

**HOUSEHOLD FACTORS AS PREDICTORS OF
SECONDARY SCHOOL STUDENTS' ACADEMIC
ACHIEVEMENT IN OYO AND OGUN STATES, NIGERIA**

BY

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CERTIFICATION

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DEDICATION

This Thesis is dedicated to God the Father, God the Son and God the Holy Ghost; The Almighty, My greatest support, strong tower and refuge who has in His infinite mercy, grace and power made it possible for me to attain this level. He never sleeps nor slumber over my affairs.

And

To my dear wife Deaconess Temitope Adeola Olusola-Ojorongbe, my partner in marriage, business and in life, who makes my life complete and has always being there for me. To Ayomide, Ayomikun and Ayooluwa with whom I have achieved this together – you endure my excuse always to be away from home.

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ABSTRACT

Secondary education occupies a critical position in the education system because of its dual role of preparing students for higher education and the labour market. In spite of this it has been observed that most students perform poorly in core subjects, particularly, in English Language and Mathematics in Senior Secondary School Certificate Examinations. Previous studies have largely focused on school and student-related factors without due consideration to household factors. This study, therefore, investigated the extent to which household factors (parents' education, occupation, income, household size and parent's involvement i.e provision of educational needs and time spent with children on academic concerns) predict secondary school students' academic achievement in Oyo and Ogun States, Nigeria.

Descriptive survey research design of the *ex-post facto* type was adopted. Multistages, and stratified sampling techniques were used to select 1800 year two Senior Secondary School (SS2) students and one parent per child in 60 secondary schools (36 public and 24 private); three public and two private senior secondary schools participated from each of the selected 12 local government areas of the two states. The local governments consisted of one rural and one urban selected from each of the six senatorial districts of both states. Two questionnaires: Household Factors Questionnaire for parents ($r = 0.91$) and Secondary School Student's Household Factors Questionnaire ($r = 0.83$) were used. These were complemented with Mathematics Achievement ($r = 0.83$) and English Language Achievement Tests ($r = 0.86$). Four research questions were answered and six hypotheses tested at 0.05 level of significance. Data were analysed using descriptive statistics and multiple regression.

Parents' education, occupation, income, involvement and household size had significant composite contribution of 9% ($F_{(27,1338)} = 5.57$; $R^2 = 0.09$; $p < 0.01$) and 11% ($F_{(27,1338)} = 6.87$; $R^2 = 0.11$; $p < 0.01$) to the variance in academic achievement of secondary school students in English Language and Mathematics respectively. Parents' education ($\beta = -0.9$; $t = -2.19$; $p < 0.05$); parents' occupation ($\beta = 0.09$; $t = 2.10$; $p < 0.05$); parents' income ($\beta = 0.06$; $t = 2.27$; $p < 0.05$) and parents' involvement ($\beta = 0.07$; $t = 2.70$; $p < 0.05$) made significant relative contributions to academic achievement in English Language. Parental involvement ($\beta = 0.11$; $t = 4.12$; $p < 0.05$) made significant relative contribution to academic achievement in Mathematics. However, household size made no significant contribution to academic achievement in English Language. Parents' education, occupation, income and household size made no significant contribution to academic achievement in Mathematics.

Household factors are important predictors to Academic Achievement in English Language and Mathematics. All household factors except the household size were essential impetus for improving academic achievement in English Language. Parents should make adequate provision for educational needs and spend more time with their children on academic matters so as to enhance the academic achievement of secondary school students in English Language and Mathematics. Policymakers and stakeholders should also pay more attention on strategies that will help to improve the involvement of parents in the education of their children.

Keywords: Household Factors, Academic Achievement, English Language, Mathematics, Secondary School Students

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Secondary education occupies a critical position in the educational system because it plays dual role of either preparing students for higher education level or for labour market. This level of education determines the academic and professional career of students and equally serves as a link between basic and higher education by absorbing the former and supplying entrants into the latter (Akinsanya, 1997; National Policy on Education, 1998).

Secondary education is a comprehensive type of education with a core curriculum designed to broaden the knowledge and outlook of students (Federal Ministry of Education, 2000). Education at this level also equips students with necessary skills to exit school and find employment (Moja, 2000 cited in ESSR, 2003). The goals of senior secondary education as stipulated in the National Policy on Education are to prepare students for “useful living within the society and for higher education” (Federal Republic of Nigeria, 1998). Success in the tertiary level of education tactically depends partly and largely on the achievement in secondary school. Hence, secondary school level of education is an important level of the education structure in any country- it is a transitional level.

Education is a viable investment with the potential of advancing and securing the economic, social, cultural, political, scientific and technological development of any nation and its people. Basic and secondary education is not only the bedrock of education; they

are the foundation of greater knowledge and skills acquisition in tertiary institutions for individual and national growth.

Engin-Demir (2009) posits that education plays a significant role in influencing an individual's economic and social circumstances. In this regards formal schooling plays an important role in the enhancement of economic growth by increasing economically productive knowledge and skills (e.g. literacy, numeracy and problem-solving skills). Arguably, education increases individuals' productivity and earnings (Psacharopoulos, 1994). Although students may be of comparable abilities, learn in the same environment and follow the same syllabus, their academic achievement varies.

Bright students who failed to excel due to other factors miss the opportunity to advance in education and be employed. At the same time, there are students who may be bright but perform poorly despite the good learning facilities in their schools. Among the factors often blamed for students' poor academic achievement, the household factors are hardly mentioned. The fundamental aim for the introduction of free compulsory universal basic education scheme is to ensure that every Nigerian child gets access to qualitative education, equipped with the vital knowledge and skills he\she needs to navigate through higher education and/or transit into society fully prepared. Thus, while governments and household's expenditure are justified given the benefits of well educated citizenry, the effectiveness of such spending which can be measured by academic achievement of students in the school system is more important to the students, parents and entire nation.

Accordingly, having considered education as an indispensable instrument for achieving personal success and national development, then we must ensure that every

secondary school wherever located must justify its relevance on the strength of good performance and achievement of its pupils. With the considerable expansion of facilities for education in schools and ever growing realization of the value of education for social and economic mobility, many students these days continue their studies to senior secondary stage.

Education is considered as a basic need that supports the fulfillment of other basic needs such as shelter, food, clothing and security and helps steady improvement of quality of life. In this context, the increasing essence of educational experiences, performance and achievements in shaping people's opportunities, especially their abilities to secure decent work, has significant implications for policies in many countries (Machin, 2006).

The importance of Mathematics and English Language transcends all definitions and the prosperity of any country depends on the volume and quality of the subjects offered in its school system. Obe (1996) conceptualizes Mathematics as the master and servant of most disciplines and thus, a source of enlightenment and understanding of the universe. He further opines that without it, the understanding of national problems would be superficial. Graeber and Weisman (1995) agree that Mathematics helps the individual to understand his/her environment and to give accurate account of the physical phenomena around him/her. To this end, Setidisho (2001) submits that no other subject forms a strong binding force among various branches of discipline as Mathematics and English Language, without them, knowledge of sciences, social sciences and humanities often remains shallow. These and many more reasons are why the Nigerian government believed that the subjects should be taken seriously in our school system; and Nigeria, in her march towards

technological development and transformation, has made Mathematics and English a compulsory subject in the curriculum of the primary and secondary school levels of her educational system (Federal Republic of Nigeria, 2004)

Nigeria is characterized by low rate of students' academic achievement, this national drawback are experienced as mass failure of students in external examinations in recent years. The poor results in the two subjects have continued to be stumbling-blocks in the realization of the educational and employment desire of many candidates because they represent as gateway for many careers. What then could be responsible for this poor performance despite its recognition in the society and various efforts made by the Federal Government of Nigeria since the inception of the new policy on education? The poor performance has raised concern; and efforts have been made to find out causes.

The performance of students in academic tasks has always been of special interest to educators because most of the complaints and comments by the public that standard of education is falling are made in relation to the low students' achievement in public examinations in recent times. A number of factors such as lack of facilities and teachers in schools, indiscipline, large class size, low intelligence, anxiety and pupils' need to achieve have been found to cause poor academic achievement. Emeke (1984) and Henderson and Mapp (2002) has attributed the cause of poor academic performance to a combination of personal and institutional factors. Personal factors relate to the individual's intelligence, knowledge and ability while the institutional factors are family or parental influences, societal influences and school related factors among others.

According to the ecological systems theory (Bronfenbrenner, 1977), the household environment plays a significant role in the development of individuals. The interactions between Microsystems, for example, the school and home and\ or activities within Microsystems (parents checking their children's homework) have the faculty of producing functional students

There are plethora of evidence that buttress the positive impact of some of the actions and practices of parents such as participation in the educational and social life of the child (Henderson, 1987; Henderson and Berla, 1994), reinforcement of student achievement (Epstein, 1987; Fantuzzo et al., 1995), encouragement of school attendance (Sheats and Dunkleberger, 1979), encouragement to succeed (Steinberg et al., 1992), and the provision of reading materials in the home (Grolnick and Slowiaczek, 1994).

Socio-economic status like parents' education, occupation, income and standard of living have shown to be related to students' outcomes, such that students from middle to upper class families tend to outperform those from less advantaged background (Jaffe, 1985; Rani, 1998; Simon, 2004).

Over the years in Nigeria, examinations have been accepted as an important aspect of the educational system. Examinations have always been used as the main basis for judging a student's ability and also selection for educational advancement as well as employment. Before the last decade, Nigeria candidates sitting for external examinations had often done the country proud. At the end of every school year, young Nigerians having completed their secondary education wait expectantly for the release of the results of their school certificate examinations conducted by the West African Examination Council

(WAEC), National Examination Council (NECO) and National Business and Technical Examinations Board (NABTEB). The results of these examinations determine in many ways the next steps in the lives of these students. They look forward to obtaining at least five credits and above grades including English Language and Mathematics, the basic minimum requirement for transition to higher education in Nigeria. For some the need for achievement is very high while for others, it is very low.

Over the past years, however, there have been great concerns among students, parents and government about the poor performance of students in public examinations conducted by the examination bodies. In the past six years, less than 30% on the average of over one million students have obtained credit passes in five subjects including English Language and Mathematics. The trend is even worse in NECO and NABTEB examinations.

Table 1:1: Performance in Public Examinations (2006 to 2011)

Year	WAEC				NECO				NABTEB	
	May/June		November		May/June		November		May/June	
	N0*	%**	N0*	%**	N0*	%**	N0*	%**	N0*	%**
2006	1,171,423	22.15	410,139	13.77	929,003	27.07	281,497	18.08	37,288	40.9
2007	1,267,764	20.71	362,676	17.25	1,006,114	30.79	346,815	3.14	39,466	42.1
2008	1,354,478	26.63	359,212	22.39	1,145,742	27.22	296,967	28.74	42,732	38.01
2009	1,357,536	26.56	331,497	30.26	1,184,907	10.67	234,682	1.79	42,662	29.46
2010	1,315,786	23.36	309,624	22.09	1,132,357	9.36	246,117	0.16	63,612	29.86
2011	1,524,891	30.90	EXAM STILL ON	EXAM STILL ON	1,169,951	8.06	EXAM STILL ON	EXAM STILL ON	109,416	29.83

*Number of candidates that sat for the examination

**Number of candidates that passed with five credits and above including English language and Mathematics.

Source: Federal Ministry of Education, 2011

The implication of this is that more than 70% of the secondary school leavers are unavailable for higher education consideration. This eventually leads to stunting of the dreams and aspirations of a number of young people. It ultimately affects their self-confidence whereas these are the people on whose shoulders the future of this nation lies. Children from low household factors are generally observed to have the tendency to have lower educational outcomes than their peers in high socio-economic status household.

The pertinent factors such as parental education, occupation, income, involvement and household size play key roles in sending a child to school. The aggregate of these factors constituted the opportunity cost of allocating children's time away from schooling towards work; and child participation in economic and schooling activities increasingly disturb problem of child's labour and ultimately academic achievement (Ogwumike, 2010). It was noted that if a household is too poor to survive, the children will be induced to engage in economic activities which could lead to harmful effects on human capital accumulation and the perpetuity of poverty across generations in the long run (Blake, 1989; Coleman, 1988). Meanwhile, the mechanism through which household factors affects child's achievement remain vague, either poorer family are financially constrained which prevents them from investing and being sufficiently involved in human capital development of their children or according to Mayer (1997), poorer parents may be endowed with observable or unobservable characteristics that make them less successful in the labour market and worse, at parenting.

The intervention policies in some states via free lunch, using financial incentives of payments for public examinations in final year in secondary school to reduce educational

inequalities seem not to serve as lasting solution. The recurring poor achievements of students in public examinations pose a major challenge to education sector because it portends a lot of threat to educational system.

The success of the nation's developmental and transformation objectives are dependent on the production of adequate human capital to support all sectors of the economy. In the same vein, if there are large numbers of youths who are idle, because of lack of access to higher education, the danger to the social cohesion of the society is quite enormous. It is evident that most parents no longer have confidence in the quality of the public school system and if not for financial constraints they would have prefer to take their children to schools outside the country.

Stakeholders have been quick at pointing accusing fingers at poor teaching facilities, inadequate and poorly trained teachers and government underfunding as the fundamental causes. This may be true to some extent, but these variables cannot fully explain why the problem persisted despite government's interventions and the concern of stakeholders across all levels. This implies that the problems of poor performance and achievement in public examinations are far deeper than these factors, for each and every one of the factors that have been identified with students' low academic achievement; there are many more that must be reckoned with.

Indeed, there is need for more pragmatic approach in the diagnosis, otherwise finding realistic and lasting solutions to the problem may continue to elude the nation. Cameron and Heckman (1999) contend that the idea of academic achievement do not stem

from short term financial constraints but have their origin in the long term effects of household factors of ability, motivation and other unobserved characteristics.

Numerous studies, such as those carried out by Noel (1995) and Marcos (1990) cited in Diaz (2005) have sought to understand the factors which account for low academic achievement. Studies seeking to identify what determines academic failure frequently appear as a reaction to conditions of change, such as plans for educational reforms or in response to critical situations. Analysis of WASSCE (1995 to 2010;) reveals that greater proportion of students fails to obtain the good results in English Language and Mathematics (Appendix). Hence, the very concept of academic failure varies in its definition as Castellanos (1986) in Diaz (2005) considers it as a situation in which the subject does not attain the anticipated achievement premised on his or her abilities resulting in an altered personality. The educational system in place perceives that a student failed if he or she did not pass.

Studies on the determinants of students' achievement (Sternberg et al, 1989) have centre on the relative effects of students and school-related factors. Household factors are an important determinant of school outcomes whereas school characteristics have minimal effects (Brooks-Gunn and Duncan, 1997; Heyman and Loxley, 1983; Becker, 1981): however debates persist regarding the relative importance of households and school inputs (Chevalier and Lanot, 2002; Engin-Demir, 2009).

A number of studies have shown that home and school environments have a strong influence on the performance of children, especially at the primary-school level (Carron and Chau, 1996; Griffith, 1999; Mancebon and Mar-Molinero, 2000). It is widely

recognised that if pupils are to maximise their potential from schooling they will need the full support of their parents. Individual household traits such as attitude towards school, perceptions of the school environment, involvement in scholastic activities and level of motivation have been found to predict student performance and achievement (Connoly et al, 1998; Ma, 2001; Muola, 2010).

Studies have revealed that investigating determinants of students' achievement have focused on the relative importance of school and non-school factors whereas scholastic activities, students' well-being in school and attitude towards school and household factors were rarely examined in these studies.

This study differs from earlier studies in that it focuses simultaneously on how non-school related factors of parental education, occupation, income, involvement and household size predict academic achievement of secondary school students. There is the view that households can take on important roles in academic achievement of the child and fulfill them well. This assumes that they have the time, resources and energy to do so despite the fact that they are overloaded by the struggle to sustain viability of their families. There is also the view that parents just want to pass their children over to school, that they lack the interest and/or expertise to directly support their children academically. Baumrind (1989) has suggested that positive parental attitude towards their children school achievement such as high interest in their academic efforts, provision of household requirement like books, separate children room to study with tables and chairs and other home educational resources, good school, closeness and intimacy with children can bring about good academic achievement.

Parental involvement is crucial and absolutely essential to the educational success of children at any level of education and life, teachers may spend more time with students than their parents but no outside influence is as important as that of the household. It is important that children depend on love, care and security that parenting roles must naturally provide. Children have to be encouraged in their learning at home through parent's participation in their homework, special tasks or projects and the development of good study habits. Hence, Gesinde (2000) argues that the urge to achieve varies from one individual to the other. For some, the need for achievement is very high while, for others it is very low. Parents also serve as nexus between their children and their lesson teachers for continue educational support. Daily monitoring of assignments are ways that parents can demonstrate the value they place on education.

Studies (Al-Samarrai and Peasgood, 2007; Heuveline et al 2007; Dumas and Lambert, 2005) consistently show that children who live in homes with two parents will score higher on tests and have better reading skills than children with single parent or live in unstable household situation. It is an irony that many parents are now neglecting their area of strength to support and encourage their children educational activities. These children are less likely to get one on one attention from their parents who is working outside the home or with other children to care for. This tends to be a disadvantage (Riley, 2009). Those who have high achievers as their role models in their early life experience in the household would develop a high need for achievement, while those who have low achievers in the household as their role models will hardly develop the need for

achievement. The household is then obviously, a major agent and therefore important in determining the child's motivation to achieve success in various areas.

Fraser (1969) notes that two variables with the highest correlation with educational attainment are parental encouragement and education while looking at the effects of home environment. Students' academic achievement has been a major concern to parents, teachers, educationists, educational psychologists, policymakers, researchers and society at large. This is because the achievement of students in the country determines the quality of that nation. Thus, when a state's educational system is bedeviled with low students' achievement, the quality of the future of the products is endangered.

The decline in academic achievement in secondary schools in Nigeria generally does not just emerged but with lapses in combination of different variables. These variables can be school related factors, student-related and non-school related factors. Within non-school-related factors are views of household factors although usual indicators point to inequality levels that are comparable to those observed in other parts of the world, it is seldom scrutinized in-depth to ascertain its contributions to academic achievement. In the same vein Sternberg, et al (1989) stress that parents are more influential on plans for future schooling while Aremu (2001) and Nwagwu (1995) underscore the importance of home psychological climate on a child's emotional state and academic performance. Affirming the alleged falling standard of education is the yearly poor performance of many secondary schools' students in public examinations.

Mass failure in rural and urban schools has become a recurring issue and noticeable in the past few years. The recent past has been awashed with poor performance in

WASSCE and NECO and other public examinations in southwestern Nigeria and Nigeria as a whole (Appendix). This situation will have long-term effect on the quality of secondary education being offered in the country. Perhaps adequacy or non-adequacy and differential in household environment or setting could be the responsible factors. Indeed, while most studies find that household background variables have a strong impact on children's education and particularly maternal education, a careful study by Cogneau and Maurin, (2001) shows that the positive association might not be cause.

Modern man is conceptualised as a person whose educational aspirations and accomplishment are projected by certain variables in the home environment. (Onocha,1985). The locus of interest in educational research is beginning to shift from measures of individual to household, as such in the last several decades, studies have inclined to possible impact of parental characteristics such as household income and parental education on children's educational outcomes (e.g Axinn, Duncan, and Thornton, 1997; Duncan, Brooks, Yeung and Smith, 1998; Duncan, Brooks- Gunn, and Klebanov, 1994).

To Hirst and Peters (1979) "Young children today not only lack the knowledge and understanding, they also often lack the desire and readiness to acquire it, when they come to school, many of them seem to be without it. Maybe there is even more active discouragement at home. They are nevertheless, compelled to attend school".

Without Household involvement in child academic achievement, it is unlikely that most of the students will be able to put up much resistance to the negative motivations from outside which will make them cynical and self-seeking. Most researches nevertheless

have not paid sufficient attention to the prediction of household factors with regards to combination of parental income, education, occupation, involvement and household size on student's academic achievement. Within the small but now emerging aspects of household studies, all these identifications are interconnected and interdependent but distinct concept (Oliver and Shappiro, 1995; Sherraden, 1991; Wolff, 1995; Page-Adam and Sherraden, 1997; Scanlon and Page- Adams, 2001).

The problems of academic achievement grow out of diverse problems within the society as a whole and that casualties, although manifested in the school, stem from various sources. In a broader sense, it embraces all those who, because of cultural or economic disadvantage, adverse attitudes, or inefficient schooling failed to acquire the learning and intellectual development that they and society rightly anticipate.

