		
Micrometer screw gauge		
Rule		

Scissors		
Wire cutter		
Beam balance		
Lever balance		
Electric motor		
Bar & horseshoe magnet		
Electromagnet		
Plotting compasses		
Iron filings		
Transformer		
Ray boxes		
Balloons		
Test tube, Ext dia 25cm x length 15cm		
Ticker timer		
Ticker timer & carbon disc		
Smoke box for "Brownian Movement"		
Glass tube (for diffusion)		
Oil film kit		
Trolleys, stackable with spring plungers		
Pulley on clamp		
Force boards		
Triple pulleys		
Hydrometer, for lead/acid cells		
U-tube manometer		
Flywheel		
Spirit level		
Spiral spring		
Vernier calipers		
Inclined plane		
Lift pump		
Tripod stands		
Wire gauze		
Bunsen burner		
Infra Red heater		
Aluminium block		
Bourdon gauge		
Bung and tube		
Capillary tube		
Plastic cup		
Graduated cylinder		
Flame spectra kit		
Barometer tube		
Copper vessels		
Cork		
Mercury		
Bicycle pump		
Linear expansion apparatus		

Steam trap		
Leslie's cube		
Ray box		
Holder for lens and mirror		
Semi-circular refraction box		
Rectangular block		
Triangular prism		
Optical pins		
Concave mirror		
Diverging lens		
Sonometer box		
Tuning fork		
Slinky		
Ripple tank		
Hand stroboscope		
Bell jar		
Hand spectroscope		
Glass tube		
Set of weights 2kg, 5kg, 1kg		
Rectangular bar magnet		
Horse shoe magnet		
Plotting compass		
Iron fillings		
Insulated single core copper wire		
Transverse wave model apparatus		
Banana plugs		
Polythene rods		
Acetate rods		
Bulb holders		
Fuse wire		
Eureka wire		
Galvanometer		
Power units		
Electric motor		
Solar cell mounted		
Bulb for ray box		
Immersion heater		
Electric motor		
Coil		
Zinc plate		
Copper plate		
Rheostat		
Soft iron rod		
Hard steel rod		
Electric bell		
Weston standard cell		
Plug keys		
Wheat stone bridge with accessories		

Iron, cores to fit 5000 turn coil		
Multimeter		
Lead acid accumulator		
Daniel cell		
Constantine bore wire		
Potentiometer		
Battery charger		
Open sound solenoid		
Induction coil		
Cork borers		
Files		
Glass cutter		
Combination pliers		
Hack-saw, frame and blade		
Snips		
Drill		
Soldering kit		
Spanner, set		
Screw drivers, set		
Hammers, various sizes		
Wooden saw		
Terminals, assorted		
Pincers		
Smoothing plane		
Insulating tape		
<b>CHEMISTRY LABORATORY</b>		
Ammeter		
Asbestos mats		
Asbestos, polythene		
Balance, automatic, electrical		
Aspirator, plythene		
Balance triple beam		
Baometer tubes		
Basins, porcelain, flat bottom		
Batteries		
Beakers, borosilicate		
Beaker, propylene		
Bell jars		
Boss heads		
Beehive shelves		
Boyle's law tube		
Burettes		
Burette brushes		
Bucket		
Bunsen burner		
Carbon rods		
Calorimeter		



Cobalt blue glasses		
Combustion tubes		
Clips, motor		
Clips, crocodile		
Condensers		
Copper plates		
Cork borers		
Cork borer sharpening tool		
Corks (assorted)		
Cotton wool		
Crucibles		
Cork press		
Petri dishes		
Deflagrating spoons		
De-ionizer		
Dropping pipette		
Desiccators		
Drying tubes		
Eudiometers		
Funnels		
Filter funnel		
Filter paper		
Filter pump		
Volumetric flask		
Distilling flask		
Separating funnel		
Thistle funnel		
Flat bottom flask		
Conical flask		
First Aid Box (fully equipped)		
Gas jars with covers		
Gas troughs		
Gas wash bottles		
Glass cutters		
Glass rods		
Glass tubing		
Graduated cylinders		
Galvanometer		
Grease		
Indicator bottles		
Dropping pipette		
Kipp's apparatus		
Mercury tray		
Meter rue		
Molecule models		
Mortars and pestles		
Nichrome wire		
Pipe clay triangle		