There is an increasing anxiety that academic achievement is declining both in the rural and urban areas of the country. However, instead of looking into the remote causes of the failure in the subjects, most of the time school, teacher and students'-related factors are often emphasised. This attempt has not sufficiently helped matters as yearly the problem persisted.

It is feared that household factors may be one of the potent reasons why students perform woefully in examinations which ultimately reduced their chances of admission into higher institution. In the light of this, this research is an attempt at looking at household factors perspective as a way of contributing to knowledge because it is at this level of education that the key to any career, income, occupation and/or progression in education is obtained.

Although researchers have found relation between predictor variables independently on criterion variable, there is less understanding about how they jointly influence achievement and which form of household factors are most helpful (Moles, 1993; Gettinger and Guetshow, 1998; Scott-jones, 1995; Gutman and McLord, 2000; Anderson, 2000; Bal and Goc, 1999 and Catsambis, 2002)

In 2010 WASSCE examination, only 24.94% of the candidates that sat for the examination nationwide had five credits and above including English language and Mathematics; In NECO examination in 2009, only 7.2% of the candidates had five credits and above including English language and Mathematics. Nobody seems to know the appropriate response or steps on what can be done to curtail the trend in the poor performance in public examinations, the statistics is frightening. In 2009 it was 25.99% better than the 13.76% in 2008 and just a bit higher than 25.53% of 2007, in 2006 the percentage was 15.56% and 27.53% in 2005 a sadly unbeaten record in six years. (Appendix)

The low achievement of candidates considering the benchmark of five credits and above including English Language and Mathematics for the southwest states shows an average of just 14.3% in WAEC and 13% in NECO require urgent intervention. For candidates in Oyo State to have achieved only 12%; Osun State 10%; Ondo State 7%; Ekiti 11%; Ogun State 21%; and Lagos State 18% in the 2009 NECO examination is unpleasant. In the 2009 WAEC examination, Oyo state had 5%; Osun State 6%; Ondo State 22%; Ekiti State 31%; Ogun State 9%; and Lagos State 13%. This is disturbing. These results will

definitely disrupt the future of the children if urgent steps are not taken to reverse this trend.

The failure rate did not happen overnight, between the time we learnt about mass failure and now, the development persisted. The household monitoring, supervision and adequate attention to improve reading culture appears lacking these days. Whereas Wilson, Smeeding and Haveman (2007) opine that parental education, occupation and class are more strongly associated with students' educational outcome. It has been advanced that parents of high socio-economic status have more positive attitudes towards their children schooling and have high expectations of the children since they have the economic empowerment to buy the advantages that money can procure (Babalola, 2009; Adedeji and Adeagbo, 1996; Adedeji and Ayeni, 2001). Moreover, the values a child is exposed to at home are similar to the ones s/he finds in school and hence s/he is able to adjust easily to the ones s/he finds in school.

Berhrmann et al (1980) believe that students from low income home lack cognitive strategies needed to be successful in the education system, In the same vein, Bakare (1994) asserts that families on different income levels who suffer economic stress of any kind are more likely than families that are not economically stressed to experience depression, marital difficulties and be harsh on their children which result in poor grades and weaken emotional growth. The disparity in home learning environment of higher and lower income children is a reason for nearly half of the prediction of income level on achievement scores (Klebanov, 2002). Studies nevertheless have found that all these aspects of household factors have independent effects on children's educational achievement in western

societies (Di Maggio, 1982; Boudieu 1986; De Graaf, 1986; Coleman, 1988; Wu, 2005). Children from poor backgrounds are generally observed to have lower educational outcomes than their peers in non-poor households. The mechanism through which household factors affects child's outcome remains unclear (Chevalier and Lanot, 2001). The students' household background characteristics and after school activities could be a very strong factor (Dumas and Lambert, 2005; Binder, 1998; Olaniyan, 2007), compared to non-poor groups, less privileged children may not share the same values, standards or have access to resources, may have encountered more difficulties, and may have experienced more struggles in acquiring Mathematics and English proficiency and achieving academic success.

Sheyin (2002) also observes that some students performed poorly while a number drop out of secondary school system because of inability to cope financially and academically. In 1996, when a national monitoring on learning (MLA) exercise was first carried out, the result shows that the students in private schools achieved higher than those in public schools while students in urban schools scored higher than those in rural schools. The assessment study also adds that there exist different levels of achievement between boys and girls; rural and urban schools and between states.

1.2 Statement of the problem

The problem of poor academic achievement and issue of mass failure in public examinations of students in secondary school needs to be critically examined. Academic achievement is crucial in determining individuals' prospects. Having low level educational qualification can substantially increase the probability of unemployment or joblessness

(the major cause of poverty) and higher level qualification increases individual earning power, helping those from disadvantaged household achieve at school is therefore seen as a clear route to enable student to escape a poor start in life and avoid intergenerational cycle of disadvantage. There is a general assumption among policy makers that what is important for economic growth and development are literacy, basic and at best, secondary education. Schooling is widely acknowledged as a major investment in human capital that enhances future career opportunities and wages. It serves as an avenue for reducing income inequalities in an economy. The problem of low academic achievement of students in examinations in Nigeria is a source of concern not only to parents and teachers but also to all stakeholders in the country.

The minimum requirement for admission to higher institutions of learning in Nigeria is a pass with five credits including English Language and Mathematics. The consequence of poor performance in examinations is large number of young people who are unable to transit to higher education. This often led to stunted ambitions of many young people which in turn adversely impacted on the development of modern skills and competences among the Nigerian population. The social problem arising from this is immeasurable. As the school and government were being blamed for the poor students' achievement, there is equally the problem of household factors which is a serious challenge. The challenge in many cases is how academic achievement can be enhanced through high quality parental involvement efforts. Too often, the reality of these salient factors is lacking especially in relation to the meaningful engagements of households in all aspects of child educational activities. Today, one of the most important and ostensibly

intractable policy problems facing public and private secondary schools in Nigeria is how to improve students' academic achievement. This rising problem of low achievement has implications for access to higher institution. Given that due focus has been accorded school-related factors in literature there is the need to carry out more extensive study on non-school related household factors to ascertain to what extent it predicts students' achievement. Parents have virtually limited their involvement in their children's education to PTA's meetings only. Indeed, most of them do not even have time to attend PTA meetings. The quest to be financially comfortable and other social engagements have taken the best part of parent's time. Inevitably, this affects adversely the time allotted to monitor their children's work which is fundamental to high students' achievement. Most parents have literally surrender or given the responsibility of educating their wards to teachers. They are unaware of the importance of their showing interest in their children's school performance. Generally, most parents have limited their roles to paying school fees and if they can spare some money to buy few books for their wards. Getting involved beyond this level is rarely considered. It is desirable to pay attention to household factors in a child's life, as they can motivate and be a driving force to achieve educationally. The problem of persistence poor academic achievement in public examinations should be addressed because it will positively impact other sectors of the economy. While the standard of examination remains high, efforts at improving students' achievement have not been impressive. To this end, this study seek to ascertain ways of reducing the degree of low achievement and explore a more effective and efficient approach to stem the trend to

ensure confidence and trust in secondary education that will facilitate transition to higher education and labour market.

1.3 Purposes of the study:

The main purpose of this study is to establish the extent to which household factors are predictors of secondary school students' academic achievement in Oyo and Ogun states, Nigeria.

Specifically, the purposes of the study are to:

1. Characterize students by household factors.
2. Compare the relative predictors of different components of household factors on students' academic achievement
3. Examine the extent to which household factors could determine academic achievement of secondary school students in Oyo and Ogun states.
4. Determine and compare various household factors on the achievement of male/female secondary school students.
5. Ascertain the predictive abilities of various household factors on academic achievement of rural/urban secondary school students.
6. Identify the predictors of various household factors on students' achievement in private and public secondary schools.

1.4 Research Questions

Within the context of the problems highlighted this study intends to provide answers to the following questions:

1. To what extent will household factors determine secondary school students'

academic achievement and how is this affected by school ownership structure (public or private)?

- 2 To what extent will household factors determine secondary school students' academic achievement, premised on type of school?
- 3 What is the extent of household factors contribution to secondary school students' academic achievement based on school location?
- 4 To what extent will household factors explain the variance in secondary school students' academic achievement with respect to the difference in students' gender?

1.5 Hypotheses:

To guide this research, the following hypotheses were stated and tested:

Ho₁: There is no significant relationship between composite household factors and academic achievement of secondary school students.

Ho₂: There is no significant effect of parental education on academic achievement of secondary school students in Oyo and Ogun states.

Ho₃: There is no significant relationship between parental occupation and academic achievement of secondary school students in Oyo and Ogun states.

Ho₄: There is no significant relationship between parental income and academic achievement of secondary school students in Oyo and Ogun states.

Ho₅: Household size has no relative significant impact on academic achievement

of secondary school students in Oyo and Ogun states.

Ho₆: There is no significant relationship between parental involvement and academic achievement of secondary school students in Oyo and Ogun states.

1.6 Significance of the study

One of the core issues in global educational system today is how to raise academic achievement of students in the school system due to poor performance. Hence, the prevalence of the problem informed the current research focus to appropriately investigate the factors that are distinct and merit attention.

The expected findings of the study should be of significance to stakeholders, decision makers and policymakers because it reveals evidence pertaining to the predictive ability of household factors on academic achievement. The study should further be considered significant for the following reasons.

From the anticipated result of the study, we should be able to establish the relevance of household factors to effective learning [learning outcome]. The expected results of this study should also provide meaningful and useful information for determining empirical, relative and composite contributions of household factors to academic achievement. The likely outcome of the study should also help to provide empirical information on the variables of the study on which educational managers, administrators, educational planners, policymakers, psychologists, counselors, parents and other agencies can base pertinent decisions. Teachers and school administrators will be guided by the findings to be generated from this study on areas of difficulty as evidenced by the contribution of such

factors. Students without doubt are expected to find the anticipated results helpful in the real sense to bring to fore areas of their covert needs. The study is anticipated to provide international organisations, states and federal government with a guide to develop new strategic plan and policies that could help achieve the objectives of secondary education.

1.7 Scope of the study

This study focused mainly on household factors as predictors of secondary schools students' academic achievement in Oyo and Ogun states in southwest, Nigeria. Parental educational status, parental occupation status, parental income status, household size and parental involvement are the independent variables while secondary school students' academic achievement is the dependent variable. The study assumes that school factors such as buildings and other resources are available.

1.8 Delimitation of the study

This study would only be restricted to variables like parents' education, occupation, income, involvement and household size as the factors affecting the academic achievement of students in Mathematics and English while other variables will not be considered in this study because of the limited time the study have.

1.9 Operational Definition of Terms

For appropriate interpretation of the keywords in this study, it is necessary to define or explain some of the technical terms used. These terms are defined in the context they are used in this study.

Household – It means a group of people eating in the same pot and living under the same roof. Hence, they are co-residence and shared consumption.

Household factors – These are parental educational attainment, parental occupational status, parental income, household size, and parental involvement

Parents- This means father, mother, or better still, the guardian of a child.

Parental Education – This is the highest education level or attainment of both parents living in the household. The educational level of the parents was placed into three categories: below secondary school, secondary school, and higher education.

Parental Income – This is the earnings of parents. Parents engage in economic activities that determine what they earned averagely monthly and annually.

Parental Occupation\Employment – This is what the parents do for a living, what they engage in to earn income (economic activities). The occupational status of the parents was categorized into: lower, middle, and upper classes.

Parental Involvement- This refer to as the extent to which parents show interests, contributes and encourage their child in all spheres of school academic activities that border on the performance of the child in school. It also refers to the school related activities, actions, and behaviors that parents perform at home that impact on the academic success of the children. Such includes activities such as supervision, quality time made available by parent for the child, helping children with their homework, discussion with the children about their academic progress, monitoring, provision of books, availability of library\study room, the amount of money used to pay for the child school fees and lesson, this represents economic involvement. The second is the number of hours spent by parents with a child on his/her homework. This is the physical involvement.

Students- These are learners in secondary school within age thirteen and eighteen years of age.

Secondary school- This refers to as the post-primary education where children learn before tertiary level.

Academic Achievement- A measure of student achievement as reflected in the following method;

- i) In terms of number of credits made.
- ii) This is display of knowledge and skills attained as shown by the marks or grades achieved by a student in an examination during and \or after course content. In this study, achievement is seen as the performance of students in school academic results\achievement test conducted and school certificate examinations in terms of grades clearly defined as average, above average and below average.

The academic grades of the students for one academic year in two core subjects were aggregated and the average score in achievement test was used to delineate their educational or academic achievement. These subjects are English and Mathematics

Household size- This implies the number of all members of a family residing in a house which may be nuclear family, polygamous, monogamous or extended family, and house helps, this may be large or small.

Rural Schools – These are schools established in a community with an estimated population of less than 20,000 people.

Urban Schools – These are schools established in a community with an estimated population more than 20,000 people.

UNIVERSITY OF IBADAN

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.0 This chapter focuses on the review of some studies related to the study showing linkages between the variables with particular reference to the statement of the problem. Thus the review was presented under the following subheadings;

2.1.1 Household Factors and Students' Academic Achievement

2.1.2 Parental Income and Students' Academic Achievement

2.1.3 Parental Education and Students' Academic Achievement

2.1.4 Parental Involvement and Students' Academic Achievement

2.1.5 Parental Occupation and Students' Academic Achievement

2.1.6 Household Size and Students' Academic Achievement

2.2 Conceptual Framework

2.2.1 Theoretical Framework

2.3 Appraisal of Literature Review

2.1.1 Household Factors and Students' academic achievement

Steinberg *et al* (1992) expresses household as a unit according to the particular dimension of interest, whether it be sharing of production responsibilities, common uses of income, co-residence and/or the use of common cooking pot.

Trotman (1977) cited in NeChyba et al (1999) carried out a study investigating the relationship between household, traditional intelligent scores and academic achievement on

a middle class, he concluded that there is an overall positive relationship between household and the child's score and that the relationship is stronger for the black household than for the white household.

Jahoda (1956) cited in Idowu (1990) using the Gold-Shear cube test on adolescent boys in Ghana discovered that boys from literate household performed significantly better than those from illiterate household and that the children who achieved poorly in the test by Western norms improved in their performances through training.

Venon (1979) asserted that, there is absence of any definition that will be acceptable to the majority of psychologists and which provide sound basis for construction of aptitude tests; he gave a non-specific definition of intelligence as "all round thinking capacity or mental efficiency". The intelligence an individual inherit from his parents is called intelligent "A" and it is genotypically determined. When this interacts with the environment it gives rise to the functional intelligence called intelligence "B" which is phenotypically determined. It has been found that highly stimulating home raises the quality of "B" while a child exposed to culturally deprived home is likely to possess a low intelligence "B".

Coleman (1966) suggests that the best way to find out what household factors are doing to pupils is to observed the students before and after their school hour which have a chance to influence the way they think, feel, and act.

Bradley *et al* (1988); Gottfield (1984); Elardo *et al* (1975); Aghadiumo, (1992) and Agbeyihane (1999) express that parent's provision of a stimulating and responsive physical and learning home for their children can be associated with cognitive gains made

by the child. Poor ventilation poor lighting, large family size, hunger and low nutrition are detrimental to school academic exercise, widespread among the low income households and the effects are too important to ignore.

Schneider (2002) contends that the logic is compelling, how can we expect students to perform at high levels from home that are substandard? It is evident that clean, quiet, safe, comfortable and healthy learning household are an important component of successful teaching and learning. Many students from poor household suffer from poor intelligent quotient (IQ); most notably poor home syndromes identified such as spatial configuration, noise, heat, cold, light, and air quality obviously bear on students' ability.

According to Kennedy (2001) inability to concentrate, dizziness, fatigue, restlessness etc, ironically is high incidence of symptoms associated with poor household quality. Also this includes emotional, physical and psychological well-being. It is essential linking academic achievement and performance to the quality of air student breath at home, linking noisy environment to reading comprehension and spelling ability, behavior attention, concentration, stress, blood pressure, cognitive task success which may induce feelings of helplessness and inability to concentrate in children and lack of extended application of learning task (Bakare, 1994).

According to MaCcobby and Martin (1983) and Wyon (1991) students' achievement of mental tasks is affected by changes in temperature at home; McLoyd (1990) and Myhrrold et al (1996) find that increased carbon dioxide levels at home owing to poor ventilation tended to reduce students' performance on concentration tests and increase complaints of understanding which also reduced the inclination to exert effort.

Giving credence to the above, Wargoeki *et al* (1999) in their study noted that home facilities, physical conditions affect students' morale and effectiveness. Problems caused by household conditions may result in higher absenteeism, reduced effort, lower effectiveness in the classroom, and low morale and reduced academic achievement satisfaction.

On lighting Dunn *et al* (1985) stress that higher achieving students cannot study at home unless lighting is adequate. The consensus of many related studies is that appropriate lighting improves test scores, reduces off-task behaviour and plays a significant role in student's achievement. This is the common phenomenon of children from poor household. It then appears all these causes more discomfort and lowered efficiency

According to Desforges and Abouchaar (2003) household and family disruption, lack of after school and study time routines and children not having their own regular, comfortable, quiet places to read, work and think are negatives that will detract from achievement.

Population Association of America (2003) noted that "Children residing without biological mothers fare worse than those without biological fathers across most outcomes. In addition only longitudinal measures of mother's absence directly influence school outcomes, what matters most is mother's education and ability level and in a lesser extent, the family income (Clark, 1993).

Research on parenting also has shown that parent education is related to a warm, social climate in the home. Klebanov *et al.* (1994) found that both mothers' education and family income were important predictors of the physical environment and learning

experiences in the home but that mothers' education alone was predictive of parental warmth. Likewise, Smith et al. (1997) found that the association of parents' income and parents' education with children's academic achievement was mediated by the home. The mediation effect was stronger for maternal education than for family income. Thus, these authors posited that education might be linked to specific achievement behaviors in the home (e.g., reading, playing).

Corwyn and Bradley (2002) also express that maternal education had the most consistent direct influence on children's cognitive and behavioral outcomes with some indirect influence through a cognitively stimulating home.

Fuller (1985) mentioned that student who has two or more books in a particular subjects were almost three times better than those who had no textbooks whether at home or in school. The ways in which developmental psychologists study children and families have changed dramatically since the 1980s, this is due, in part to accumulating evidence about the flexibility of both children and how their parents respond to home condition to reorganize behaviour in response to internal and external challenges (Husen and Postlethwaite, 1994).

According to ESS\FME (2003) resources at home serve as a critical issue in access to and performance during secondary education. Most parents find it difficult to afford the costs especially in view of the fact that expenses on lunch and other materials, textbooks, uniform, school sandal, transportation are significant.

Although there are school inputs (intervening factors) which help the low achievers to respond in terms of achievement growth, findings suggest that in order to equalize the

achievement growth of the "advantaged", household may not be a good arbiter, but further investigation of those household inputs will help both the advantaged and the less advantaged to do better

By and large it then can be argued that inequalities in academic achievement exist between social classes which arise from two types of household socio-economic origin effects of primary and secondary effects; primary effects relates to the relationship between household socio-economic background and academic ability of children from advantaged households; on average they exhibit higher academic ability compared to children from less advantaged households. Secondary effects on the other hand relate to impact of socio-economic class and other characteristics on educational decision, over and above the impacts of primary effects. In an attempt to answer the question whether household factors are differently effective, variation among households that students live, learn and/or improve their ability more than in other household demands investigation. Since it may determine genuine difference in student academic achievement and schools overall achievement.

2.1.2 Parental Income and Academic Achievement.

Studies have shown that, without taking parental income into account, growing up in a poor household has negative consequences for a student's grade-point average and an indicator of academic achievement. In the same way growing up in a low income household may have negative consequences for class attendance, student's expectations, and academic achievement. Researchers have also indicated that parental income level exerts important effects on the children's educational outcomes.

Poverty revolved around low income as the criterion represents command over goods and services to meet minimum needs. Poor or low income also connotes low resources in terms of basic needs (Ogwumike, 1991 and World Bank, 2001).

From this standpoint low income depicts a condition in which one's means of sustenance within a given society are hardly enough. Protagonists of this view also see low income of parents largely in terms of the degree of income inequality, shares in income by the bottom deciles of the affected population, Gini coefficient and other measures of inequality (Ahluwalia, 1976).