Triangle		
Pipette bulb		
Straight pipette		
Platinum electrodes		
Porous pots		
Periodic tale		
Reagent bottles		
Retort stands		
Retort clamps		
Retort Rings rubber Stoppers		
Stand And Burette		
Spatula		
Test Tube Rack		
Splint Wood		
Stop Clock		
Electrical Switches		
Sand buckets		
Thermometers		
Tripod stands		
U-tubes, long		
U-tubes, short		
Voltammeter		
Wire gauze		
Wash glasses		
Water bath		
Fire extinguisher		
Protective goggles		
Glass cutter		
<b>REAGENTS</b>		
Acetamide		
Acetone		
Alcohol		
Aluminium foil		
Ammonia solution		
Ammonium dichromate		
Calcium carbonate		
Calcium chloride		
Copper (II) oxide		
Copper fillings		
Chloroform		
Ethanoic acid		
Ester		
Fehling's solution		
Glucose		
Hydrogen disulphide		
Hydrogen peroxide		
Hydrochloric acid		
Iodine		

Calcium hydroxide		
Lead(II) nitrate		
Lead oxide		
Magnesium ribbon		
Magnesium nitrate		
Magnesium sulphate		
Magnesium (IV) oxide		
Methyl red indicator		
Nitric acid (Conc.)		
Potassium dichromate		
Potassium hydroxide		
Potassium Manganate (VII)		
Potassium nitrate		
Silica gel		
Sodium Carbonate		
Sodium hydrogen carbonate		
Sodium hydroxide		
Sulphuric acid		
Turpentine		
Zinc carbonate		
Zinc foil		
Zinc nitrate		
Zinc sulphate		
Zinc oxide		
Alum		
Camphor		
Kerosene		
Methylated spirit		
Orange juice		
Palm oil or any vegetable oil		
Pepper		
Soap		
Sodium chloride		
Starch		
Sugar		
Sulphur		
Vaseline		
Andrew's Liver salt		
Caustic Potash		
Naphthalene		
Cobalt chloride paper		
<b>BIOLOGY LABORATORY</b>		
Beakers		
Bell jars		
Bioviewers		
Bunsen burners		
Boiling tube		

Crucibles		
Conical flask		
Cylinders		
Chemical balance		
Cork		
Cork borers (set)		
Crucible tongs		
Clinostat		
Clamp		
Dissecting set		
Dissecting board		
Dissecting pan		
Dropping pipette		
Evaporating dish		
Glass tubing		
Graduated pipette		
Garden line		
Hand lens		
Hygrometer, net & bulb		
Insect nets		
Insect setting		
Litmus paper		
Microscope		
Cover slips for microscope slides		
Microscope slides		
Mortar and pestle		
Photometer		
Plant pots		
Plastic models:		
Heart		
Eye		
Ear		
Skeleton		
Rain gauge		
Filter funnel		
Aspirator		
Spatula		
Test tubes		
Specimen bottles		
Tripod stands		
Blotting paper		
Wire gauze		
Barometer		
Test tube racks		
<b>REAGENTS</b>		
Hydrochloric acid		
Nitric acid		
Sulphuric acid		

Agar powder		
Alcohol (Methylated spirit)		
Alum		
Liquid Ammonium Hydroxide		
Calcium Sulphate		
Camphor blocks		
Cellophane		
Canada balsam in Xylene		
Charcoal powder		
Calcium Hydroxide		
Ethanol		
Lime water		
Disinfectant		
Fehling's solution A & B		
Zinc Chloride		
Xylene		
Turpentine		
Paraffin wax, oil or Vaseline		
Sodium bicarbonate		
Commercial yeast		
Soluble starch		
Potassium bicarbonate powder		
<b>MODELS</b>		
Skeleton of man		
Human eye		
Human ear		
L.S of skin		
L.S/T.S of leaf		
Human baby in uterus		
<b>SPECIMENS</b>		
Ascaris		
Tapeworm		
Fish		
<b>PREPARED SLIDES</b>		
Typical Plant Cell		
Typical Animal Cell		
Euglena		
Spirogyra		
Paramecium		
<b>INTRODUCTORY TECHNOLOGY</b>		
<b>TOOLS</b>		
Spanners (set): Flat Ring		
Screw drivers (set): Flat Ring		