According to Guo (1998) during critical period of childhood and adolescence, cumulative poverty would have exerted maximum effects on children's cognitive outcomes; hence it is essential to distinguish between ability and achievement. He further stated that ability is more stable trait than achievement and tends to be determined by genetics factors early in life. Achievement on the other hand is more acquired.

To Dahl and Lochner (1998) cited in Reynolds (2000) understanding the consequences of growing up poor for a child's well-being is difficult to determine because of the potential endogeneity of family income.

Poverty has many ways of expressing itself; it is ordinarily a personal or household issue. In Nigeria, it has been observed that the incidence of poverty has been on the increase in the last two decades (Canagarajah and Thomas, 1997; 2000; Akinyele 2005, Akinkugbe, 1994). It has really affected parental income and indirectly academic pursuits of the child.

The situation of the disadvantaged is compared to that of the more affluent groups even when the poor move up income-wise, they remain disadvantaged if left "too far behind" by the richer group. Most scholars on poverty identify problems with special work related expenses, or regional difference in the cost of living (Blank, 1997).

It is said to reflect the inadequacy in income or disposable resources available to an individual for satisfying minimum requirement for adequate food, shelter, education, clothing and transportation (Sen, 1987 and Ogwumike, 1991).

Similarly, arguments by Garniers and Stein (1998) cast the disadvantaged as a "moral hazard" and also add that 'the problem of low resources continue to fester not because parents are failing to do enough but because they are doing too much that is counterproductive.

Lewis (1966) quoted in Ryan (1976) stress that once the culture of poverty has come into existence it tends to perpetuate itself. By the time the disadvantaged children are six or seven they would have absorbed the basic attitudes and values of their subculture. Therefore, they are psychologically unready to take full advantage of changing conditions.

Parents with fewer resources (e.g., expendable income for books, learning supplies, and educational experiences outside of the classroom) may be unable to assist their children. Scarce resources, in turn, may limit parents' ability to help their children achieve the educational aspirations they set for them, or perhaps cause them to reevaluate or lower their aspirations over time. Sizeable number of parents, in particular, may work in jobs that provide more rigid work hours and less schedule flexibility or autonomy, leaving little

residual time at the end of the day for attention to their children's homework (Rank, (2005) and Waldfogel, (2006).

According to Obemeata, (1998) systemic failure of the parents is considered to be the reason poor people's children have low achievement, poor rates of school completion and a few who pursue higher education.

The cyclical explanation explicitly looks at individual situations and factors at home as mutually dependent, creating individuals who lack resources to participate in the faltering economy which makes economic survival even harder. This cycle also repeats itself at the individual household level, the lack of employments to inadequate savings hampers the parents to invest adequately in the education of their children, and the inability to afford good diet and a healthy living environment becomes reasons the poor children's fall further behind (Axinn, Duncan and Thorton (1997); Baharudin and Luster (1998).

Downey (1995) opined that the disadvantaged parents lack the income that leads to student deteriorating self-confidence, depression and weak motivation. The growing realization is that students are shaped by their homes. It is very common these days that family faces financial constraint to support their children education which includes adequate provision of recommended textbooks, intrinsic and extrinsic motivation; low income predisposes children to risks of mental weakness, these causes disadvantaged children to underperform in the school.

Mayer (2002) informed that, it is well-established that parents' income is positively associated with virtually every dimension of child well-being. According to Haveman and Wolve (1995) the largest component of the private cost of children is the

direct expenditure of parents. Another essential component of parental costs is the time spent by parents who forgo either overtime at work or leisure time in caring for children at home, perhaps the largest of all costs is the implicit value of time parents spend nurturing, monitoring, teaching and caring for the children. Consequently, specific amount are spent for housing, feeding and clothing children, for transporting them and providing health care services.

According to McLord (1998) parental income generally has a small to modest effect on any particular outcome; it also contributes to many aspects of children's well-being. This implies that income gains have the potential to make a significant cumulative difference to the lives of children.

Hanushek (1995) contends that doubling parental income would on average increase children's cognitive test scores. Disadvantaged children require more educational resources because their chances of academic success are low, they are also more likely to grow up to be poor themselves if nothing is achieved, thus perpetuating poverty into next generation.

Nechyba *et al* (1999) considers that "most people in rich democracies now believe that children's fortunes should not be determined by their parents' class, position or ability to purchase the goods and services that their children need to succeed. It is useful to consider what people might imply when they comment that parental income affects child's academic achievement.

According to Haveman and Wolfe (1995), they could mean any of at least three things; the first is that disadvantaged children do worse than advantaged children. The

second thing that people might imply is that, raising parental income while doing nothing else for the families would improve children's academic outcome. Instead people's income depends on their skills, their work efforts and other factors. If parents' values, attitudes and behaviour change fairly rapidly in response to higher income, income transfer could change parent-child interactions and hence child academic outcomes.

To Mayer and Jencks (1993); as well as Mayer (1997) as income increases, families tend to live in better home, better neighbourhood, spend more on foods, on automobiles and other consumer durables. Earlier, Elder et al (1985) has demonstrated that there is a correlation between parental income and children's school achievement, at most therefore increasing parental income might reduce a father's depression enough to improve a child's academic achievement.

Many studies have also revealed that children who grow up in low income or poor household are less likely to compete academically or to complete high school (Oyerinde, 2001). This may have lower the quality of parent-child relationship than before, hence, less parental involvement in school work, less supervision\ amount of time parents made available in monitoring school work, lower aspiration and less general supervision.

On the whole, financial commitments to children may be weaker in large household as compared with smaller household; hence, the difference in parental income effects on supervision suggests a key factor determining academic achievement.

2.1.3 Parent's Education and Academic Achievement

The literature on achievement consistently has shown that parent education is important in predicting children's achievement (Klebanov, Brooks-Gunn, & Duncan,

1994; Haveman & Wolfe, 1995; Smith, Brooks-Gunn, & Klebanov, 1997). The mechanisms for understanding this influence, however, have not been well studied.

Past studies have revealed positive and significant effect of parental education on child schooling (Binder, 1998). There are however differences on the impact of mothers' versus fathers' education. Most studies have revealed a higher effect of mothers' education than fathers' education.

Even though the majority of the literature on parents' education pertains to the direct, positive influence on achievement (Jimerson, Egeland, and Teo, 1999; Kohn, 1963; Luster, Rhoades, & Haas, 1989), the literature also suggests that it influences the beliefs and behaviors of the parent, leading to positive outcomes for children and youth (Eccles, 1993).

Research on parenting also has shown that parent education is related to a warm, social climate in the home. Klebanov *et al.* (1994) found that both mothers' education and family income were important predictors of the physical environment and learning experiences in the home but that mothers' education alone was predictive of parental warmth.

Avosch's (1983) study on education opportunities and academic performance of students in urban areas discovered that variations in individual ability need for achievement and parent's education account for variation in academic performance of secondary school student.

According to Mangione and Speth, (1998); Mayer, (1997) and Scott-Jones, (1995) Parental education is significantly and positively related to the educational aspirations

parents set for their children. In fact, one of the most consistent predictors of children's level of academic achievement is their parents' level of educational attainment.

According to Carpenter and Western (1984) and Chevalier (2004) parents with high education levels are more likely to have the educational experience and resources to draw upon when helping their children achieve a college- or graduate-level education.

Russell (1997) tell us that mothers' education is a primary predictor of child well-being and also the most powerful predictors of children's' academic progress are the mothers' educational attainment and household economic well-being.

Downey *et al* (1998) state that "The greatest predictors of academic success are i) the educational level of a child's parents and ii) the socio-economic level of a child's parent.

Stronk (1994) cited in Obieh (2003) also finds a positive correlation between achievement test and parental educational level. Moreover, students of highly educated parents obtained high scores while those of uneducated or low education obtained low scores in science test.

Forshays (1962) in Husen and Postlethwate (1994) survey of academic achievement in twelve countries provides additional support for the conclusion that a higher level of parental education is positively related to students' achievement. Therefore it seems that a high level of parents' education creates an environment of scholarship which favors achievement in cognitive and affective outcomes.

Featherman and Hauser (1987) in Ojoawo (1990) find parental education as background characteristic which is always associated with young children outcomes. This

is true when differences in factors such as parental income, household size, parental occupation and presence of father are controlled. Parental commitment to child's education might be as important as their actual educational attainment.

According to Furstenberg, *et al* (1987) and Baydar *et al* (1993) parental aspiration for children's education could be better associated with their academic achievement and attainment ten to fifteen years later.

According to Bradley *et al.* (1988) and Laughman (2001) the mechanisms for the parental educational effect are not only family income, but the provision of learning and reading expenses and experience and probably the importance of such activities.

Parental education has been found to be important factors to consider when examining parental attention for their children's educational attainment. Researchers have found that African American and Hispanic parents place a high value on education, are concerned with educational issues, and have aspirations for their children. (Driessen *et al.* 2005; Stevenson *et al.* 1990).

According to Delgado-Gaitan and Trueba (1991), many of the minority parents recognize education as a vehicle for upward mobility. This pursuit of upward mobility for minority parents may impact parental beliefs and attitude towards the importance of education, and the educational aspirations they set for their children.

Parents with high education levels are more likely to have the educational experience and resources to draw upon when helping their children achieve a college-or graduate-level education. Parents' beliefs about how their children are faring academically in school may also be related to their educational attention for their children. Although

research has not yet been conducted to assess the influence of parents' perceptions of their children's academic standing on their aspirations for their children's educational attainment, it is reasonable to assume that parents' beliefs about how well their children are achieving academically may influence their formation of their aspirations for their children's educational attainment.

Hess and Holloway (1984) and Seginer (1983) in support of this notion, is evidence that other types of parental educational goals and values are related to children's performance in school. For example, parents with strong core educational values (i.e., belief in the importance of education) are more likely to have high achieving children than parents with less strong educational values.

Given this finding, it raises the question of whether there is a strong relationship between parental perceptions of their children's academic performance and parental educational aspirations for their children.

Musgrave (2000) states that a child that comes from an educated home would like to follow the steps of his/her family and by this, work actively in his/her studies. This was earlier observed by Binder (1998) that children more schooled mothers will get more schooling and it might raise productivity in the household in which case more schooled mothers are able to produce more health and nutrition from a given set of input. It was also suggested that parental education can also be a proxy for the family specific but unobserved traits. Education can increase parents' market wage, boost her home production and influence the taste for schooling(Olaniyan2007).

Onocha (1985) concludes that a child from a well educated family with high socio-economic status is more likely to perform better than a child from an illiterate family. Spera, Wentzel and Matto (2009) informed that effects were found among Caucasian parents with lower levels of education and this had significantly lower educational aspirations for their children. These aspirations can be understood as standards for performance and achievement that organize, communicate, and direct parents' behaviors toward their children (Wentzel 1998).

According to Longe and Babalola (2003), in the study of education and social class, education as measured by level and kind of education attained by an individual is usually correlated with social class of parents as measured by income, occupational status and schooling years.

Obemeata, (1995) maintained that parental education is a more valid index in Nigeria for determining socio-economic status. He further argued that people in better paying job as Higher executive officers, high school teachers, managers and supervisors in commercial houses, medical professionals, legal experts and other professions were mostly parents with educational qualification that is a minimum of secondary education, while parents who have primary education and below are in low paying jobs such as petty trading, labour, cleaners, guards e.t.c.

In the same vein parental education determines parental practices inter alia, behaviours directed towards child's dimensions of interest which in itself include parental interest, beliefs about child development and provision of learning experience. These practices emphasized reasoning, consistency and child's self-direction which are more

associated with more intellectual competence, self-autonomy and internal locus control in children than practices that are permissive or conformity-oriented (Baurmind 1989; Martin et al,2000. and Osofysky, 1979 cited in Osokoya, 1998).

According to Adedeji and Adeagbo (1996), differences in student's academic achievement are related to parental beliefs, cognitive competence, parental educational achievement and social class, with parents of higher socioeconomic status giving more sophisticated explanations of behaviour. Hence, parental interactive behaviour such as positive affective involvement and academic stimulation and instruction are stressed to be associated with child cognitive and social outcomes.

Corwyn and Bradley (2002) also found that maternal education had the most consistent direct influence on children's cognitive and behavioral outcomes with some indirect influence through a cognitively stimulating home environment. Corwyn and Bradley, however, examined only two, quite broad aspects of family mediators: learning stimulation and parental responsivity. Mediation might have emerged if other parent factors and attitudes were examined.

Factor such as parental education (often a proxy for parental resources, ability to help their children with schoolwork) may be important antecedent. Parental perceptions of the quality, safety, and climate of the school their children attend may influence the educational aspirations they develop for their children. For example, parents who have their own positive educational experiences to draw upon, as well parents who believe the climate of their children's school fosters academic achievement, may be more likely to form higher educational aspirations for their children compared to other parents.

It is well-documented in research that children of low educated parents perform worse at school than children of highly educated parents. The reason for this correlation has not been established but one of the explanations is that low educated parents feel themselves less able than do highly educated parents, perhaps because educated parents are more familiar with the jargons used in the school system and have more positive experiences of school. That can lead to low educated parents been less involved in the child's schooling and development.

According to Seginer (1983) parents with strong educational values (i.e., belief in the importance of education) are more likely to have high achieving children than parents with less strong educational values. Given this finding, it raises the question of whether there is a strong relationship between parental perceptions of their children's academic achievement and parental education for their children.

The foregoing different findings, opinions and observations call for further investigation into the relationship between parental education level and students' academic achievement and this is what the present study is out to do.

2.1.4 Parental involvement and Academic Achievement

Parents are widely presumed to be the first educators of the child while the school and the teachers are regarded as intervening variables, teachers continue the education of the child during formative and most impressionable period of a child's life, and household factors lay the foundation for learning in its entire ramification.

In their study, Hickman and Coworkers (1995) produced evidence about the potency of parental involvement strategies within the home environment. The study was

meant to find out the relationship between students' high school achievements and various kinds of parental involvement. Out of the seven types of parental involvement indicators analyzed, it was revealed that only home-based parental involvement had a positive connection with the students' grade point average. Since the primary environment of the student is the home and not the community, it stands to reason that the impact on school achievement exerted by the parents or household will far outweigh and exceed that from the community or school alone.

This point supports the revelation by several researches about the tremendous impact of parental home involvement on school success (Eccles, 1992, 1994; Grolnick *et al.*, 1997; Hoover-Dempsey *et al.*, 2005; Redding, 2006).

In his study, Quansah (1997) indicated that of the students who performed creditably well in the criterion referenced test, were those students from private schools. One of the reasons that were assigned to their success story was the interest and encouragement of their parents in what they learned.

The active involvement of parents in the academic progress of the child has always yield positive results, the child achieved higher when parents are adequately involved since the bulk of the problems a child have in the school emanates from home (Idowu, 1990; Farrant, 1991; Epstein, 1987; Falaye and Geshinde, 2003).

According to Henderson and Berla (1994), there is a positive connection between parental involvement and the children's academic achievement, the problem with their findings is that they did not appear in a scientific context which means that they have not been subjected to peer review expert in the field. Therefore there is a risk that the

conclusions they drawn rest more on ideological perception than on a scientific base. Quantitative studies shows that increase parental involvement in school activities of a child can improve achievement at school.

Available research convergence links parental involvement with positive student outcomes. Fan and Chen (2001) and Jaynes (2005) found a positive relationship between overall parent's school involvements on children academic outcomes. Parents' involvement enhances children's academic performance and attitude toward school (Henderson and Mapp, 2002). Research also suggests that what parents do to promote their children's academic learning have greater influence on the educational performance of their children than family status variables (Henderson, 1987, Henderson and Mapp, 2002).

In specific terms, parental involvement requires to be measured; it is desirable that any possible helpful effect on a child persist for a while after parents have exercised involvement in school affairs. According to Riley (2009) parental involvement is crucial to the academic success of children in any grade. Teachers may spend more time with students than their parents; but no outside influence is as important as that of parents.

Children have to be encouraged in their learning at home through parent's participation in homework, help on special projects and the development of good study habits.

To Kafur (1977) parents also serve as the link between their children and teacher for continuing educational support. Checking homework, helping with tasks and projects, daily monitoring of assignments are ways that parents can demonstrate the value they place on education.

In their critical analysis of household size, Samer and Tessa (1992) show that studies consistently show children who live with two parents will score higher on tests and have better reading skills than with one parent or who live in unstable family setting. Those children are likely to get one-on-one attention from their parent. Children whose parents are often involved in their academic tend to have higher grade point average and are more enthusiastic about school in general, as they are motivated by their parents' interest in their academics.

According to Kim (2002) higher level of parental involvement correlates with an increase in a students' self-confidence and a willingness to try harder and achieve more.

To Keeves (1974) children usually response positively to praise and they will be more likely to continue working hard in response to their parent's pride and encouragement.

Baharudin and Luster (1998) accentuated that parents, grandparents and guardians need to take up more hours off from work each term in order to be involved in their children schools. Research has highlighted a correlation between parental involvement and student achievement, however, the "how" of parental involvement continues to be a challenge (Keith 1991; Moky 1998; Epstein (1987) and Henderson (1988).

In conceptualizing parental involvement, some researchers have focused on parenting styles. An authoritative parenting style encompasses greater acceptance/involvement as well as greater strictness\supervision (Steinberg *et al*, 1992) associated with positive developmental outcomes (Schibcci and Riley, 1986; and Sandralus, *et al* 2004) and more specifically with academic achievement.

In a meta-analysis of 25 studies about parental involvement and academic achievement Fan and Chen (2001) comments on the divergence in operational definition of this construct. More importantly parental expectation of their children's education was positively correlated with their achievement and has the strongest relationship whereas home supervision has the weakest relationship. Their findings reveal a small to moderate and practically meaningful relationship.

Sue and Okazaki (1990) noted that the dominant cultural view explaining academic achievement of Asian-Americans emphasised the role of Asian family values and socialization experiences. Specifically, these values and practices include high demands and expectation for success in education and achieving upward mobility. Parents are expected to provide educational support in the form of structural involvement (e.g. enrolling students in tutoring or additional educational lessons and adequate monitoring student's time at home).

Some parents tended to prepare their children by teaching early school skills, in effect parents considered their children's academic success as a reflection of their parental efficacy (Eunjung, 2002).

According to Duncan et al (1994) the high concentration of low-income earning families in rural and urban areas may result in parent having less home involvement and supervision of their children; with fewer parents available to watch over, guide and interact with their children

2.1.6 Parental occupation and Academic achievement

A number of studies have shown positive relationship between parental occupation status and academic achievement of the students. A few of these have shown that this relationship holds good even when measured intelligence is held constant. Some other investigators however, have observed that home background has negligible or no relationship with academic achievement.

Burchinal's study cited in Chopra (1967) conducted in a relatively homogeneous social system, acknowledged that in a more heterogeneous social system different results may follow.

Most of the other studies showing negligible or no relationship between parental occupation and academic achievement were conducted at the college levels where greater selection of the students from lower socio-economic classes may have influenced the results (Touray, 1982; Wolfe & Berman, 1986; Walker *et al*, 1994).

According to Wiseman in Chopra (1967) some of the conflicts in the results from different studies may arise from regional difference, in his study on the relationship between parental occupation with academic achievement of the students, the progressive matrices test was administered to 1359 randomly selected high school students (age range 14-17 years) studying in 22 urban and 6 rural secondary schools in Lucknow district India, it was observed that there was positive relationship between level of parental occupation and mean high school marks. Thus, a family with upper occupational status is often more successful in preparing its young children for school because they typically have access to a wide range of resources to promote and support their development. They are able to

provide their young children with high quality child care, books and toys to encourage them in various learning activities at home. This in turn, will affect the students' academic achievement.

According to Marijoribanks (2003), the high achievers had a high socio-economic status and they hailed from high occupational status families. Lockheed, Fuller and Nyirongo (1989) show that students belonging to upper socio-economic status groups showed better academic achievement than students belonging to lower socio-economic status groups.

Schooling is critical to a parent's prospects throughout their life and the amount of schooling parents obtains affects their occupation, their income, their chances of marriage, their risk of poverty and welfare dependence, and more generally, the quality of their own life and that of their children (Olaniyan, 2011).

Failure to be self-supporting logically follows lack of education and loss of career goals. In general, children of low status occupation are found to be at a developmental disadvantage compared to children whose parents were of higher occupation status at the time of their birth and schooling (Jaff, 1995; Rani, 1998; Simon, 2004).

Education, occupation and earning are interrelated, most analysis of these phenomena, however have focused on either the relationships between education and earning or that between education and occupation. There are several explanations why there relationship has been study separately. One important explanation is that the relationship between education and occupation has been researched mainly by sociologists

whereas the relationship between education and earning has been researched by economists (Heuveline, et al (2007).

The effect of education on the determinant of wages and earnings has been analysed by employing the concept of human capital. A basic premise behind the concept is that higher level of educational attainment increase individual productivity and consequently their earning capacity (Davis-Kean, 2005). The relationship between occupation, earnings and student academic achievement has been analysed extensively in many countries. It may be described by “pay difference by occupation” or “pay structure by occupation”. It is important to stress that occupation is the variable that has received the most attention in studies investigating earnings difference.

Husen and Postlethwaite (1994) suggested social and economic reasons to explain occupational earning differentials; it is possible to conclude that difference of earnings by parent’s occupation can be observed to predict student’s academic achievement in all societies in all periods of history, suggesting that occupations which attracts higher income and which attracts lower income do not differ significantly from country to country.

2.1.7 Household Size and Academic Achievement

Studies conducted on academic achievement of children and size of the household indicated that children from large family size attain less schooling on the average than those children from small household. This negative effects persists after socioeconomic characteristics of the household are statistically controlled (Blake, 1989)

A conceptual framework by Becker (1991) as expatiated in www.hhs.gov (2005) shows that household size is an important determinant of whether a family or individual is

in poverty because the official poverty measure incorporates household size. The framework as used identifies that household size depends on: household income, cost of children, wages and Preferences.

Becker and Luther (2002) opined that choice of household size is influenced by the socio-economic variables in any locality. The size of the household is a matter of great importance not only for the country as a whole but also for the welfare and health of the individual, the family and the community.

To Phillips (1999) the association between sibship size and student achievement seemed as robust a result as any until now. In “household size and intellectual development, Gou and Van-Wey (1999) cited in Phillips, challenge sociologists long held belief that growing up in a large family negatively affects children’s academic skills. They find that household size has little effect on verbal skills and may even have positive effect on mathematics skills. Their study is the most recent addition to a growing body of work that applies natural experiments to sociological problems in order to estimate the degree of bias inherent in conventional results. The question now is if we do believe their results can we reconcile them with current theories about children’s cognitive development?

According to Desforges and Abouchar (2003) Pessimism has been expressed about the trend of household size and its tendency for a probable world population explosion which could plunge poor developing countries into further poverty and helpless wretchedness. The belief still persists among most women, especially illiterates that the most important role for a woman is to have as many children as one can continue to bear any number of children.

In Industrialised countries, large family sizes and the resultant high birth rates accompanied rapid population growth during the industrial revolution are mainly because of improved public health. As countries became more prosperous, both death and birth rates decreased, resulting in low population growth rates (Arthur, 2005). Today, most of the developing world is characterized by high birth rates for much the same reasons as in the industrialised countries in the past. At the same time, death rates have fallen dramatically, mainly because of improvements in health care, education and sanitation.

Even though birth rates have declined substantially in many developing countries during the past 25 years, they still remain high, mainly for the following reasons:

a) Whenever agriculture is an important activity for poor households, they have an incentive to invest in children to serve as farm labour and assist with household tasks, such as fuel wood and water collection and childcare. 2) When large families provide social security through the extended family, investing in children becomes a way of ensuring care in old age. Some schools of thought also consider it on the basis of a household number that is difficult to cater for in terms of the provision of food, education, health and nutrition including others.

To Chevalier and Lanot (2001) Large family size comes with its attendant implications of poor health, inability to provide adequately for the education of the siblings, low standard of living and the inability to fulfill one's dreams. Implications of a small family size are the ability for one to enjoy the necessities of life with the choice to afford and enjoy certain luxuries of life. Notwithstanding the undesirable effect of a larger

family size, most people are still giving birth to large families as a result of factors such as ignorance, culture and demographic factors

Burns and Brassards (1982) conclude that children who are raised in single parent homes have an increased risk for psychological damage and accompany poor academic achievement.

Similarly, Belmont (1973) finds fathers' absence from home has adverse effects on the children's' academic achievement.

Herzorg and Suda (1970) observe that boys whose fathers were absent for one reason or the other through separation, divorce, etc comprised a disproportionate number of low academic achievers. One of the reasons they gave was the lack of an adult male figure who positively models educational activities of the son. This is because fathers' absence leads to reducing the quality and quantity of the intellectual environment of the household and also lowers the financial status of the household, hence it affects the means and end of children's education.

According to Downey (1995) articulates the impact of group size on interaction, family researchers have compared the familial processes and outcomes of small and large families. One relationship has been consistent: As the number of siblings increases, academic performance decreases. According to him parental resources decreases as the number of siblings increases, he posits that parents have finite levels of resources(time, energy, money etc) and that these resources are diluted among children as household increases; hence, the functional relationship is not always linear and it depends on whether the resources is interpersonal or economic.

In larger household the more the financial burden, the smaller the attention given to each child's education, in polygamous household, the situation is worst, some children do withdraw or drop out of school to give others a chance. The amount of toys, pictures, books and good learning at home will reduce with increase in household size for the middle and low income earners. Since children share adult resources of intellectual stimulation at home, the Mathematical relationship between household size and parental attention is not linear but of a hyperbolic form (Marijoribanks, 1977).

The amount of parental attention each child and occupants in the home receives decreases as the number of children in the household increases, that is with each additional child, the successive decrements in shared attention becomes smaller, for instance the expected proportion of parental attention given to children in ratio 1,2,3,4,5,6,7...; in the household may be 100%,70%,50%,25%,15%,12%,7%.....; The less the size of the household, the more the additional involvement becomes prevalent, that is through brothers, sisters as well as other adults living in the home (Downey 1995).

Studies assumed that household spread their resources (economic, cultural) and effectiveness more thinly than smaller household. This suggests that parents who have many children invest less money, time, emotional and psychic energy and attention on each child. (Coleman, 1988; Blake, 1989)

To Eysenck and Cookson (1969); Oldman and Horobin (1971) and Kellangan and MaCmarra (1972), the relationship between sibling constellation variables and measures of academic achievement have usually found that household size is always related to achievement on the measures.

By and large, aggregate of all the studies on the effect of household on academic achievement is that as the household size rises, the mean achievement scores of the student's will decrease, this explains that most or all of the relationship is inversely, although there may be exceptions.

2.2 Conceptual Framework

In a household, children of educated and highly committed parents are usually involved in motivating and learning activities, providing quality time to support their children in school. They have greater achievement potential than children with less privilege in all resources. Parents who are gainfully employed with good standard of living usually give suitable educational materials and supplies to their child(ren), moreover their involvement, interest for success, encouragement and provision of extra tutorial are expected to have positive, direct and indirect contributions on academic achievement.

On the other hand, children of uneducated parents in household where educational materials, supplies and support are lacking or inadequate tend to achieve below expectation and potential, unless they are provided with supportive remedial and enrichment programme. Hence, a high level of parental education, good parental occupation, small household size, increasing parent's involvement, moderate or high parental income, adequate and relevant educational materials are expected to have positive relationship and predictive ability on academic achievement. Small household size determines attention, commitment and responsibility which a child receives and the adequacy and/or inadequacy of resources of the children at home and school.

2.2.1 Theoretical Framework

The framework that was adopted implicitly or explicitly in most of this work is that of educational production function and Ecological Systems theory. Educational production theory derives its concepts from microeconomic theory, originally developed to analyse firms and industries but subsequently extended into other areas including households and public service which seeks to explain outputs as a function of the quantities of various inputs applied. The theory is remarkably clear and precise as statement of linear economic theory. Production theory is concerned with the problems of combining various inputs, in order to produce an output. The technological relationship between household factors as inputs and academic achievement as outputs are known as production function.

From the outset, Economists have viewed the process of children's achievement to be an aspect of the theory of family behaviour. The household is viewed as a production unit which employs real inputs in order to generate utility for its members; adults in the household makes decisions regarding the generation of economic resources (e.g labour supply); they also determine the uses (e.g consumption, asset accumulation or investment in children) of available resources. Parents make variety of choices that both influence the returns to productive efforts and directly affect the wellbeing of members of the household. The amount of household factors allocated to children, the nature of these resources and the timing of their distribution influence the achievement of the children in the household.

The theory explores economic system characterised by a particular kind of primary input in the production process, a basic idea in Becker's (1981) analysis that a household can be regarded as a "small factory" which produces what he calls basic goods, such as

meals, using time and input of ordinary market goods, which the household purchases on the market

The education production function expresses a functional relationship between quality\quantities of inputs and outputs. It shows how and to what extent output changes with variations in inputs during a specified period of time. Basically, the production function is a Schedule or Table showing the amount of output obtained from various combinations of inputs. Algebraically, it may be expressed in the form of equation as: $A = f(x_1, x_2, x_3, x_4, x_5, \dots, x_n)$ where A stands for the output in respect of student academic achievement per unit of time and x_1, x_2, x_3, \dots , are the various inputs of household factors, such as parent's involvement, education, occupation, income, and household size used in the making of the output.

The production function approach draws attention to issues of functional form of relationships. The influence of one type of input is contingent upon the presence of other inputs leading to the case for interactive types of relationship.

Although research into the determinants of students academic achievement takes various approaches, one of the most appealing and useful are what economists call the "production function" approach (in other discipline it is known as the input-output approach). In this, attention is focused primarily on the relationship between academic achievement and measurable inputs into the educational process. If the production function for schools are known, it would be possible to ascertain what will happen if resources are added or subtracted and to analyse what actions should be taken, if the value of different inputs are to change.

The education production theory rests on the premise that the society, objects and individual have different factors performing different functions, such that each interacts with the other factors to produce a total effect. Students' achievement depends largely on the relationship between the household factors, the school and the interplay of other factors. In the household system, there are two kinds of inputs, one to be transformed and the other that do the transformation. Students\children are the inputs to be transformed while household factors are the inputs that do the transformation. Household factors provide necessary materials for transforming the inputs of students to successful outputs.

Household factors affect parents' interactions with their children which in turn affect the children's responses to the parents and others. The children's responses then further affect the parents' responses. Psychologists often use the example of a child born prematurely to a poor single mother. The premature birth and the prospect of rearing a child alone with little money depress the mother. Because she is depressed the mother is unresponsive to the child. The child gets little stimulation from home, and eventually quits seeking it. This further deepens the mother's feelings of inadequacies. By the time the child is two or three years old, she or he is behind in language and cognitive development (Davis-Kean, 2009).

Children are also affected by choices made by parents regarding such things as the number of household and the type of neighbourhood in which they grow. The most important statement of this model is in the work of Becker; in particular Becker and Tommes (1986). In this framework, children begin life with a genetic endowment transmitted by their natural parents, apart from any decision by parents to alter the

endowment which according to Longe and Babalola (2001) are the stock of economically productive human beings who can be formed by combining innate abilities with investments in human beings as the ultimate human capital. The transmission of the endowment is described by a mark or process, in which the degree of “inheritability” is greater than zero but less than one. On average, household with parent with levels of educational attainment far above the mean will produce children whose academic achievement tends to be high, but not as high relative to the mean as those of the parents (Becker and Tommes, 1986) cited in Haveman and Wolve (1995). By much the same process, children also inherit other endowments, for example a commitment to learning, these inheritance translate into human capital and into earnings when rented in the labour market. Under this theory the abilities of parents and their educational choices jointly determine the level of household income and the quantity and quality of both time and goods inputs (household investment) that parents devote to their children.

ECOLOGICAL SYSTEMS THEORY.

This is otherwise known as the Human Ecology theory, the theory states that human development is influenced by the different types of environmental systems. Formulated by famous psychologist Urie Brofenbrenner, this theory helps us understand why we may behave differently when we compare our behaviour in the presence of our household when we are in school or at work. The Five environmental systems under ecological systems theory holds that we encounter different environments throughout our

lifespan that may influence our behaviour in varying degrees. These systems include the micro system, the mesosystem, the exosystem, the macro system and the chronosystem.

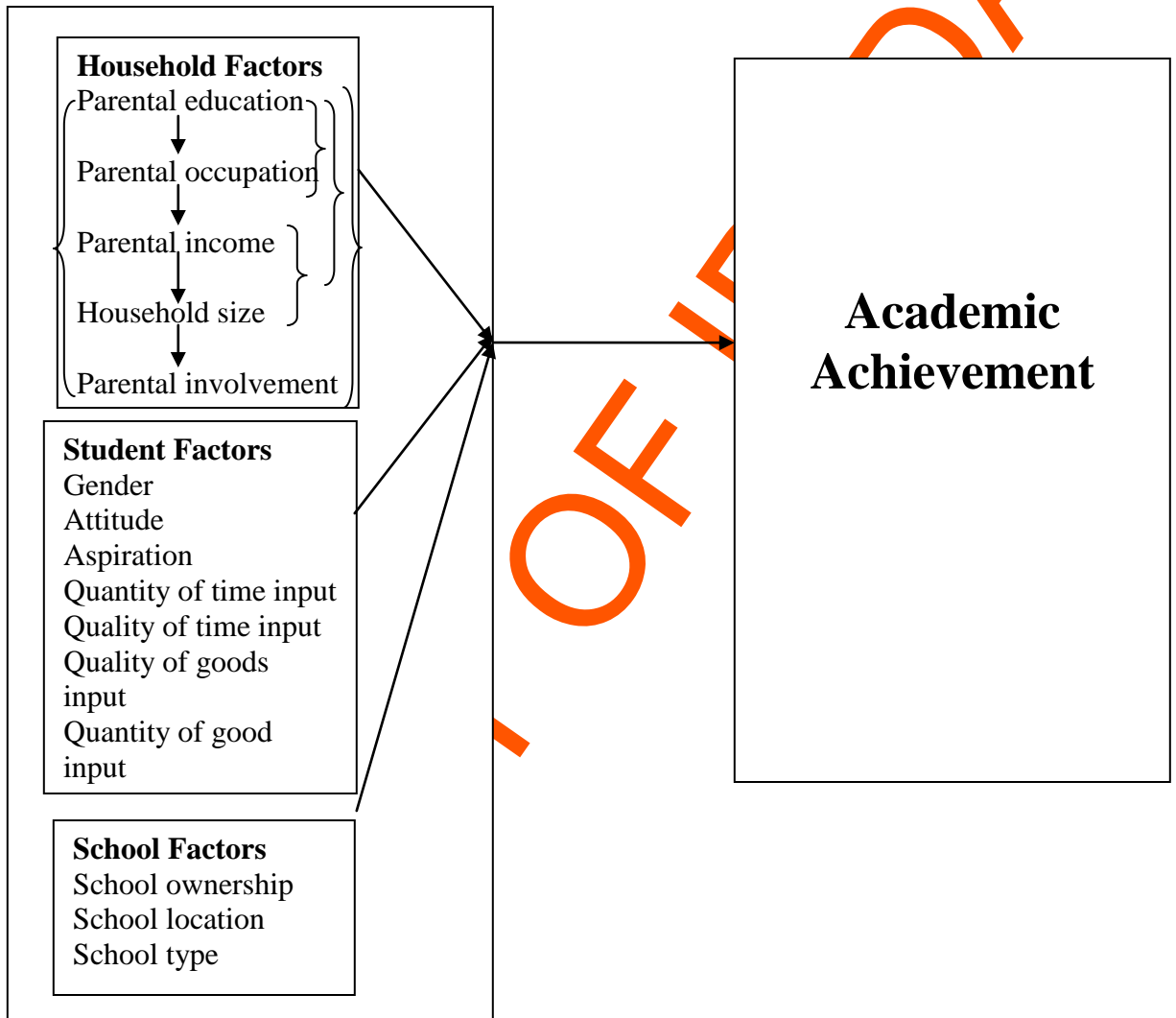
- 1) The Micro System- The micro system's setting is the direct environment we have in our lives. The household, friends, classmates, teachers, neighbours and other people who have a direct contact with a child are included in the micro system. The micro system is the setting in which we have direct social and economic interactions with these social agents. The theory states that we are not mere recipients of the experiences we have when socialising with these people in the micro system environment, but we are contributing to the construction of such environment.
- 2) The Mesosystem involves the relationships between the micro system in one's life. This means that the household experience may be related to the school experience. For example, if a child is neglected by his parents, he may have low chance of developing positive attitude towards his teachers and studies. Also, this child may feel awkward in the presence of peers and may resort to withdrawal from a group of classmates.
- 3) The Exosystem is the setting in which there is a link between the context where in the person does not have any active role, and the context where in is actively participating. Suppose a child is more attached to his father than his mother. If the father goes abroad to work or on transfer to another location for several months, there may be a conflict between the mother and the child's social relationship and

academic exercise, or on the other hand, this event may result to a tighter bond between the mother and the child.

- 4) The Macro system is the actual culture of an individual. The cultural contexts involve the socioeconomic status of the person and/or his household, his race, ethnicity and living in a still developing country. For example being born to a poor household makes a person work harder every day.
- 5) The Chronosystem includes the transitions and shifts in one's lifespan. This may also involve the other contexts that may influence a person. One classic example of this is how divorce, as a major life transition, may affect not only the couple's relationship but their children's behaviour. According to a majority of research, children are negatively affected during the years after the divorce or separation. The next years after it would revealed that the interaction within the household becomes more stable and agreeable.

Value of the theory- This theory, published in 1979, has influenced and became a foundation of other theorists' work.

Fig.2.1 MODEL OF PREDICTORS OF HOUSEHOLD FACTORS AND ACADEMIC ACHIEVEMENT



SOURCE: Conceived by Author

The model is of household factors process and academic achievement and it shows household factors as inputs comprising parental education, parental occupation, parental income, household size and parental involvement interrelate with academic achievement. All these will ultimately lead to quality and quantity of factor inputs, as well as quality and

quantity of good inputs towards student's achievement; it shows the necessities of the characteristics and students learning. While non-school factors influence children's achievement, the figure above shows a framework of linkages of factors and students' attitude, aspiration and academic achievement. It shows how the key factors interrelate and directly manifests through variables that are interdependent and interplay. Each of these dimensions represents inputs towards academic achievement and it is considered important in its own right. They serve as more potent source of variation in the students' achievement. Several researchers have tried to identify the factors that either influence parents' decisions to become involved or increase the likelihood that parents will participate in their children's academic achievement (Grolnick et al.1995; Hoover-Dempsey and Sandler 1995,1997). In the face of this complexity, attempts to ascertain the impact of any singular force in shaping achievement must proceed with some conception of how the many forces and actors might interact with each other. Fig 2:1 is an attempt to show some of the processes implicated. It should be emphasised that 'child outcomes' is broadly conceived; It includes attainment as accredited in public examinations. It also refers to a wide range of attitudes, values and knowledge which, taken together, help sustain a commitment to lifelong learning and good citizenship. This model is developed based on comprehensive review of the theoretical and empirical literature, particularly with specific focus on household factors, the relationship between individuals' understanding of their roles and their actions. This was developed as an inclusive model to address the fundamental questions of household factors process; different combinations of these dimensions appear to predict initial educational learning, achievement and growth for different groups. Parental educational aspiration had a direct effect on initial learning and parental

supervision had a direct effect on students' performance and achievement. Whilst the Figure shows key players and potential processes in shaping student achievement, it leaves unpacked many of the details. What is parental involvement at school referred to, for example, by the term 'family and parental characteristics'? Household size, structure, income and employment pattern have all been implicated as bearing on academic achievement. The attempt to identify the impact of parental involvement and parental education on educational outcomes must proceed with the clear recognition that these processes will be influenced by a wide range of other factors and at the same time will work through a range of intervening processes. Different dimensions of household factors carry different empirical weights in different group; hence the question that the model asks is a very important one to answer for parents. Although the model provides a comprehensive explanation for parents' decision to be involved in their children's school related activities, it was developed as an inclusive model.

2.3 Appraisal of Literature Review

From the various review of literature on household resources and academic achievement, it can be inferred that the opinion and findings vary from one researcher to another. While some maintain that small household size is better, others found that bigger household is better. This literature review served the purposes of providing an empirical as well as theoretical base for this study.

Most of the empirical studies reviewed were based on western experiences and orientations with household factors being found under various variables such as parent's education (Downey et al, 1997), parent's occupation (Bowlby, 1994), parent's income (McCloyd, 1998; Mayer, 2002), household size (Burns and Brassard, 1982) parental

involvement (Bankzou and Zhou, 2002; Henderson et al, 2001; Bradley et al, 1984 and Gottfield, 1994).