Soldering bits (Manual)		
Soldering irons (Elect.): 15W 65W		
Hand files:		
a) Flat second cut		
b) Flat smooth cut		
c) Round round cut		
d) Round second cut		
e) Round smooth		
f) Triangular 2 <sup>nd</sup> cut		
g) Triangular smooth		
h) Half round rough		
i) Half second cut		
j) Flat rough cut		
File clearing brush		
Hammers:		
a) Ball Pein		
b) Ball pein tapping		
c) Cross pein		
d) Straight pein		
Steel rules		
Tape rules		
Spring dividers		
Odd leg calipers		
Outside calipers		
Inside calipers		
Center punches		
Prick punches		
Driving punches		
Vernier protector		
Vernier calipers		
Spirit levels		
Hexagonal key (Allen keys)		
Micrometer screw gauge		
Scribing blocks		
Blacksmith sledge hammer		
Hacksaw frames		
Hacksaw blades		
Twist drills (set)		
Taps & Dies (set)		
Hand vices		
Tool marker's clamp		
Pliers		
Long nose pliers		
Side cutting pliers		
Circlers pliers		

Shears cut or snips (straight)		
Shears cut (curved)		
Gauge boxes		
Trowels:		
a) Setting		
b) Plastering		
c) Pointing		
Club hammer		
Manson hammer		
Wheel barrows		
Head pan		
Folding rule		
Spades		
Gauge rod, woods		
Tri-square		
Saws:		
a) Hand saw		
b) Panel saw		
c) Cross cut saw		
Chisels:		
a) 6mm		
b) 9mm		
c) 12mm		
d) 15mm		
e) 18mm		
Scrappers		
Tester (screw driver)		
Straight edge (wooden)		
Protractor wooden)		
Scale rule		
Drawing boards		
Planes:		
a) smooth plane		
b) jack plane		
Gauges:		
a) Marking gauge		
b) Mortise gauge		
Pair of wooden compasses		
Wooden set square		
Tee-square		
<b>EQUIPMENT</b>		
Bench vices		
Avometer		
Ammeter		
Multi-meter		
Hydrometer		
Grinders:		
a) Bench grinder		
b) Pedestal		

c) Grinding tone		
Sharpening stone		
Suffice plate		
Angle plate		
Black Smith Hearth Forge		
Black Smith tongue		
Black Smith Anvil		
Hand concrete mixer		
Brick moulder		
Block moulder		
Hand drilling machine		
Kerosene stove		
Drilling machine		
Work benches		
Bicycle tyres with valves		
Footballs		
Pepper grinder (mechanical)		
Kite and string		
Garden sprinkle		
Hydraulic jack		
Old kick starter		
Various types of levers		
Old clutches		
Bicycle brakes		
Old car steering mechanism		
Old rack and pinion		
Power hack saw		
Planning machine		
Cross cut machine		
Grease gun		
gas welding equipment:		
a) oxygen equipment		
b) Acetylene nose 5m length		
c) Oxygen nose 5m length		
d) Acetylene gauge		
e) Oxygen lathe gases (cylinder)		
f) Acetylene gas (cylinders)		
Oil can		
<b>MATERIALS</b>		
Fastening devices:		
a) Bolts & nuts		
b) Screws		
c) Rivets		
d) Glue		
e) Nails		
Locking Devices:		
a) washers		
b) circlip		



c) cotters		
d) wedges		
Distilled water		
Sulphuric Acid		
Fluxes:		
a) Brake fluid		
b) Borax		
Emery paper		
Sand paper		
Paints		
Wood finishes		
Set of wooden geometrical solids:		
a) cube		
b) square-base Prism		
c) Rectangular-base Prism		
d) Triangular-base Prism		
e) Hexagonal-base prism		
f) Cone		
g) Sphere		
h) Triangular-base pyramid		
Aluminium sheet		
Tin-sheet		
Galvanized sheet		
Perspex		
Brass rod		
<b>AGRICULTURAL SCIENCE</b>		
<b>TOOLS</b>		
Garden fork		
Hand fork		
Hand Trowel		
Pick axe		
Short handled sickle		
Shovel		
Go-to-hell		
West Indian hoe		
Wet African hoe		
Spanner		
Hammer		
Screw drivers		
Mallets		
Mattock		
Fishing hook & line		
<b>EQUIPMENT</b>		
Watering can		
Feeder		
Waterier		