Some have found that household factors are essential to academic achievement, others have even submitted in their findings and concluded that no particular factor alone can claim superiority over the other in the sense that their contributions are the same. The submission of some of these researchers is that all factors are strong and positively related to academic achievement. While others claim otherwise that only maternal education under parent's education is strong for student's achievement.

In the light of these conflicting views, the present study was prompted to investigate through further research the prediction of household factors on academic achievement. Likewise there is no agreement in the findings of researchers as to what relative factor could be responsible in the secondary schools. Hence the investigator attempted through further research to substantiate the claims.

While majority of the studies reviewed are positive in their findings that parental home involvement may enhance student academic achievement, some found no significance relationship between fathers' education, occupation and academic achievement, while regular and quality time with the child will yield fruitful results. The present study was to investigate through further research the predictive ability of household factors of parental education, occupation, income, involvement and household size on secondary school academic achievement particularly in Mathematics and English Language.

Regardless of the variables used in these western studies, the issues of household factors predicting student's academic achievement are the same as those prevailing in our secondary schools. As such the independent variables of this present study were selected based on the authenticity of the home related factors of the students. These indigenous\local and foreign based studies therefore, adequately described the household aspects of the non-school related factors.

CHAPTER THREE

METHODOLOGY

3.1 This chapter dwells on the methodology adopted in implementing the study. The procedures are classified and treated under the following subheadings.

- 1) Research design;
- 2) Research area;
- 3) Population of the study;
- 4) Sample and sampling procedure;
- 5) Instrumentation;
- 6) Validity of the instrument;
- 7) Reliability of the instrument;
- 8) Procedure for data collection;
- 9) Data preparation\ scoring; and
- 10) Procedure for data analysis.

3.2 Research Design

This study adopted the descriptive survey design method in carrying out the investigation. This design also uses ex-post facto design.

The nature of the problem of this study suggests that the independent variables have already occurred as no attempt was made to manipulate or control them. The dependent variable (academic achievement) was measured against the prediction of the independent variables (household factors) in retrospect.

3.3 Research Area

This study was conducted in southwest region of the Federal Republic of Nigeria (FRN). These are Oyo and Ogun states. The study covers secondary schools in both states. Oyo State popularly referred to as the pacesetter is one of the constituent 36 states of the FRN, it covers an area of 27249 square kilometers. It came into existence with the break-up of the old western region of Nigeria during the state's creation on 3rd February 1976. Oyo State is composed of 33 LGAs with the capital situated in Ibadan. The state is divided into three senatorial districts of Oyo North, Oyo Central, and Oyo South, with 13 LGAs, 11 LGAs and 9 LGAs respectively. Ogun State (otherwise known as Gateway State) was created in February 1976, it comprises 20 LGAs. The study covers students and parents in both private and public secondary schools in both states.

3.4 Study Population

The population of this study consists of all the public and private secondary school students and their parents in Oyo and Ogun states in Southwest Nigeria. With Five hundred and ninety-seven public (597) and Two hundred and ninety-nine (299) private secondary schools in Oyo State, Ogun State has 766 senior secondary schools, with 467 public and 299 private secondary schools with 168,079 students in Oyo State, and 151,478 in Ogun State as at the time this research was conducted.

The population of the study comprises students and their parents in the two states with aggregate 319557.

The breakdown of the study population by states, senatorial districts and local government areas are presented in Table 3:1.

Table 3.1:–Oyo State LGAs Distribution of Schools and Learners by Senatorial Area.

	Senatorial Areas	LGAs	No. of Public Snr Sec Schls	No. of Private Schools	No. of Students
1	OYO CENTRAL	Afijio	13	7	2972
2		Atiba	10	3	440
3		Akinyele	19	17	8359
4		Egbeda	20	31	5730
5		Kajola	14	2	4891
6		Lagelu	20	13	5977
7		Oluyole	14	15	4286
8		Oorelope	6	Nil	1678
9		Ona-Ara	18	11	6515
10		Oriire	8	3	1688
11		Oyo West	10	10	2590
12		Oyo East	10	7	5144
13		Surulere	18	6	4007
14	OYO NORTH	Atisbo	8	1	3833
15		Irepo	6	4	1504
16		Iseyin	16	7	6054
17		Itesiwaju	8	Nil	1664
18		Iwajowa	7	2	2007
19		Ogo-Oluwa	7	1	4012
20		Ogbomoso North	17	17	6196
21		Ogbomoso South	20	12	5841
22		Olorunsogo	9	2	1172
23		Saki West	13	15	4726
24		Saki East	10	2	1677
25		OYO SOUTH	Ibadan North	27	19
26	Ibadan North-East		19	12	13091
27	Ibadan South-East		24	18	40205
28	Ibadan South-West		20	19	11801
29	Ibadan		8	7	2556

		Central			
30		Ibarapa East	7	4	2430
31		Ibarapa North	6	3	1394
32		Ido	12	16	8025
33		Ibadan North-West	8	13	4275
		TOTAL	427	299	168,079

Source: Oyo State Ministry of Education. Planning, Research and Statistics Unit 2008

Table 3.2: - Ogun State Schools by Senatorial Constituencies.

S/N	Senatorial Areas	LGAs	No. of Pub Schools	No. of Priv Schools	No. of Sec Schl Stdts	
1	OGUN WEST	Adodo/Ota	44	66	22,983	
2		Imeko/Afon	12	1	2913	
3		Ipokia	21	6	7425	
4		Yewa North	32	4	7081	
5		Yewa South	24	6	7746	
6	OGUN CENTRAL	Abeokuta South	40	25	17,921	
7		Abeokuta North	26	9	9629	
8		Ewekoro	12	2	3413	
9		Ifo	25	69	12,176	
10		Obafemi/Owode	21	20	5746	
11		Odeda	19	8	4782	
12		OGUN EAST	Sagamu	28	29	10,330
13			Ijebu-East	17	2	3115
14			Ijebu North	36	8	8083
15			Ijebu North-East	13	2	1873
16	Ijebu-Ode		26	19	11,666	
17	Ikenne		18	10	6454	
18	Odogbolu		25	4	4782	
19	OgunWaterside		19	3	3351	
20	Remo North	9	6	1337		
	Total		467	299	151,478	

3.5 Sample and Sampling Technique:

A Multistage purposive and stratified sampling technique were utilised in this study and they were into states, senatorial district areas and LGAs, Purposive random sampling procedure was also utilised to select 18 public and 12 private secondary schools in rural and urban areas of each local government of both Oyo and Ogun states. The stages adopted sampling of senatorial area and local governments and thereafter the sampling of the students and their parents simultaneously in selected schools. Oyo State consists of 33 LGAs and Ogun State 20 LGAs. The schools spread across the six senatorial areas and 53 LGAs in the two states. Data was collected from 12 LGAs (6 in Oyo state and 6 in Ogun state) two local governments in each senatorial district, 30 schools were purposively selected in each of the two states with five schools in each LGA (3 public secondary schools and 2 private secondary schools). Thirty students were selected in SSS 2 in each school alongside their parents with aggregate 1800 students and 1800 parents in selected schools in the two states for the study. All selected schools' guidance and counseling units and principals' office services were employed to obtained 2-year academic achievement of the respondents in the two subjects. This purposive random sampling method permitted equitable samples to be taken regardless of geographical distance or population distribution. The sample included adequate number of students from different occupational groups, different level of income and educational attainment.

In Oyo State six local governments were selected, two LGAs were selected from Oyo Central, two LGAs from Oyo North, and two LGAs from Oyo South. In Ogun State,

six LGAs were selected; two from Ogun Central, two from Ogun West, and two from Ogun East.

Table 3.3: Secondary schools, LGAs and Learners in Oyo State

S/N	Senatorial Area	No of LGAs/sampled	No. of Pub. & Priv. School./Sampled	No. of students/Parents sampled
1	Oyo North	11 (2)	3 (2)	300 (300)
2	Oyo Central	13 (2)	3 (2)	300 (300)
3	Oyo South	9 (2)	3 (2)	300 (300)
4	Ogun West	5 (2)	3 (2)	300 (300)
5	Ogun Central	6 (2)	3 (2)	300 (300)
6	Ogun East	9 (2)	3 (2)	300 (300)

Table 3.4: Summary of States, Number of Schools and Number of Students/Parents, Sampled for the study.

State	Public Schools	Private Schools	Students	Parents
Oyo	18	12	900	900
Ogun	18	12	900	900
Total	36	24	1800	1800

The purposive sample for the study was 18 public and 12 private secondary schools (30 schools) in each state while 1800 students and 1800 parents were randomly sampled.

3.6 Research Instruments (Instrumentation):

Four major instruments were adopted to collect data for this study. These were structured questionnaires designed by the researcher.

The questionnaire for parents was titled “Household Factors and Academic Achievement of Secondary School Students Questionnaire [HHFAASSQ]. The questionnaire is used to generate biographical information on household factors. The second questionnaire is a

structured questionnaire for students, tagged Secondary School Student's Household Factors and Academic Achievement Questionnaire [SSSHHFAAQ] Section A of this questionnaire solicited background information. Section B; was design to contain and elicit information on attendance in school, separate study room, provision of textbooks and other home educational resources, engagement after school hours, quality time devoted to study and from parents, Section C: was designed as a Table to solicit previous performance of the respondent in the last two years.

Also two achievement Tests (ELAT and MAT) were designed and used to measure the level of acquisition of concepts in English Language and Mathematics. Two approaches were used for the achievement test; the tests assessed the level of knowledge and understanding of the concepts in Mathematics and English. It consists of 30 items based on the themes of the subjects by making use of the scheme of work up to the third term of SSS 2, all items are multiple choice types, also results of two consecutive sessions were obtained from the schools and the average was determined to support what was obtained in the tests conducted.

3.7 Validity of Instrument

The study investigated the prediction of household factors on academic achievement. In doing so information was gathered on parent's education, occupation, income, involvement, household size, and their contribution to educational process of their children; Four instruments were designed and were employed in gathering data on the above stated information in the study; The items on attitudinal dispositions and contributions follow modifications by experts in the field, to ensure asking the appropriate

questions. The research instruments were developed with guidance from the researcher's supervisors and experts in measurement and evaluation. Their professional inputs were sought about items that were ambiguous or badly worded; and not compatible with the subject matter of the study.

Validity of Achievement tests- The researcher first generate 45 items for both subjects which were given to a number of graduate teachers in the subjects in both federal and states' secondary schools for comments and suggestions with a view to thoroughly scrutinise the items for appropriateness of respondents, options, wording of items, contents, cognitive level, correctness of answers and scoring. In order to make the questionnaire readable and understandable, the experts suggested which items to be retained rejected or reworded; some items were expunged and some were modified. Based on the comments of the assessors, eventually 30 test items were selected.

3.8 Reliability of the Instruments

To ensure that the instruments measure what they are designed to measure, Cronbach alpha method of reliability estimate was employed to test the internal consistency from a pilot study conducted using survey instruments earlier subjected to several stages of review, development and test. The main objectives of the pilot test were to ascertain the quality, adequacy and usability of the survey instruments; use the findings of the pilot test to fine-tune the survey instruments; and cross check the adequacy of field arrangements and logistics. The pilot test was administered to 100 parents and 100 students drawn from

some schools in Ogbomoso North, Ogbomoso South and Oriire LGAs in urban and rural areas.

The study used Cronbach alpha estimate technique. The obtained scale alpha value improved after deleting items that correlate poorly on the scale measuring parent's attitude on the 0.3 criterion, for students 0.7857 to 0.8352; and 0.8449 to 0.9175 for parents questionnaires. The reliability of the research variables yielded moderate to high correlation coefficients, these were considered good enough measures for the intended variables

3.9 Administration of Research Instrument

The questionnaire was designed such that confidentiality and anonymity of the respondents were assured. The questionnaires were administered personally and with the help of trained field research assistants that were engaged by the researcher. Efforts were equally directed to train the assistants on the sampled respondents in respective states. All the schools were recognized and they fulfilled the minimum requirements for building, number, and qualifications of the teaching staff. Thus school differences were considerably narrowed.

3.10 Data Collection Procedure

The researcher obtained a letter of identification from the Department to secure the consent of authorities of selected schools; this make it possible to generate relevant data (like results of each student from the school, valid lists of schools in the ministry of education of both states and their accessibility). The letter of introduction equally enable the researcher to obtain vital data from records of the school's Guidance and Counselling

Unit of each selected school and from Federal Ministry of Education, West African Examination Council and National Examination Council. This was done by personally interacting with the principals before commencing the actual study. Thereafter, discussions were held with the selected teachers in each of the selected schools. Also, the selected subjects were acquainted with the objective of the research. Access to the school principals, teachers and parents of selected students was not a problem but making them respond to the questionnaire items and submission of same on time was the greatest task the researcher had to contend with, incessant strikes equally worsen the access and assessment of sampled schools\states. These schools were selected for the study because they were in the category of schools' classification in both states. In respect of this, they were similar in terms of school facilities for instruction. These schools provided an accessible population of students which also constituted the sample for the study. Given the research plan; the questionnaire was distributed based on gender and school ownership structure. The study generated quantitative data that were analysed and hypotheses were tested using chi-square and multiple regression.

The questionnaires and achievement tests were administered by the researcher with the help of research assistants and the assistance of subject teachers in selected schools. The research instruments were administered in two phases. The student's questionnaires' was first administered, followed by the achievement test. The students' parents' questionnaire was then provided to be taken home bearing the same code for consistency and easy retrieval. The students' questionnaire and achievement test were retrieved immediately after the students' response but the parents' questionnaire was not retrieved

immediately because of the content and time constraints associated with this group of respondents.

In preparing the data for statistical analysis, the questionnaires retrieved were screened to ensure that they were properly completed. The design of the research instrument requires respondents to express their opinions by putting a (√) on the labelled columns for the research variables in sections B, C and D of HHFAAQ for the parents, scores were awarded and added to obtain the final scores for the variables in these sections. The test items was manually scored each correct answer attract one mark while a wrong answer was scored zero. The level of performance of a student is taken to be proportional to his\her total score.

3.12 Pilot Study

a) Brief description of pilot study- To determine the reliability of the instruments for the study (HHFAAQ for the parents, SSHHFAAQ, MAT, ELAT for students) and to ascertain the quality, adequacy and usability of the survey instruments, and also to use the findings of the pilot test to fine-tune the survey instruments as well as cross check the adequacy of field arrangements and logistics. The instruments was administered to ten sample schools in urban and rural areas with 100 parents and 100 students of SSS 2, 96 parents and 96 students responded. Mathematics Achievement Test and English Language Achievement Test were also conducted for the selected students in the three selected local governments, Ogbomosho North, Ogbomosho South, and Oriire. The test was developed in order to measure the level of acquisitions of concepts in Mathematics and English Language; it

consists of 30 items, each based on themes of SSS Mathematics and English, making use of the scheme of work to the third term of SSS 2. All items are multiple choice types.

3.13 Method of Data Analysis

The data retrieved was collated and analysed, with the use of research statistical instruments of Chi-square and multiple regression analysis at 0.05 level of significance.

Description of the Variables

Criterion Variable-*Academic achievement*

Two types of indicators were used for academic achievement. They are:

1. The pupils' scores in English language and Mathematics achievement test
2. Average scores of the students in their SSI and SS2 examinations as reported in their report sheet.

Predictor Variables-*Household Factors*

This factor is measured by five different indicators. These are

1. Parent's income, measured by the reported income of the parents in the last one month. In our questionnaire, respondents were asked to report the incomes of both parents (fathers and mothers) of the children; the variable is entered separately for the two parents where applicable.
2. Parent's education, this is the highest educational attainment of both parents. In the estimation we use both the status of educational attainment as well as years of schooling of parents and report the best results.
3. Parent's occupation, this enters the regression model as categories.

4. Parent's involvement, two variables were used to measure this variable. The first one is the amount of money expended on coaching classes for a child. This represents the economic involvement. The second is the number of hours spent by parents to assist a child on his/her homework, the physical involvement)
5. Household size, this is the number of people residing in a household.

CHAPTER FOUR

RESULTS

The chapter presents the results derived from analysis of the data generated. The order of presentation follows the order of research questions and hypothesis raised.

Research Question 1- To what extents will household factors determines secondary school students' academic achievement and how is this affected by school ownership structure (public or private)?

4.1: Table 4.1- Extent of Household Factors determinant of academic achievement of Secondary School Students by School Ownership Structure.

HOUSEHOLD FACTORS	OWNERSHIP			χ^2 (P-value)
	Public	Private	Total	
Activities after school hours				
Help at the market, shop or farm	111(12.6)	32(6.6)	143(10.5)	19.269
Reading and doing school assignment	603(68.5)	370(76.1)	973(71.2)	(.000)
Engage in available work to pay for education	73(8.3)	24(4.9)	97(7.1)	
Help in domestic activities	93(10.6)	60(12.3)	153(11.2)	
Total	880(100.0)	486(100.0)	1366(100.0)	
Father's highest education level				
No formal education	45(5.1)	8(1.6)	53(3.9)	88.266
Primary education	105(11.9)	20(4.1)	125(9.2)	(.000)
Secondary education	371(42.2)	136(28.0)	507(37.1)	
Post secondary education	359(40.8)	322(66.3)	681(49.9)	
Total	880(100.0)	486(100.0)	1366(100.0)	
Mother's highest education level				
No formal education	52(5.9)	10(2.1)	62(4.5)	91.788
Primary education	228(25.9)	50(10.3)	278(20.4)	(.000)
Secondary education	383(43.5)	203(41.8)	586(42.9)	
Post secondary education	217(24.7)	223(45.9)	440(32.2)	
Total	880(100.0)	486(100.0)	1366(100.0)	
Father's occupation				
Wage employment	175(19.9)	131(27.0)	306(22.4)	79.441
Professional	179(20.3)	180(37.0)	359(26.3)	(.000)
Artisans	284(32.3)	76(15.6)	360(26.4)	
Self employed	242(27.5)	99(20.4)	341(25.0)	
Total	880(100.0)	486(100.0)	1366(100.0)	
Mother's occupation				
Wage employment	106(12.0)	105(21.6)	211(15.4)	61.460
Professional	133(15.1)	126(25.9)	259(19.0)	(.000)

Artisans	140(15.9)	40(8.2)	180(13.2)	
Self employed	501(56.9)	215(44.2)	716(52.4)	
Total	880(100.0)	486(100.0)	1366(100.0)	
Library/study room availability				
Yes	484(55.0)	339(69.8)	823(60.2)	28.454
No	396(45.0)	147(30.2)	543(39.8)	(.000)
Total	880(100.0)	486(100.0)	1366(100.0)	
Problem paying school and other fees				
Always	206(23.4)	64(13.2)	270(19.8)	22.277
Often	126(14.3)	72(14.8)	198(14.5)	(.000)
Sometimes	272(30.9)	186(38.3)	458(33.5)	
Never	276(31.4)	164(33.7)	440(32.2)	
Total	880(100.0)	486(100.0)	1366(100.0)	
Expectation from one's child				
Less than degree/higher education	162(18.4)	85(17.5)	247(18.1)	.179
Degree/higher education	718(81.6)	401(82.5)	1119(81.9)	(.673)
Total	880(100.0)	486(100.0)	1366(100.0)	
Private lessons for your child				
Yes	605(68.8)	314(64.6)	919(67.3)	2.439
No	275(31.3)	172(35.4)	447(32.7)	(.118)
Total	880(100.0)	486(100.0)	1366(100.0)	
Volume of books at home				
Substantial	222(25.2)	219(45.1)	441(32.3)	63.612
Few	564(64.1)	247(50.8)	811(59.4)	(.000)
None	94(10.7)	20(4.1)	114(8.3)	
Total	880(100.0)	486(100.0)	1366(100.0)	

Note: per cent within ownership in brackets

Source: Author's computation of data from 2010 survey.

The data on the Table above shows that all the household factors significantly vary across ownership, except for expectation about a child and private lessons. This is obtained by their respective chi-square values and their associated p-values that are less than 0.05 as presented in the last column. Taking the first panel, activities after school hours for instance, it is observed that 12.6% of public school students help their parents/guardians in shops or farm while only 6.6% of the private school students do the same. Further, 8.3% of the public school students engage in available jobs to pay for their schooling while just 4.9% of the private school students do this. Equally, 68.5% of public school students read and do school assignment after school hours but a higher per cent (76.1%) of private school student do same. In the second panel, fathers' highest education level shows 5.1%

of parents of students in public schools has no formal education, 11.9% has primary education. 42.2% has secondary education on the other hand 1.6% of parents of students in private schools has no formal education, 4.1% has primary education, 28% has secondary education while 66.3% has post secondary education.