Tattooing set		
Identification tag		
Piece of iron		
Harrow		
Maize Sheller		
Planters		
Cast net		
Seine net		
Drag net		
Hurricane lantern		
Laying net		
Granite		
Gneiss		
Marble		
Shale		
Sandstone		
Col		
Quartz		
Clay soil		
Loamy soil		
Clayey-loam		
Funnels		
Beakers		
Rice paddy		
Turning fork		
Slinky		
Ripple tank		
Hand stroboscope		
Glass tube with rubber tubing		
Set of weights		
Rectangular bar magnet		
Horse shoe magnet		
Plotting compass		
Ammeter		
Voltmeter		
Galvanometer		
Power units		
Bimetallic strip		
Electric motor		
Solar cell		
<b>MATERIALS</b>		
Knapsack sprayer – Chart		
Simple sprayer – chart		
Diagram of tractor – chart		
Plough – chart		
Ridger - chart		
Cotton wool		
NPK fertilizer		

Cow dung		
Maize		
Sorghum		
Millet		
Cowpea		
Soya beans		
Groundnut (shelled & unshelled)		
Cassava		
Yam tuber		
Banana plugs		
<b>CHEMICALS</b>		
Sulphate of Ammonia		
Muriate Of Potash		
Super Phosphate		
Poultry droppings		
Lime (Agricultural lime)		
Wood ash		
Iron fillings		
<b>FINE ART ROOM</b>		
Sketch books		
Shading pencils		
Poster colors		
Charcoal		
Water Colour		
Plastic viewfinders		
Small mirrors		
Printing ink (4 W.B colours)		
Printing boards (Gloss/plastic surface)		
Soft pastel		
Ink trays		
Coloured cotton fabric		
Tapestry accessories: wool, sewing threads		
Wooden looms		
Weaving grass		
Needles		
Chip boards		
Sponge sheets		
Scissors		
Modeling cards		
Florist wire		
Pipe cleaners		
Wire cutters		
Craft knives		
Modelling spatula		
Easel		
Crepe papers		
Tissue papers		

Dye powder		
Dye chemicals		
Plastic/polythene sheets		
Collage accessories: Beads, buttons etc		
Clear varnish		
Modelling board		
Drawing boards		
Wooden frames		
Wool		
Brushes		
Plastic bags		
Balloons		
<b>HOME ECONOMICS</b>		
Deep Freezer		
Gas cooker		
Gas cylinder 12kg		
Butcher's block		
Grinding machine		
Stock pots		
Washing sinks		
Cooking pots		
Aluminium bowls		
Chopping boards		
Kitchen spoons		
Kitchen knives		
Wooden spoons		
Draining bowls (colander)		
Black cooking pots (Agbari Ojuku)		
Measuring jugs		
Plastic bowls		
Fry pans		
Refuse bin with lid		
Big aluminium dish bowls		
Tin cutters		
Cutlery set		
Steel wool (iron sponge)		
Kitchen napkins		
Floor mops		
Foil paper		
Kitchen proof paper		
Stymies nozzles		
Piping bags		
Cake pans and stands		
<b>METAL WORK</b>		
Work bench		
Vices		

File (flat, rough) 250mm		
10" hand file (rough)		
10" round file (rough)		
10" square file (rough)		
10" half round 2 <sup>nd</sup> cut		
200mm warding file		
Retail file		
2 <sup>nd</sup> cut file 10"		
Smooth file 10"		
Dead smooth file 10"		
Steel rules (12) 300mm		
Tape stanley pocket rule 3000mm		
Dividers		
Scriber		
Vernier calipers 200mm		
Center punches		
Hammer ball pein		
Hammer cross pein		
Oil can		
Pliers		
Tool box and lock		
Odd leg calipers		
Engineering square set of flat screw driver		
Set of star crew driver		
Pair of tin snip		
Hand vice or nippy vice		
Flat scrappers		
Half round scraper		
Triangular scrapper		
Stock and dies metric set 3mm-12mm		
(BA) 150set 0-10		
Socket spanners 3 -22mm		
Open end spanners 3-22mm		
Reamers 3-25		
Dial gauge		
Flat chisel		
Round nose chisel		
Diamond cut chisel		
Cross cut chisel		
Straight shank drills		
Haper shank drill		
Drift		
Micrometer screw gauge		
Protractor		
Bevel		
Combination sets		
Vernier calipers		
Dimit gauges		