In the third panel, mothers' highest education level revealed mothers' of students in public schools has 5.9% with no formal education, 25.9% with primary education, 43.5% with secondary education and 24.7% with post secondary education while mothers' of students in private schools has 2.1% with no formal education, 10.3% with primary education, 41.8% with secondary education and 45.9% with post secondary education.

In the fourth panel, Fathers' occupation shows that, fathers of students in public schools has 19.9% on wage employment, 20.3% as professional, 32.3% as artisans and 27.5% as self employed. Whereas fathers of students in private school has 27% in wage employment, 37% as professional 15.6% as Artisans and 20.4% as self- employed.

In the fifth panel, mothers occupation revealed that mothers of students in public schools has 12% with wage employment 15.1% as professional, 15.9% as artisans, 56.9% as self employed unlike mothers of students in private school with 21.6% as wage employment, 25.9% as professionals, 8.2% as artisans and 44.2% as self-employed.

In the sixth panel, 55% of students in public schools has library or study room at home as opposed to 69.8% of students in private schools.

In the seventh panel, 23.4% of students under public schools indicate problem paying school and other fees always, 14.3% often, 30.9% sometimes and 31.4% as never,

whereas, students in private schools has 13.2% as always. 14.8% has often, 38.3% as sometimes and 33.7% as never.

In the ninth panel, under volume of books at home, students in public schools has 25.2% with substantial, 64.1% with few, 10.7% with some and for students in private schools, 45.1% with substantial, 50.8% with few and 4.1% with none. It can therefore be concluded that private school students are more likely to do school-related activities at home than public school students who are more likely to help parents at work or engage in jobs to pay for schooling. Since the computed chi-square is significant, it implies that the household factors of private school students are significantly more pro-academic than public school students with respect to schooling.

Quantitative data were equally analyzed by computing the mean values and standard deviations by school ownership, school type, school location and gender of students at 0.05 level of significance.

Table 4.2: Mean Values and Standard deviation by School Ownership

	Ownership			T (p-value)
	Public	Private	Average	
Average Mathematics	38.84 (14.30)	50.83 (13.49)	49.81 (15.14)	15.13 (0.00)
Average English	40.23 (11.79)	53.52 (13.30)	44.96 (13.89)	19.05 (0.00)
Size of household	7.53 (3.08)	6.73 (3.03)	7.13 (3.08)	4.61 (0.00)
Size of monthly income	44413.01 (51652.77)	79991.01 (98633.93)	57793.43 (74920.38)	7.17 (0.00)
Total household monthly expenditure	39918.66 (35950.67)	59506.65 (56871.86)	47238.39 (45884.43)	6.50 (0.00)
Hours to teach child per week	4.52	5.75	4.96	3.55

	(6.46)	(5.371)	(6.12)	(0.00)
Average hours to assist child with assignment	2.66 (4.69)	3.55 (3.86)	2.97 (4.43)	3.55 (0.00)

The result in Table 4.2 shows that the average scores of public students in Mathematics is 38.84% and that of private is 50.83%. The t-test value is significant and this shows that private students significantly score higher than public students in Mathematics. Also, the average scores of public school students in English is 40.23% and 53.52% for private school students, the average size of household of public school students is 7.53% and that of private school students is lower (6.73%), the average hours to teach child per week is 7.13% whereas that of private school students is higher with 5.75 and that of public school students is lower (4.52). Consequently average hours to assist a child with assignment of private school students are higher (3.55) while that of public school students is 2.66. Household monthly income of students in private school is higher with 79991.01 compared with 44413.01 household incomes of students in public school. Hence, private school students have a number of household factors advantage than their public school counterparts.

Research Question 2- To what extent will household factors determine secondary school students academic achievement premised on type of school?

4.3: Extent of household factors determinant of secondary school students' academic achievement by type of school.

HOUSEHOLD FACTORS	TYPE OF SCHOOL			χ^2 (P-value)
	Mixed	Single	Total	

Activities after school hours				
Help at the market, shop or farm	134(10.5)	9(10.5)	143(10.5)	2.317
Reading and doing school assignment	911(71.2)	62(72.1)	973(71.2)	(.509)
Engage in available work to pay for educational requirements	94(7.3)	3(3.5)	97(7.1)	
Help in domestic activities	141(11.0)	12(14.0)	153(11.2)	
Total	1280(100.0)	86(100.0)	1366(100.0)	
Father's highest education level				
No formal education	51(4.0)	2(2.3)	53(3.9)	6.694
Primary education	119(9.3)	6(7.0)	125(9.2)	(.082)
Secondary education	464(36.3)	43(50.0)	507(37.1)	
Post secondary education	646(50.5)	35(40.7)	681(49.9)	
Total	1280(100.0)	86(100.0)	1366(100.0)	
Mother's highest education level				
No formal education	60(4.7)	2(2.3)	62(4.5)	5.709
Primary education	265(20.7)	13(15.1)	278(20.4)	(.127)
Secondary education	539(42.1)	47(54.7)	586(42.9)	
Post secondary education	416(32.5)	24(27.9)	440(32.2)	
Total	1280(100.0)	86(100.0)	1366(100.0)	
Father's occupation				
Wage employment	285(22.3)	21(24.4)	306(22.4)	3.139
Professional	336(26.3)	23(26.7)	359(26.3)	(.371)
Artisans	333(26.0)	27(31.4)	360(26.4)	
Self employed	326(25.5)	15(17.4)	341(25.0)	
Total	1280(100.0)	86(100.0)	1366(100.0)	
Mother's occupation				
Wage employment	197(15.4)	14(16.3)	211(15.4)	.442
Professional	244(19.1)	15(17.4)	259(19.0)	(.931)
Artisans	167(13.0)	13(15.1)	180(13.2)	
Self employed	672(52.5)	44(51.2)	716(52.4)	
Total	1280(100.0)	86(100.0)	1366(100.0)	
Library/study room availability				
Yes	780(60.9)	43(50.0)	823(60.2)	4.025
No	500(39.1)	43(50.0)	543(39.8)	(.045)
Total	1280(100.0)	86(100.0)	1366(100.0)	
Problem paying school and other fees				
Always	249(19.5)	21(24.4)	270(19.8)	4.620
Often	181(14.1)	17(19.8)	198(14.5)	(.202)
Sometimes	431(33.7)	27(31.4)	458(33.5)	
Never	419(32.7)	21(24.4)	440(32.2)	
Total	1280(100.0)	86(100.0)	1366(100.0)	
Expectation from one's child				
Less than degree/higher education	234(18.3)	13(15.1)	247(18.1)	.545
Degree/higher education	1046(81.7)	73(84.9)	1119(81.9)	(.460)
Total	1280(100.0)	86(100.0)	1366(100.0)	
Private lessons for your child				
Yes	850(66.4)	69(80.2)	919(67.3)	6.998
No	430(33.6)	17(19.8)	447(32.7)	(.008)
Total	1280(100.0)	86(100.0)	1366(100.0)	
Volume of books at home				
Substantial	419(32.7)	22(25.6)	441(32.3)	2.020
Few	754(58.9)	57(66.3)	811(59.4)	(.364)
None	107(8.4)	7(8.1)	114(8.3)	

Total	1280(100.0)	86(100.0)	1366(100.0)
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Note: per cent within type of school in brackets

Source: Author's computations of data from 2010 survey.

The table 4.3 shows that only one household factor significantly vary across type of school, parental involvement is more significant among the factors, activities after school, parent's education level, occupation, household size, and parent's income does not count much. This is premised on their respective chi-square values and their associated p-values that are less than 0.05. Considering the first panel which is activities after school hours, it is observed that 10.5% in both schools help at the market, shop or farm. Moreover 7.3% students in mixed schools engage in available work to pay for their education while 3.5% students in single sex school engage in available work to pay for schooling. On the other hand 72.1% of single sex school students read and do school assignment, a bit lower (71.2%) of the mixed school students read and do school assignment. In the second panel, 50% of students have fathers with secondary education in single sex schools and relatively lower 36.3% in mixed schools. In the third panel of fathers' occupation, the finding reveals that 24.4% of fathers of students in single sex school are in wage employment brackets while only 22.3% of father of students in mixed schools are in wage employment, conversely 31.4% of fathers of students in single sex schools are artisans and 26% .are in mixed type of school. Further, 80.2% of students in single sex schools engaged in private lesson to improve their performance in school, hence, it can be concluded that students in single sex schools are more likely to do school-related activities at home than students in mixed schools whose parents expectation for further studies is less (81.7%). Since the chi-

square is significant for three household factors, it shows that these factors of single sex schools is significantly pro-academic than mixed-schools.

Table 4.4: Mean Values and Standard deviation by Type of School

Sex Composition of Schools (Mixed and Single)

	Type of school			T (p-value)
	Mixed	Single	Average	
Average Mathematics	43.60 (15.18)	35.74 (12.54)	43.11 (15.14)	4.69 (0.000)
Average English	45.04 (14.12)	43.72 (8.90)	44.96 (13.89)	0.86 (0.392)
Size of household	7.23 (3.06)	7.50 (3.44)	7.24 (3.08)	0.80 (0.426)
Size of monthly income	58368.16 (76096.15)	46873.70 (46527.77)	57793.43 (74920.38)	1.01 (0.311)
Total household monthly expenditure level	47963.35 (46735.25)	33309.79 (19934.93)	47238.39 (45884.43)	2.14 (0.033)
Hours to teach child per week	5.00 (6.2)	4.27 (4.10)	4.96 (6.12)	1.08 (0.280)
Average hours to assist that child with assignment	3.02 (4.53)	2.27 (2.48)	2.97 (4.43)	1.53 (0.126)

Table 4.4 shows that the average scores of students in single sex schools in Mathematics is 35.74% and that of mixed school is 43.60%, also the average scores of student in single schools in English Language is 43.72% and in mixed schools is 45%. The p- value is significant at $p < 0.05$ for mathematics except for average English Language score, size of household, hours to teach child per week and this shows that mixed schools students significantly score higher in both English Language and Mathematics than students in single schools. Results reveal an overall statistically significant p-value 0.00 and 0.03 for Mathematics and total household monthly expenditure level respectively. Hours to teach child per week were higher for mixed school students relative to single sex school students.

Students in mixed schools have more advantage of parental income, expenditure and involvement than students in single schools.

Research Question 3- What is the extent of household factors contribution to secondary school student's academic achievement based on school location?

Table 4.5: Extent of household factors determinant of secondary school students' academic achievement based on location of school.

HOUSEHOLD FACTORS	LOCATION			χ^2 (P-value)
	Rural	Urban	Total	
Activities after school hours				
Help at the market, shop or farm	12(7.5)	131(10.9)	143(10.5)	2.802 (0.423)
Read and do school assignment	121(75.2)	852(70.7)	973(71.2)	
Engage in available work to pay for education				
Help in domestic activities	13(8.1)	84(7.0)	97(7.1)	
Total	15(9.3)	138(11.5)	153(11.2)	
	161(100.0)	1205(100.0)	1366(100.0)	
Father's highest education level				
No formal education	9(5.6)	44(3.7)	53(3.9)	11.085 (0.011)
Primary education	4(2.5)	121(10.0)	125(9.2)	
Secondary school	60(37.3)	447(37.1)	507(37.1)	
Post secondary education	88(54.7)	593(49.2)	681(49.9)	
Total	161(100.0)	1205(100.0)	1366(100.0)	
Mother highest education level				
No formal education	11(6.8)	51(4.2)	62(4.5)	10.181 (0.017)
Primary education	19(11.8)	259(21.5)	278(20.4)	
Secondary school	71(44.1)	515(42.7)	586(42.9)	
Post secondary education	60(37.3)	380(31.5)	440(32.2)	
Total	161(100.0)	1205(100.0)	1366(100.0)	
Father's occupation				
Wage employment	30(18.6)	276(22.9)	306(22.4)	7.885 (0.048)
Professional	52(32.3)	307(25.5)	359(26.3)	
Artisans	32(19.9)	328(27.2)	360(26.4)	
Self employed	47(29.2)	294(24.4)	341(25.0)	
Total	161(100.0)	1205(100.0)	1366(100.0)	
Mother's occupation				
Wage employment	22(13.7)	189(15.7)	211(15.4)	4.857 (0.183)
Professional	38(23.6)	221(18.3)	259(19.0)	
Artisans	26(16.1)	154(12.8)	180(13.2)	
Self employed	75(46.6)	641(53.2)	716(52.4)	
Total	161(100.0)	1205(100.0)	1366(100.0)	
Library/study room availability				
Yes	116(72.0)	707(58.7)	823(60.2)	10.612 (0.001)
No	45(28.0)	498(41.3)	543(39.8)	
Total	161(100.0)	1205(100.0)	1366(100.0)	

<i>Problem paying school and other fees</i>				
Always	25(15.5)	245(20.3)	270(19.8)	
Often	23(14.3)	175(14.5)	198(14.5)	3.951
Sometimes	64(39.8)	394(32.7)	458(33.5)	(0.267)
Never	49(30.4)	391(32.4)	440(32.2)	
Total	161(100.0)	1205(100.0)	1366(100.0)	
<i>Your expectation of your child</i>				
Less than degree/higher education	32(19.9)	215(17.8)	247(18.1)	
Degree/higher education.	129(80.1)	990(82.2)	1119(81.9)	0.396
Total	161(100.0)	1205(100.0)	1366(100.0)	(0.529)
<i>Private lessons for your child</i>				
Yes	126(78.3)	793(65.8)	919(67.3)	10.002
No	35(21.7)	412(34.2)	447(32.7)	(0.002)
Total	161(100.0)	1205(100.0)	1366(100.0)	
<i>Volume of books at home</i>				
Substantial	54(33.5)	387(32.1)	441(32.3)	0.135
Few	94(58.4)	717(59.5)	811(59.4)	(0.935)
None	13(8.1)	101(8.4)	114(8.3)	
Total	161(100.0)	1205(100)	1366(100.0)	

Note: per cent within location of school in brackets

Source: Author's computations of data from 2010 survey.

Table 4.5 shows that all the household factors varied significantly across location of schools, except activities after school hours, mother's occupation, problem of paying school and other fees, expectation from one's child in school and volume of books at home which implies parent's involvement is always low in rural area than urban area. This is obtained from their respective chi-square and associated p-values that are less than 0.05. Taking the first panel, the activities after school hours, it is observed that 7.5% rural students help their parents/guardians in their shop, farm or market while 10.9% of the urban students do this, suggesting that urban children help their parents more than their rural counterparts. Further, higher per cent (8.1%) of the rural students engage in available jobs to pay for schooling while 7.0% of the urban students do this. On the other hand, 75.2% of the rural students read and do school assignments after school hours but a lower percentage (70.7%) of urban students do. Also, in the eight panels, 82.2% of urban school parents expect their child to have higher degree\education as against parents' expectation

from their child in rural areas which is lower (80.1%). On parents' education, it is clear that the education of mother and father have strong influence on a child's academic achievement. While fathers' occupation may be a potent factor, mothers' occupation is not. Most mothers are self-employed in urban area with 53.2% and rural mothers recorded 46.6% in this regard, suggesting that mothers' occupation is a weak factor with respect to students' achievement.

Table 4.6: Mean Value and Standard Deviation by Location of school

	Location			T
	Rural	Urban	Average	P-value.
Average Mathematics	49.85 (13.58)	42.21 (15.12)	43.11 (15.14)	6.10 (0.000)
Average English Language	49.82 (13.20)	44.31 (13.86)	44.96 (13.89)	4.77 (0.000)
Size of household	6.54 (2.53)	7.34 (3.14)	7.24 (3.08)	3.09 (0.002)
Size of monthly income	74762.40 (69757.91)	55223.67 (75379.97)	57793.43 (74920.38)	2.68 (0.007)
Total household monthly expenditure level	62191.41 (71302.80)	44909.93 (40085.94)	47238.39 (45884.43)	3.99 (0.000)
Hours to teach child per week	5.45 (5.75)	4.89 (6.17)	4.96 (6.12)	1.08 (0.281)
Average hours to assist that child with assignment	3.27 (3.35)	2.94 (4.60)	2.97 (4.43)	0.91 (0.363)

The data in Table shows that the average score of students in rural schools in Mathematics and English Language are 49.85% and 49.82% respectively and that of urban is 42.21% and 44.31% respectively. Also, size of household for rural is 6.54% and that of urban schools is higher (7.34%), the hour to teach a child per week by parents is 5.45% in rural schools and 4.89% in urban schools. The t-test value is significant for average Mathematics, English Language, size of household, size of monthly income and total household monthly expenditure level, except hours used to teach a child per week and average hours to assist the child on assignment, which shows that rural students when engage with lesson after school with hours to assist that child with assignment score higher than the urban students in both Mathematics and English Language without these benefits.

Research Question 4- To what extent will household factors explain the variance in secondary school students' academic achievement with respect to the difference in students' gender?

Table 4:7 Extent of household factors variance in secondary school students' academic achievement with respect to difference in gender of students

HOUSEHOLD FACTORS	GENDER			χ^2 P-value
	Male	Female	Total	
Activities after school hours				
Help at the market, shop or farm	76(11.2)	67(9.7)	143(10.5)	7.822
Read and school assignment	465(68.7)	508(73.7)	973(71.2)	(.050)
Engage in available work to pay for educational requirements	60(8.9)	37(5.4)	97(7.1)	
Help in domestic activities	76(11.2)	77(11.2)	153(11.2)	
Total	677(100.0)	689(100.0)	1366(100.0)	
Father's highest education level				
No formal education	28(4.1)	25(3.6)	53(3.9)	5.053
Primary education	73(10.8)	52(7.5)	125(9.2)	(.168)
Secondary education	251(37.1)	256(37.2)	507(37.1)	
Post secondary education	325(48.0)	356(51.7)	681(49.9)	
Total	677(100.0)	689(100.0)	1366(100.0)	
Mother's highest education level				
No formal education	33(4.9)	29(4.2)	62(4.5)	1.774
Primary education	146(21.6)	132(19.2)	278(20.4)	(.621)
Secondary education	286(42.2)	300(43.5)	586(42.9)	
Post secondary education	212(31.3)	228(33.1)	440(32.2)	
Total	677(100.0)	689(100.0)	1366(100.0)	
Father's occupation				
Wage employment	140(20.7)	166(24.1)	306(22.4)	7.000
Professional	179(26.4)	180(26.1)	359(26.3)	(.072)
Artisans	198(29.2)	162(23.5)	360(26.4)	
Self employed	160(23.6)	181(26.3)	341(25.0)	
Total	677(100.0)	689(100.0)	1366(100.0)	
Mother's occupation				
Wage employment	99(14.6)	112(16.3)	211(15.4)	5.122
Professional	125(18.5)	134(19.4)	259(19.0)	(.163)
Artisans	103(15.2)	77(11.2)	180(13.2)	
Self employed	350(51.7)	366(53.1)	716(52.4)	
Total	677(100.0)	689(100.0)	1366(100.0)	
Library/study room availability				
Yes	385(56.9)	438(63.6)	823(60.2)	6.404
No	292(43.1)	251(36.4)	543(39.8)	(.011)
Total	677(100.0)	689(100.0)	1366(100.0)	
Problem paying school and other fees				

Always	133(19.6)	137(19.9)	270(19.8)	.070
Often	97(14.3)	101(14.7)	198(14.5)	(.995)
Sometimes	227(33.5)	231(33.5)	458(33.5)	
Never	220(32.5)	220(31.9)	440(32.2)	
Total	677(100.0)	677(100.0)	1366(100.0)	
Expectation from one's child				
Less than degree/higher education	126(18.6)	121(17.6)	247(18.1)	.254
Degree/higher education	551(81.4)	568(82.4)	1119(81.9)	(.614)
Total	677(100.0)	686(100.0)	1366(100.0)	
Private lessons for your child				
Yes	456(67.4)	463(67.3)	919(67.3)	.004
No	221(32.6)	226(32.8)	447(32.7)	(.951)
Total	677(100.0)	689(100.0)	1366(100.0)	
Volume of books at home				
Substantial	201(29.7)	240(34.8)	441(32.3)	4.150
Few	418(61.7)	393(57.0)	811(59.4)	(.126)
None	58(8.6)	56(8.1)	114(8.3)	
Total	677(100.0)	689(100.0)	1366(100.0)	

Note: per cent within gender in brackets.

Source: Author's computation of data from 2010 survey.

The data in Table 4.7 above shows that only two of the household factors significantly vary across gender of students, parental education, parental occupation, problem of paying school and other fees (parental income and expenditure) etc does not count. This is obtained by their respective chi-square values and p-values that are greater than expected 0.05. From the first panel on activities after school hours, it is shown that 11.2% of male students help parents/guardians at the market, shop or farm and only 9.7% of the female students do the same. Also 73.7% of the female students read and do school assignments, 68.7% of male students read and do assignments. Further, it is observed that 8.9% of male students engage in available work to pay for schooling only 5.4% of female students do this. Invariably parental expectation and commitment are more pronounced for the female child with higher per cent (82.4%) than their male counterparts with 81.4%. On lessons, the same percentage was observed for both students, it can therefore be concluded that female students are more likely to do school-related work at home, received parental

attention, supervision and commitment than male students who are more likely to have fewer volume of books to read. Moreover, the female students do make more use of the library and available study room with 63.6% while male students make less use with 56.9%. Since the computed chi-square is significant, it implies that the household factors of female students are significantly more pro-academic than male students.

The quantitative data were equally analysed by computing the mean and standard deviation by gender of student at 0.05 level of significance.

Table 4.8: Mean and Standard deviation of Gender of students

	Gender			T (p-value)
	Male	Female	Average	
Average mathematics	42.45 (15.52)	43.76 (14.74)	43.11 (15.14)	1.60 (0.110)
Average English	43.79 (13.43)	46.11 (14.24)	44.96 (13.89)	3.09 (0.002)
Size of household	7.41 (3.32)	7.08 (2.83)	7.24 (3.08)	2.00 (0.045)
Size of monthly income	59821.89 (80111.43)	55808.60 (69496.36)	57793.43 (74920.38)	0.81 (0.417)
Total household monthly expenditure level	48108.34 (51799.74)	46421.69 (39571.76)	47238.39 (45884.43)	0.57 (0.572)
Hours to teach child per week	4.84 (5.85)	5.08 (6.38)	4.96 (6.12)	0.71 (0.476)
Average hours to assist that child with assignment	2.78 (3.43)	3.17 (5.22)	2.97 (4.43)	1.61 (0.108)

Table 4.8 shows that average scores of male students in Mathematics and English Language are 42.45% and 43.79% respectively and that of female students is 43.76% and 46.11% respectively. Size of household and size of income for the month and expenditure favours the male than female students. Conversely, the hours to teach a child per week for male students are 4.84 and that of female students 5.08. The t-test value is significant except for average English Language and size of household. This shows that female

students significantly score higher than male counterparts in both Mathematics and English Language, with the hours to teach a child per week and average hours to assist him/her on assignment is also higher for female than male students.

4.2 Test of Hypotheses

H₀₁: There is no significant relationship between composite household factors and academic achievement of secondary school students in Oyo and Ogun states, Nigeria.

Table 4.9: Joint relationship between household factors and academic achievement of secondary school students. Tested at aggregate level.

VARIABLES	DEP. VAR. : MATHEMATICS SCORES			DEP. VAR.: ENGLISH SCORES		
	Coeff.	P-value	Stdzd Beta	Coeff.	P-value	Stdzd Beta
<i>Household size</i>	-0.12	0.36	-0.02	-0.15	0.25	-0.03
<i>Log of h/h monthly expen</i>	0.68	0.70	0.01	3.27**	0.02	0.06
<i>Fathers' Education (Tertiary)</i>						
Non-formal	4.28	0.12	0.05	0.72	0.76	0.01
Primary	-1.58	0.37	-0.03	-2.51	0.12	-0.05
Secondary	-1.70	0.15	-0.05	-2.52**	0.03	-0.09
<i>Mothers' Education(Tertiary)</i>						
Non-formal	-4.38*	0.08	-0.06	-3.74*	0.09	-0.06
Primary	-2.48	0.13	-0.07	-1.05	0.46	-0.03
Secondary	-1.90	0.13	-0.06	0.45	0.69	0.02
<i>Fathers' Occuptn(Self Emplyd)</i>						
Waged	-1.11	0.38	-0.03	0.17	0.89	0.01
Professional	1.00	0.48	0.03	2.77**	0.04	0.09
Artisan	-0.73	0.49	-0.02	-0.91	0.35	-0.03
<i>Mothers' Occuptn(Self Emplyd)</i>						
Waged	1.62	0.22	0.04	1.55	0.20	0.04
Professional	-2.00	0.18	-0.05	-2.40*	0.06	-0.07
Artisan	-2.08*	0.08	-0.05	-0.10	0.92	0.00
<i>Library at home</i>	3.55***	0.00	0.11	2.04***	0.01	0.07
<i>Schl. fees problems(Never)</i>						
Always	-0.17	0.89	0.00	-2.13**	0.04	-0.06

Often	1.07	0.37	0.02	-0.73	0.52	-0.02
Sometimes	1.24	0.21	0.04	-1.47*	0.09	-0.05
Less than deg. Expectation	-0.26	0.80	-0.01	-0.69	0.44	-0.02
Private lesson	0.84	0.33	0.03	-2.21***	0.01	-0.07
Books at home(Substantial)						
Few	-2.50***	0.01	-0.08	-1.57*	0.06	-0.06
None	-6.09***	0.00	-0.11	-3.18**	0.04	-0.06
Hrs. Teach child weekly	0.00	0.99	0.00	-0.03	0.68	-0.01
Hrs. to help and Assist child with homework weekly	-0.12	0.24	-0.04	0.05	0.59	0.02
After schl. activities (Read)						
Help in mkt, shop or farm	-4.91***	0.00	-0.10	-4.97***	0.00	-0.11
Work to pay for education	-4.44***	0.00	-0.08	-6.30***	0.00	-0.12
Help in domestic work	-0.10	0.94	0.00	1.57	0.17	0.04
Quality time from parent	2.81	0.00	-0.10	-4.35	0.02	0.07
Constant	43.58***	0.00	.	35.55***	0.00	.
F(27,1338)		5.57			6.87	
Prob>F		0.000			0.000	
R-squared		0.090			0.117	

Note: *, **, and *** depict significance at the 10%, 5% and 1% levels respectively; and

reference category in brackets

Source: Author's computations of data from 2010 survey.

First, the F-value of 5.57 ($p < 0.01$) shows that all the household factors jointly determine Mathematics achievement significantly. In English Language performance, F-value of 6.87 ($p < 0.01$) shows that the factors can jointly predict English Language achievement significantly. The Table therefore shows that given the p-value at 0.000 for mathematics and English Language the null hypothesis is rejected and the alternative hypothesis is accepted, suggesting that there is a significant relationship between household factors and academic achievement. Hence, the Table shows that the five independent variables when taken together predicted academic achievement in secondary school.

H₀₂; There is no significant effect of Parental education and academic achievement of secondary school students in Oyo and Ogun states, Nigeria.

In Table 4.9 Fathers' and mothers' education do not significantly contribute to academic achievement of secondary school students in mathematics. The P-values obtained for fathers' education are 0.12, 0.37 and 0.15 for Mathematics and 0.76, 0.12 and 0.03 for English Language. Observably, students whose mothers' have no-formal education are likely to score 4.38% lower in Mathematics than their counterparts whose mothers have tertiary education. Those whose fathers have secondary education as highest qualification is likely to score 2.52% lower than those whose fathers have tertiary qualification. The P-values obtained for fathers' education was 0.12, 0.37 and 0.15 for Mathematics and 0.76, 0.12 and 0.03 for English Language. It is noted to be significant for English language. While P-values for mothers' education for mathematics are 0.08, 0.13 and 0.13 they are 0.09, 0.46 and 0.69 for English Language. Hence, the null hypothesis is rejected that there is no significant relationship between parental education and academic achievement of secondary school students and the alternative hypothesis is accepted which states there is significant relationship between parental education and academic achievement of secondary school student

H₀₃: There is no significant relationship between parental occupation and academic achievement of secondary school students in Oyo and Ogun states, Nigeria.

Table 4.9 Tests for the relationship between parental occupation and academic achievement of secondary school students.

In Table 4.9, there is no positive relationship between parent's occupation and academic achievement of secondary school students in Mathematics. The P-values of fathers' occupation obtained indicate 0.38, 0.48 and 0.49 for mathematics while for English Language they are 0.89, 0.04 and 0.35 for wages, professional and artisan respectively and for mothers' occupation, it indicates 0.22, 0.18 and 0.08 for Mathematics and 0.20, 0.06 and 0.92 for English Language wages, professional and artisan respectively. This indicates that parental occupation does not strongly permit attention, hours spent to supervise vis-a-vis involvement in the child's academic achievement. Only in English Language is the professional father significant with the P-value of 0.04. Hence, the null hypothesis is rejected that there is no significant relationship between parent's occupations and academic achievement of secondary school students and the alternative hypothesis is accepted, suggesting that there is significant relationship between parent's occupations with academic achievement of secondary school students.

H₀₄: There is no significant relationship between parent's income and academic achievement of secondary school students in Oyo and Ogun states, Nigeria.

Table 4.9. Tests for the relationship between parent's income and academic achievement of secondary school students.

In Table 4.9, the regression of parent's income with respect to P-value for Mathematics is 0.70; and English Language 0.02; this shows a strong positive correlation between parent's income and expenditure on academic achievement of secondary school

students. Premised on ownership structure of schools, parent's income is significant in private school in both subjects with P-value of 0.02 while it is not significant among students in public schools. Also on the basis of type of schools it is not significant for students in mixed and single schools in Mathematics but significant in English Language among the student in mixed schools. On location of school, Parent's income is not significant in both rural and urban areas in both subjects but significant on the basis of gender for female students in Mathematics and English Language. Hence, the null hypothesis is rejected and the alternative hypothesis is accepted, which states that there is a significant relationship between parent's income and academic achievement of secondary school students in Oyo and Ogun states.

H₀₅: Household size has no significant impact on academic achievement of secondary school students in Oyo and Ogun states Nigeria.

Table 4.9 Tests for the relationship between household size and academic achievement of secondary school students in Oyo and Ogun states, Nigeria.

In Table 4.9 the regression of household size and Mathematics with P-value for Mathematics is 0.36 and English Language is 0.25, this shows a negative relationship between household size and academic achievement. Based on ownership structure of school, household size is not significant for students in public and private schools' Mathematics and English Language nor significant in type of schools in English Language and Mathematics. Also on location of schools and gender of students in both subjects, household size is not significant. Hence, the null hypothesis is accepted which states that

there is no significant relationship between household size and academic achievement of secondary school students in Oyo and Ogun states Nigeria.

Ho₆: There is no significant relationship between parental involvement and academic achievement of secondary school students in Oyo and Ogun states, Nigeria.

Table 4.9 Tests for the relationship between parent's involvement and academic achievement.

In Table 4.9, the regression of parent's involvement on aggregate with $p < 0.05$ in library at home, volume of books at home, activities after school, school fee problems, quality time spent by parents with child on academic concerns, for instance, students with library at home are likely to score 3.55% higher on the average in Mathematics and 2.04% higher on the average in English language. The magnitude of books at home is equally important for students' Mathematics achievement, for instance, it is shown that students with few books at home are likely to score 2.5% lower than those with substantial volume of books at home; and those without any books at home are likely to score 6.09% lower. When students help their parents/guardian in the market, shops or farm, they are likely to score 4.19% lower in Mathematics than those who just read and do their assignments. Also, when they work to pay for their schooling, they score 4.44% lower in Mathematics. The Table also shows a strong positive statistical relationship between parent's involvement and academic achievement of secondary school students. Hence, the null hypothesis is rejected and the alternative hypothesis is accepted which states that there is significant relationship between parent's involvement and academic achievement of

secondary school students. This indicates that parental involvement is very potent factor to predict academic achievement.

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CHAPTER FIVE

DISCUSSION OF RESULTS

The findings were discussed in tune with the various research questions and hypotheses raised in the study. They are discussed under the following subheadings:

- Household Factors and Academic Achievement
- Parental Education and Academic Achievement
- Parental Occupation and Academic Achievement
- Parental Income and Academic Achievement
- Parental Involvement and Academic Achievement
- Household Size and Academic Achievement

5.1 HOUSEHOLD FACTORS AND ACADEMIC ACHIEVEMENT

The result revealed that all the household factors can jointly predict secondary school Mathematics and English Language achievement and vary based on location of school, ownership structure of schools, types of schools and gender of student. It is clear from the result panels that household factors as a composite determine significantly academic achievement. This finding is consistent with Grissmer, Kirby, Berends–Gunn and Williamson (1994); Duncan, Klebanov and Brooks–Gunn (1994); Haveman and Wolf (1995); Dearing, McCartney and Taylor (2001); Pong, Dronken and Hampsden-Thomson (2003); Olaniyan (2006); Torubeli (2007); Davis-Kean (2009) and Omoregbe and Olanike (2009), that parent’s educational level is a factor positively related to children’s academic

achievement. Moreover, it is an important predictor of children's academic outcome. Thus, a total of 40.8% of fathers sampled had post secondary education among the students in public secondary school and 66.3% in private secondary school. On the other hand, 43.5% of mothers, the highest, have secondary education among students in public schools and 45.9% of mothers; the highest; have post-secondary education among children in private schools. According to type of school, 50.5% of fathers of students in mixed school have post-secondary education and 50.0 % of fathers of children in single sex schools had secondary education. With respect to mothers in mixed school, 42.1 % and 32.5% have secondary education and post-secondary education respectively, while in single sex schools 54.7% and 27.9% had secondary education and post-secondary education respectively. The result indicates that parent's education is a potential factor to predict student's achievement.

On account of parent's occupation, since the occupation status may determine the success or failure of school children, this result supports Becker (1981); Chemichovsky (1985); Hazlewood, Knight and Sabot (1989); Ojoawo (1990); and Kabeer (1991); Becker and Tommes (1993); Patrinos and Psacharopolous (1995); Parcel and Menaghan (1995) Mayer (1997); Ichado (1998); suggesting the importance of family economic resources in children well-being. Parent's occupation is important because they can provide economic security and thus, plausibly reduce negative effect of unanticipated income losses on children. Second, parent's occupation essentially may help improve the attitude, behaviours and enhance future orientation which helps households make specific plan. This attitudinal change may lead to other positive social, economic and intergeneration

outcome. Hence, Scanlon (2001); Shobe and Page-Adams (2001) highlight the independent and mediating roles of parental occupation and suggest that parental occupation might first shape hopes and plans which in turn may result in child's educational outcomes. While on account of school ownership, fathers with 27.5%, the highest, are self-employed among students in public school while 37%, the highest, of fathers that are professionals have their children in private schools, and on its heels is the wage employment cadre. For mothers' occupation, 50% of students, the highest, in public school have mothers that are self-employed while 44% of mother of students in private school are self-employed. Some 25.9% and 15.1% of mothers who are professionals have children in private and public school respectively. This shows that on account of ownership of school, 84.4% of parents of students in public school are self-employed while 52.9% of parents of students in private schools are professionals. This is similar to the account of type of school, location of school and gender of students with X^2 of 79.44 for fathers and 61.46 for mother occupation with significance on private and public schools. By and large, parental occupation constitutes a strong factor for students' academic achievement.

According to parental involvement, it is evidently clear that library/ study room available at home, problem of paying school fees and other expenses, volume of books at home; supervision of homework, hours to teach and assist a child with assignment constitute the nucleus of parental involvement. This finding is in line with Davis-Kean (2009) who opines that what is really valuable for children is being engaged in activities that are supervised by adults in the household; when children are unsupervised, a rise in

wasted time results, and all has negative relationship and predictive ability on students' achievement. Further, this findings supports Dumas and Lambert (2005); Engin- Demir (2009) and Al-Samarrai & Peasgood (2009) that if parents are academically more able than their children, they may also be more able to help them in their study and to support them in their schooling. To Zhan (2005); Becker (1993) and Hill and Neil (1994), parental involvement in children's academic achievement may signal the route through which a parent's skill and motivation are transferred to children cognitive ability and other developments. However, to Barnard (2004); Fan and Chen (2001) parental involvement in the home was not the route through which academic achievement can be improved.

On the issue of household income, the result shows that size of income is a continuous variable, although there exist inverse relationship between the number of siblings in the household and academic achievement this finding supports that of Downey (1995 and 2001) who posits that parents have finite levels of resources (time, energy, money etc) and that the availability of parental resources decreases as the number of household size increases. The difference may be attributed to too much low income preference for public schools and high income earner preferences for private schools children to improve their performance.

For household size, the result shows that as a component of combined factors, according to mean values and standard deviation of ownership of school indicate for public schools 7.53 and 3.08 and for private school 6.73 and 3.03 with total of 7.24 and 3.08 respectively with T-value of 4.61 and P-value of 0.00 and on account of location; rural schools have 6.54 and 2.53 and urban 7.34 and 3.14 and total of 7.24 and 3.08 respectively

for mean and standard deviation. According to gender of student, size of household is also significant. It is consistent with Dumas and Lambert (2005) who posits that the size of household may also reflect achievement in a framework where parents trade off quality for high number of children. It also supports Downey (1995) that one prediction has been consistent, as the number of siblings increases academic achievement decreases.

5.2 Parental Education and Academic Achievement

The finding shows 42.2% and 40.8% for father of students in public schools and 28% and 66.3% in private schools with secondary and post-secondary education respectively. Mothers of students in public school account for 43.5% and 24.7% and 41.8% and 45.9% in private school with secondary and post-secondary education respectively. Mothers of students in rural schools with 44.1% and 37.3% and 42.7% and 31.5% for mothers of student in urban school had secondary and post-secondary education respectively. Specifically, it is shown that those whose fathers have secondary education as maximum are likely to score 1.70% and 2.52% lower in Mathematics and English Language respectively than those whose fathers have tertiary education. Also, students with mothers that have primary education will score 2.48% and 1.05% lower than those whose mothers have tertiary qualification. According to ownership of school mothers' education rather than fathers counts in both public and private schools. This also reflects in mixed and single sex schools and location of school (rural and urban), nowadays, fathers' education is not positively strong to impact more on children's academic achievement. Finding shows that children's academic achievement is not negatively impacted by a parent's lack of fluency in English language. This findings corroborates Fan and Chen

(2001); Zhan (2005); Reynolds and Gill (1994); Heyneman and Loxley (2002); Chevalier and Lanot (2002); Parcel and Dufur (2001) that among socio-economic status indicators, parent's education level has been found to be significant source of disparities in student achievement. The finding was supported by that of Jaffe (1985); Rain (1998) and Simon (2004) that parental education has the highest effects on student's academic achievement most. This observation provides the evidence that students of educated parents might perform better than students of non-educated parents in both subjects, the results also lends credence to the results of Onocha (1985); Musgrave (2000) and Grissmer (2003). To Fuchs and Wobmann (2004) the effects of parent's education on reading achievement of students are high in Mathematics and Sciences achievement. It indicates that students whose mother had completed upper secondary education achieved higher level of performance in English Language. Although students with parents with higher level of education ought to have greater access to wider variety of economic and social resources that can be drawn upon to help them succeed in school and in life. This also supports the viewpoint of Srinivasen (1989); Lansdown (1990); Ipaye (1974); Odubunmi (1983); Gordon (1985); Nwosu and Maduemesi (1980); Obieh (2003); Obong (2004); Ganzach (2004); Duncan and Brooks-Gun (1997), Umoinyang (1999); Wu and Xiaogang (2004); who concluded that parental education is indeed an important and significant predictor of student's academic achievement while Wending and Cohen (1981) and Dornbusch et al (1987) contend that what matters most is mothers' education and ability level. Mothers' education level is a strong primary predictor of child well-being and academic achievement.

5.3 Parental Occupation and Academic Achievement

The finding shows that parental occupation can in relative term significantly predict English Language achievement, most importantly parents with professional occupation. For instance, students with parent in the category of wage employment are likely to score 1.62% higher than their counterparts in Mathematics and also score 1.55% higher in English Language with self-employed mothers. Similarly, students with fathers with professional employment with p-value 0.04 may likely score 2.77% more than their counterparts whose father engaged as self-employed. According to ownership of school, parents' occupation does not count for Mathematics and English Language. Premised on type of school, fathers occupation is not significant for students in mixed and single sex school for Mathematics scores and English Language scores, while it is significant for mixed school in English language most especially father with professional occupation; for mothers, none of the occupation status is significant which indicates that mother's occupation for some students is not significant for academic achievement. On account of location, mothers' occupation is not significant in rural and urban areas but father's occupation is significant in professional occupation.