i. Telescopic		
ii. Plug gauges		
iii. Slup gauges		
Feeler gauge 05-64		
Screw pitch gauges		
Blacksmith tools		
i anvil		
ii sledge hammer		
iii chisels		
iv filter		
v. swage block		
vi punches and drifts		
vii tongs		
Arbor press		
Extractors		
Cirelip pliers int. and ext.		
Pipe wrenches		
G.clamp		
Tool maker clamp		
Three jaws chuck		
Four jaws chuck		
Face plate		
Taper turning attachment		
Driving dog		
Driving plate		
Mandril		
Boring tools		
Optical protractors		
Sleeves		
Combination center drills		
Reamers		
i. Parallel shanks		
ii. Taper		
iii. Adjustable reamer		
Tapping M3-M12 M6-M16		
Knurling tools		
Dies		
i. M3-M12		
ii. M6-M16		
Boring bars		
Swiveling vices		
Vee blocks		
Copper and hide faced hammer		
Mallet hammer		
Parallel blocks		
Bevel protractor		
Slab cutters		

Gearing cutters		
Slutting saws		
Side and face cutters		
Various sizes of end mills		
Angle cutters		
Form cutters		

Face mills				
Stub arbor				
Sets of collets				
Cutter arbor				
Drilling head				
Rotary tables				
Milling collars				
Surface				
Angle plate				
Counter boring tools				
Counter sinking tools				
Jacob chuck				
Hand drilling machine				
Sensitive drilling machine				
Pillar drilling machine				
Radial drilling machine				
Automatic lathe Ms				
Capstan and Turret lathe machine				
Student center lathe				
Large size ord. Industrial c. lathe				
18" shaping machine				
Slotting machine				
Vertical head milling machine				
Horizontal head milling machine				
Universal milling machine				
Planning machine				
Angle/hand grinder				
Pedestal grinder				
Cylindrical grinder int. and ext.				
Centerless grinder				
Engraving machine				
<b>TECHNICAL DRAWING</b>				
Compass				
Drawing board				
Drawing instrument (set)				
Metal rule				
T-Square				
Set square				
Mathematical sets				
Drawing sheet (bundle)				
Cellotape				
<b>WOODWORK</b>				



Multipurpose thickness machine				
Thickness machine				
Mortising machine				
Wet grinding machine				
Saw sharpening machine				
Router machine				
Tenoning machine				
Radial arm or traveling head cross cutting machine				
Metal jack plane				
Smoothing plane				
Metal trying plane				
Dutch plane				
Shoulder plane				
Rebate plane				
Router plane				
Plough plane				
Compass plane				
Bull nose plane				
Dip saw				
Cross cutting saw				
Panel saw				
Tenon saw				
Dovetail saw				
Bow saw				
Fret saw				
Coping saw				
Compass plane				
Keyhole saw				
Nest of saws				
Iron square				
Mitre square				
Sliding bevel				
Steel rule (5 metres)				
Crow bar				
Pincers				
Set of screw drivers (flat)				
Set of screw drivers (star)				
Firmer chisels				
Bevel edge chisels				
Sash mortise chisels				
Mortise gauge				
Marking gauge				
Ratchet brace				
Hand rail				
Spoke shave (curve)				

Mallet (wooden)				
Rasp files				
Oil stone				
Oil can				
Scraper				
Bradawl				
Gimlet				
Warrington hammer				
Claw hammer				
Sash clamp				
G. clamp				
F. clamp				
Bench hold fast				
Bench vice				
Mahogany				
Abura				
Ofu				
Apa				
Plywood				
Chipboard				
Hard board				
Plastic laminate 1200X2400				
Contact adhesive				
P.V.A. Glue				
Cascamite glue				
Lacquer sanding sealer				
Lacquer polish				
Stain				
Wire nails				
Screws				
Butt hinges				
Barrel bolts				
Mahogany veneer				
Cedar veneer				
Glass-paper coarse				
Glass-paper medium				
Glass-paper fine				

## APPENDIX B

### SCHOOL ENVIRONMENT QUESTIONNAIRE FOR TEACHERS

This questionnaire is designed for the study of the effect of input and process variables on school effectiveness in Lagos State.

This inventory presents statements related to the operation of some of your school's systems. Please respond to each item independently according to the degree to which you believe the statement describes your school.

**PLEASE COMPLETE ALL ITEMS.**

**Please tick the appropriate box.**

1. Sex ☐ Male ☐ Female

**SECTION A**

2. Age ☐ 20 – 29yrs ☐ 30 – 39yrs ☐  
40 – 49yrs

☐ 50yrs & above

3. Educational Qualification

☐ OND/NCE ☐ B.A/B Sc/HND ☐ B.A/B Sc

Ed,

B Ed,  
B.A/B Sc

PGDE

HND

PGDE

☐ B.A/B Sc /HND& MA/M Sc ☐ B.A/B Sc/HND &  
PGDE & MA/M Sc

(Graduate without teaching qualification & a MA/M Sc)  
qualification & a MA/M Sc)

(Graduate with teaching

☐ B.A/B Sc Ed &M.A/ M Sc ☐ M.Ed ☐ Others,  
specify

4. Years of experience in teaching:

☐ 1 – 3years ☐ 4 – 7years ☐ 8 –  
12years

☐ 13 years & above

5. Present salary grade level

☐ 7 – 9

☐ 10 – 13

☐ 14 and above

above

**PLEASE READ EACH STATEMENT AND TICK THE APPROPRIATE RESPONSE**

SA = Strongly Agree  
Disagree

A = Agree

D = Disagree

SD = Strongly

		SA	A	D	SD
<b>Factor 1: Leader Behaviour</b>					
1.	The principal is constant in carrying out laid down procedures of the school				

### SECTION B

2.	The principal endeavours to ensure that qualified teachers are employed and utilized effectively.				
3.	Decisions are made after hearing from those affected and are based on clear and reasonable criteria/data.				
4.	The principal/vice principal visits the classroom regularly.				
5.	The principal is visible and accessible				
6.	Parents, teachers and students can talk to the principal.				
7.	The principal initiates professional development activities for teachers.				
8.	The principal provides instructional leadership to classroom teachers.				
9.	The principal enhances participative decision-making, encourages teachers to participate in the decision-making process and honours their input.				
10.	The principal builds cohesive teamwork among staff.				
11.	The principal communicates and encourages high expectations for staff members.				
12.	The principal promotes teaching situations that allow the most effective and extensive instructional contacts.				
13.	The principal nurtures cooperative relationships among school members.				
14.	The principal recognizes and celebrates how well the school is improving.				

15.	The principal sets an example by working hard himself/herself.				
16.	The principal compliments teachers.				
17.	The principal rules with an iron fist.				
18.	The principal goes out of his/her way to help teachers.				
19.	The principal uses constructive criticism.				
20.	The principal talks more than he/she listens.				
21.	Competent individuals are recruited and hired for available positions.				
		<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
22.	The school's main priority is the learning of the students.				
23.	In this school, distractions and interruptions of instruction and learning are minimized.				
24.	Instructional materials are given highest priority in the allocation of resources.				
25.	Professional development activities aimed at improving teaching exist in this school.				

<b>Factor 2: Academic Emphasis</b>					
26.	Teachers are willing to provide help for those students that need it.				
27.	Students' achievement is continually given recognition.				
28.	The school provides students with opportunities for learning beyond the school through excursions, projects etc.				
29.	Instructional and other school activities focus on students' performance.				
30.	The library is open for students' use.				
31.	Teachers are up-to-date in their knowledge of teaching and learning.				
32.	Audio-visual materials and equipment are available and utilized.				
33.	Instructional aids are available and utilized in a meaningful way to support students' learning.				
34.	Students are enthusiastic about learning in this school.				
35.	Teachers pay attention to students of all ability levels.				
36.	The school programme encourages students to develop self-discipline and initiative.				
37.	The classrooms are conducive for teaching and learning.				
38.	Teachers are well prepared to teach students.				
39.	Standards set for the students are consistently upheld throughout the school.				
40.	Shortages of teachers in vital subjects often occur.				
41.	Career counselling exists in the school.				

42.	In my school, all students participate freely in school activities.				
43.	Parents participate in school committees and functions.				
44.	Student absenteeism is very low.				
45.	Parent-volunteers contribute widely in the functioning of the school.				
46.	Teachers are often absent from school.				
47.	The school campus is orderly, well maintained and inviting.				
		<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
48.	The school has a positive image in the local community.				
49.	Incidents of vandalism are minimal.				
50.	There exists a high degree of cooperation among principal, staff and students.				
51.	The principal maintains a consistent set of rules and regulations that map out school goals and policies.				

<b>Factor 3: School Environment</b>					
52.	Staff generally displays a high degree of pride and satisfaction in their work.				
53.	Students are encouraged to be involved in varying activities in the school.				
54.	Students from diverse backgrounds are all welcome in this school.				
55.	Parents are informed of important activities and events in the school.				
56.	The school has comparatively few discipline problems.				
57.	Attendance at school is good; students only stay away for good reason.				
58.	Students and staff frequently participate in problem solving and school improvement activities.				
59.	Parents are considered as important contributors in the school.				
60.	Teachers' ideas are taken into account in this school.				
61.	School rules are few and simple and violators are treated fairly and consistently.				
62.	Problems in the school are recognized and worked upon openly. They are not swept under the carpet.				
63.	The parents are supportive of what the school is doing and will willingly provide assistance when requested.				
64.	Pupils are generally well behaved and respect teachers in the school.				
65.	The morale of teachers is high.				

66.	Teachers respect the personal competence of their colleagues.				
67.	The school has a friendly atmosphere.				
68.	Students are perceived as having value and worth.				
69.	A positive school spirit is regularly in evidence.				
70.	There is a high 'esprit de corps' in the school. (loyalty and other feelings uniting the members of a group).				
<b>Factor 4: Monitoring Students' Progress</b>					
71.	Standards used to ensure gains in learning stress what students know and can do.				
72.	Standards used to measure learning gains are clear to everyone.				
73.	Data on students' learning are regularly collected and reviewed with all members of the school community.				
		<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
74.	Attendance data are regularly reviewed.				
75.	Frequent communication occurs between special programme teachers and teachers of regular classes.				
76.	School monitors students' progress by evaluating abilities and prescribing strategies for improvement.				
77.	Clear learning objectives exist throughout the curriculum.				
78.	Achievement tests in the varied subjects are utilized to determine students' progress.				
79.	Few record keeping problems exist in the school.				
80.	Feedback data about individual and group performances are provided directly to the performers.				
81.	The school regularly reports students' progress to parents.				
82.	Teachers recognize and reward good work.				
83.	Generally assignments are corrected and returned in reasonable time.				
84.	Students are evaluated fairly.				
85.	Staff ensures that pupils receive constructive feedback about their work.				
86.	Frequent communication occurs between teachers and councillors.				
<b>Factor 5: Teacher Expectations</b>					
87.	Rules regarding attendances and promptness are made clear to all.				
88.	Classroom learning activities and materials challenge students to think, analyze and summarize.				
89.	Teachers regularly give homework, assignments, and projects etc.				
90.	The school has high expectation for students' learning.				
91.	Teacher-student interactions are frequent during classroom instruction.				

92.	Students are expected to be fully prepared for class.				
93.	Students are actively engaged with learning activities throughout most of the class time.				
94.	Teachers and other school staff communicate their high expectations to students.				
95.	Expectations for student behaviour are fair.				
96.	Students are expected to carry out all work assigned to them.				
97.	Staff insists on students maintaining high standards in their work and behaviour.				
98.	Teachers make expectations for class work clear to students.				
99.	Teachers expect students to work to the best of their ability.				
100.	Teachers expect students to learn beyond the content covered in the classroom.				