Based on gender of students, mothers' occupation is significant for male and female in Mathematics and English language while fathers' occupation is significant for male in Mathematics alone. This finding is consistent with Dumas and Lambert (2005) that having a father who is self-employed as a petty farmer is detrimental to academic achievement that the most favourable situation is to have a father who is a professional or civil servant. In between the situation is having a father who is a wage worker which is

better than having a self-employed father. This view point supports Jaffe (1985); Rain (1998); Simon (2004) and Engin-Demir (2009) that father and mother occupation are the major variables affecting educational participation and achievement.

5.4 Parental Income and Academic Achievement

The results show that the size of monthly income is significant, for students in school ownership structure and not significant for students in type of school whereas it is significant for students in location of school under joint contribution but not significant for students in gender of the student. Premised on ownership of school, and in subject-based, parental income is significant for student in private school Mathematics but not significant in public school Mathematics and English Language. Based on type of school parental income is only significant in English Language in mixed school while it is not significant when school location is considered in relative term in rural and urban areas. It is equally significant for female students in English language but not significant for male students in both subjects and in Mathematics for female students. This is consistent with Zhan (2005). Axinn, Duncan and Thornton (1997) Duncan-Brooks, Yeung and Smith (1998) Hanushek (1992) McLalahan and Sandefur, (1994) that high family income is associated with high students' achievement.

However, whether the income effect is causal or merely reflects the prediction of academic achievement and some observable characteristics of parents such as parental education, occupational status and parent-child interaction remains unclear in a number of studies (Chevalier and Lanot, 2002; Mayer, 1997)

5.5 Household Size and Academic Achievement

The results reveals that household size is significant for students based on school ownership structure, location of school and gender of students; but not significant in type of school. On the basis of subjects, household size is significant based on ownership of school and subjects (for public and private Mathematics and English Language scores). Based on school type it is not significant in mixed and single schools in Mathematics and English scores. Premised on location of school, it is not significant in rural and urban areas as well as in both subjects. Based on gender of students in both subjects the factor is not also significant. The finding is consistent with Blake (1989); Coleman (1991); Hanushek (1992); Parcel and Menaghan (1994); Patrinos and Psacharopolous (1995); Downey (1995) and Al-Samarrai and Peasgood (2009), that increased numbers of children in the family leads to less favorable child outcome. When the number of children increases, parents can offer fewer resources per child. Under such condition, all forms of household capital – financial, human, social are more thinly spread over the children. Again empirical evidence supports these claim that children from larger families were found to have less favourable home.

5.6 Parental Involvement and Academic Achievement

The finding shows that on the basis of school location, ownership of school, type of school and gender of student, parental involvement is significant. There is a strong and positive relationship between parental involvement and academic achievement of secondary school students; on payment of school and other fees, when parents help to supervise, monitor and assist a child with homework, when quality time are spent with a

child in academic work, volume of books at home, availability of library/study room and when both parents team up together to commit themselves to their ward's academic achievement. This is the same for both subjects. This finding is consistent with that of Zhan (2005) Bal and Goc (1999), Kim (2002) Hara and Bunke (1998) Scott –Jones (1995) Kim and Rohner (2002) Catsambis (2002) Omoregbe and Olanike (2009); Knopf and Swick (2007); Greenwood and Hickman (1991); Epstein (1987); McNeal (1999); Muller and Kerbow (1993); McLanahan and Sandefur (1994); and Torubeli (2007) that the value of having strong parental involvement in children education programme helps academic achievement. The challenge in many cases is how to achieve and sustain high quality parental involvement. Too often, meaningful parent's involvement is lacking in all aspects of a child's educational programme (Olso and Fuller, 2003).

Piper (1996) reveals that at no time in history, have households experienced more challenges, change and more stress than today. This is corroborated by Coontz (1997) that household throughout time have experienced change and are been challenged by economic stress prevalent in the context of their era. Some of these changes include: diverse family structure and style, household spend less time together, the poor need more schooling than ever in history, they are more likely to be single and have shifted value base. In households where both parents live in the same home, it is likely that both work out of the home (Aiken, 2002; Coontz, 1997). The changes in society have created conflicting situations for parents and households on how to respond to the heavy work and economic stress while maintaining a balance of time with children at home.

Nevertheless, parental involvement is crucial to educational success of children at any level of education. Parents affect children's academic achievement in direct and intrinsic ways. Children whose parents help them with assignments and check homework's tend to have higher grade point averages and are more enthusiastic about school in general as they are motivated by their parents' attitude, interest and commitment to their education. A higher level of parental involvement also correlates with an increase in a student's self confidence and a willingness to try harder and achieve more. According to Afolayan (2001), the impact that parents can have on their child's learning and achievement transcends income level and social status but the extent of creation of a home that encourages learning. Parental involvement in the learning activities of their children at home-that is parental home involvement (Parental Home Involvement: which are school-related activities, actions, and behaviors that parents perform at home impact on the academic success of the children. It includes activities such as helping children with their homework, discussion with the children about their school progress; provision of words of encouragement, etc. has been identified as one of the most productive ways of promoting and enhancing the academic achievement of children. More recent research about parental involvement suggests that parent/household involvement at home has a more significant effect on children than parental/family involvement in school activities (Christenson and Sheridan, 2001; Izzo, et al., 1999; Trusty, 1999). Hence, parental involvement is very necessary for students' high achievement.

CHAPTER SIX
SUMMARY, CONCLUSION AND RECOMMENDATION

6.1 Summary

The study analysed the prediction of household factors (parental education, parental occupation, parental income, household size and parental involvement) among secondary school students' academic achievement in Oyo and Ogun states in south-west, Nigeria. The reasons for the study were to ascertain if household factors' predictive ability would reveal the low academic achievement in south-west, Nigeria.

Thus, the study investigated the contribution and relationship of household factors to academic achievement of secondary school students in Oyo and Ogun states. The primary interest of the study is to examine the extent to which household factors could determine academic achievement of secondary school pupils. Thus, the strong conviction is the predictive strength of household factors to improve academic achievement in secondary schools which is on the downward trend.

The study adopted education production theory, a theoretical framework of implicit and explicit outlook in this work. The descriptive survey research design of the ex-post facto type was utilized for the study. A sample of 60 schools (38 public and 24 private secondary schools) was selected and used. Multistage and stratified sampling procedure was adopted to select the sampled schools. The stages adopted sampling of senatorial area, and local government areas (LGAs) in the two states in southwest Nigeria and thereafter the sampling of 1800 students and 1800 parents simultaneously in the selected schools;

1366 (seventy- five per cent) of the sample instruments were retrieved. Two questionnaires, two achievement tests and a designed format to generate two-year academic performance were structured and administered to generate relevant data from selected schools. Data on school and achievement in WASSCE and NECO were sought and obtained from Ministry of Education (Oyo and Ogun states), Federal Ministry of Education, Headquarters, Abuja; examination bodies such as WAEC and NECO office to complement the available data.

The data generated were coded and analysed using statistical package for social sciences (SPSS). The descriptive statistics (frequency, counts and percentages) inferential statistics of chi-square, multiple regression, t-tests, mean and standard deviation were used; four research questions and six hypotheses were formulated and analysed in the study. Research questions 1 to 4 were answered through descriptive and chi-square while regression was used to analysed hypothesis 1 to 6. It was used to examine the relationship and significance of the independent variables based on school ownership, school location, school type and gender of the students which vary according to Mathematics and English Language scores.

The major empirical findings of the study reveals that household factors had significant effect on students' achievement and can jointly predict Mathematics and English Language achievements. However, the result shows that parents' education (particularly mothers' education) parents' occupation especially fathers with professionals and wage employment and mothers in artisan work, parents' income and parental involvement had a strong positive relationship on students' achievement.

The result shows that $F(27,1338)$ value of 5.57, P-value of 0.00 and R^2 of 0.090 ($P < 0.01$) for Mathematics scores and F-value 6.87 P-value of 0.00 and R^2 of 0.11 for English Language was obtained on joint predictive ability. The finding also shows that the explanatory variables of mothers' education, mothers' occupation, availability of library at home, substantial volume of books at home and after school activities have significant predictive power on students' scores in Mathematics. The result also reveals that parents' income, fathers' education, mothers' education, fathers' and mothers' occupation, library at home, school fees problem, private lessons, volume of books at home, both parents availability and activities after school can significantly and independently predict students' achievement in English language. For instance, when there is library or rooms for study at home, students are likely to score 3.55% higher, students with few books at home are likely to score 2.5% lower than those with substantial volume of books at home and those whose fathers have secondary education as highest level of education attained are likely to score 2.52% lower than those whose fathers have tertiary education. On the issue of activities after school, students who work to pay for their education are likely to score 5% lower than those who read after school hours while those who help in markets, shops or farms are likely to score 10% lower than those who read after school hours. Also, students who always have school fees and other expenses problem are likely to score 2.13% lower than those who never have such problems.

To this end;

- Household and family challenges (economic and social), lack of after school study time routines and children's not having their regular, comfortable, quiet places to

read and/or study and think are likely to adversely affect in terms of negative that will detract achievement.

- Television and video game, use of handsets in school appears to be detrimental and negates positive mental development of pupils especially for students in secondary school whose parents barely show interest in their academics.
- Children's academic achievement is not negatively impacted by a parents' lack of fluency in English language.
- Single parent (father or mother) tends to reduce participation and involvement in children's academic activities and contact with their teachers.
- In-home parent-child discussions, valuing of children's opinions, conversation, interaction and parent's own enthusiasm for, and attitudes towards academic concerns and learning would enhance child's performance and achievement.

6.2 Conclusion

These regressions clearly reflect substandard intra-household factors difference between the way in which households characteristics predict achievement for male and female students based on school ownership, school location, school type and gender of students. The regression analysis reflects parental education, occupation, income, involvement and household size in student Mathematics and English Language achievement. This regression gives weight to the notion that mothers' education has more predictive strength on male child's achievement, whereas fathers' education has more predictive ability on both male and female. On the whole, both parents increase the probability of improving achievement with p-value of 0.01 in urban than in rural area. In

addition children who live in homes with two parents will score higher on tests and have better reading skill. The salient roles of parental involvement in determining a child's education outcomes and the positive roles of parents' education suggest that investment in a child's academic exercise would have benefits in the school, at home and in terms of future career. In the same vein, the analysis implies that educated parents are able to ensure their children receive relatively higher grade although the means through which this is achieved are uncertain. By and large, the results of this study evidently establish the fact that observable and unobservable household factors have significant contribution, relationship and prediction power on academic achievement of students in secondary school in Nigeria. The essence of the variables as predictors of student's achievement is suggestive to the stakeholders and educational policymakers and planners to pay more attention to address low parental involvement in secondary school with respect to students' academic achievement. Because of the positive influence of parental involvement, educational reforms could include major efforts to improve such involvement. To increase parental participation and practices, schools could include parents as part of the educational team by improving communication and creating an atmosphere that welcomes parents in the school. It is expected that students' academic achievement in secondary schools will experience a huge positive turnaround in all examinations conducted by WAEC, NECO and NABTEB.

Lastly, the interpretation of the findings of this study should be done with precaution due to the fact that the sample of the study was drawn from only one out of the six regions in the country which makes it a bit difficult to generalize the findings across the

country. However, since the Nigerian educational system is decentralized which allows students to enroll in any school of their choice in any region, it could therefore be assumed that the sample was a diverse one. The above clearly shows that parental involvement at home could be a missing link to secondary school academic success.

6.3 Recommendations.

The findings of this study have implications for policy and implementation of plans. In this regards, the following recommendations are made;

- Parents should make adequate provision for educational needs and spend more time with their children on academic matters so as to enhance the academic achievement of secondary school students.
- Policymakers and stakeholders should also pay more attention on strategies that will help to improve the involvement of parents in the education of their children.
- Educational authorities in the country should provide parents with the necessary information required to support student academic trajectories. When parents are provided with the information needed to promote their children's educational progress and learning opportunities at home, their children stand a greater chance of succeeding with their academics.
- Parents should frequently communicate with teachers of their children through weekly notes, e-mail and telephone and attend their open-day or parent-teachers programmes. They can also visit their children classroom and observe their children at work.

- Teachers should provide parents with information regarding the strengths and weaknesses of the students and measures to be taken to overcome the weaknesses and solidify the strengths.
- There is need for adequate knowledge about the predictive ability of household factors on academic achievement of secondary education. This can aid government policy decisions and encourage stringent measures on improving students' academic achievement.
- The school authorities can also institute a program that will bring parents together to exchange ideas about how to enhance their children's academic success by being proactive at home.
- Although most parents do not know how to help their children in their academic pursuits through guidance and support, they may become increasingly involved in home learning activities and supervision; so as to guide them. Better still parental supplementation of children's education with enrichment activities such as library will help to enhance their academic pursuits.
- It would be a step in the right direction if parents are challenged to be out and about in the education of their children at home.
- Parents should be adequately involved by making books available, guide television watching and check the indiscriminate use of mobile phones (because of the dangers inherent in them), and provide stimulating experiences to enhance academic achievement.

- Parental aspirations (expectations) for children's academic achievement and parents' enthusiasm for, and attitudes towards education and learning must be emphasised to stimulate reading culture.
- Parents and adults at home should supervise, monitor and control out-of school activities of a child regularly.
- Parents can be – and should be – valued partners. After all they are the children's first teachers, and the primary determinants of the household within which the children are raised, particularly during teenage years
- Household should consolidate their position and maximise every opportunity to be proactive to improve students' achievement.
- Parents must as a matter of urgency work to remove barriers to academic potential of their children and seek all that it takes as a matter of encouragement to achieve better results.
- Parents need to know their role in the education of their children so that they do not put the blame entirely on teachers when their children do not perform well in school.
- Many parents may not be aware of the influence of various household factors on the academic achievement of their children. It is recommended that, teachers, educationists and administrators should try to create awareness in parents on the importance of the household factors on academic achievement which can improve the children's performance.

- Parents need to be informed that they can contribute to the education of their children through interest in academic activities, encouragement, provision of learning facilities, and active assistance\monitoring among other strategies.
- Parental involvement components are required in the federal basic education act (FBEA) and various federal and state education reforms should introduce interactive sessions with parents regularly.
- Parents should believe in their own power and in the effect they have on their children's development and academic progress. Rather than giving up or blaming others for their failures, they should take back control and make a difference.
- Parents should assist the school in treating discipline problems without delay in the school and emphasis should be placed on home discipline. The inadequacies of discipline in the home are becoming detrimental to academic achievement; a lot of children nowadays are let loose because a number of parents have reneged on their responsibility.
- Programme planners and policymakers need to recognise; value and respect what household have to offer. As they do that, they must also acknowledge that parent's involvement is not a constant construct. It varies depending on such factors as the nature of the parents, the opportunities and experiences they have had.

6.4 Contributions to knowledge

The downward trend in students' academic achievement and the dwindling household factors support has the tendency to cripple economic and national development. It is the desire of stakeholders that educational standard serve as the bedrock of every

nation, student's poor reading habit\culture and resulting low academic achievement has put to question household values and culture. The issue of mass failure of secondary school students is important and the causative issues can be traced to fundamental foundational problems. In proffering sustainable solutions, the root of the problem has to be the first to be tackled. Household factors and diligence on the part of the students are inseparable entities. Hence, the need for further research effort to ascertain the relationship of the factors to secondary school students based on school type, ownership of school, school location and gender of students. Thus, this study has contributed to knowledge by raising the consciousness of the stakeholders on the focus they should pay attention; and the sensitivities of the household factors of non-school related dimension to the output of secondary school.

- The study has been able to establish that the most important household factor is meaningful parental involvement which is crucial to the academic success of children.
- It revealed that mothers' educational status and involvement has more predictive abilities of students' academic achievement at any level of education.
- The research noted that changes and challenges have affected household significantly and indeed, often affected their relations and commitment to their children in secondary school.

- The changes in society have created conflicting situations for parents on how to respond to the heavy work and economic stress while maintaining a balance of time (attention) with children at home
- The study designed a model for predicting the contribution of parents' education, occupation, income, involvement and household size to academic achievement.
- The research noted that as the size of household increased, parental supervision, monitoring and attention decreases.
- The extent to which household can assist their children academically depends to some extent on the resources that can be access. The more resources parents have available to them, the greater their potential to involve in academic activities of the child.

6.5 Limitation of the study

A number of constraints were encountered by the researcher in the course of the research which could help further research in the states and in the area of household factors.

At the initial stage, incessant strikes in the selected states hampered the fieldwork and lengthened the study period. Most of the schools were under lock and key because of trade dispute in the states at different intervals.

Second, a number of parents as expected refused to neither respond nor return the questionnaire, some were returned blank.

Third, a number of the states in southwest made the target population inaccessible and hence, it was difficult to utilise all the states initially selected in southwestern Nigeria. Some states refused access to valuable data while due to political differences, another state hoarded data for political reasons, in some cases, series of trips were made to obtain relevant document. In addition, since some state governments are conservative, the officials were reluctant to allow access to data and grant approval to administer tests and collect data of relevance. The sample therefore, had to be confined to two states used.

6.6 Suggestions for further study

This study dwells on issues of non-school related dimension of household factors predicting secondary school academic achievement in south-west, Nigeria. Premised on this, the followings were suggested:

- A replication of this study with an enlarged scope in all regions in Nigeria. Due to regional differences, since sampling is so difficult and there are regional differences which are also strong, the replication of researches is desirable especially in regions widely different geographically, economically and culturally.
- Further, comprehensive studies should be conducted to establish the interplay of school and non-school factors on academic achievement.
- Similar studies should be carried out to establish the limit to which household factors becomes a catalyst to academic achievement.
- The prediction of parental education and involvement could be carried out among students in higher institutions, most especially with first year and second year students with their parents as respondents.

- As revealed by the study the contribution of composite factors was suggesting that there are major contributors of the identified factors that should be thoroughly investigated and its prediction on students' achievement in the other geo-political Zones in Nigeria.

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APPENDIX 1

**DEPARTMENT OF EDUCATIONAL MANAGEMENT
UNIVERSITY OF IBADAN, IBADAN.**

**HOUSEHOLD FACTORS AND ACADEMIC ACHIEVEMENT OF SECONDARY SCHOOL
STUDENT QUESTIONNAIRE (HHFAASSSQ)**

(Parent Only) Confidential Parental code () Student code ()

Dear Respondent,

This questionnaire is designed to obtain information for the purpose of executing an academic research project titled above. You are requested to kindly fill or tick appropriate response(s). All responses shall be treated with absolute confidentiality. Kindly be truthful as possible. Thank you for your cooperation.

Instruction – Please tick (☐) any one that is applicable to you and supply other information where necessary.

(A) BACKGROUND INFORMATION

- 1. Gender: Male () Female ()
- 2. Age (years):
- 3. Marital Status: Single () Married () Separated () Divorced () Widowed ()
- 4. Household size

Age	Male (Number)	Female (Number)	Total
0-5			
6-17			
18-20			
Above 60			

- 5. Local government area:.....
- 6. Religion: i) Christianity () ii) Islam () iii) Traditional () iv) No religion () v) others specify ...
- 7. What is the highest level of the child’s Parental/Guardian’s Education: (Highest qualification)

	Father	Mother
a. No formal education ()	()	()
b. Primary education ()	()	()
c. Secondary education ()	()	()
d. Post secondary education ()	()	()

- 8. Number of years of education Mother..... Father.....
- 9. What best describes Father’s/guardian’s occupation
 - i) In manual wage employment (e.g. laborer, carpenter, driver, cleaner, gardener, etc) ()
 - ii) In non-manual wage employment (e.g. clerk, typist, waiter, Auxiliary Nurse, etc) ()
 - iii) In wage employment as manager, administrator, civil servant, librarian, etc ()
 - iv) Professional (e.g. Doctor, teacher, lawyer, banker, technologist etc) ()
 - v) Artisans (welder, vulcanizer, panel beater, painter, printer, electrician, mechanics etc) ()
 - vi) Self employed as Trader, farmer, food seller, butcher etc ()

- vii) Other specify (clergy etc)
10. What best described mother's/guardian's occupation
- i) in manual wage employment (e.g. semi-skilled and unskilled as labourer, cleaner, gardener, porter, cook, etc) ()
 - ii) in non-manual wage employment (e.g. clerk, typist, waiter, auxiliary nurse etc) ()
 - iii) in wage employment as manager/administrator, civil servant, librarian, senior civil servant etc ()
 - iv) professional (e.g. doctor, nurse, officer in the armed forces, police, teacher, lawyer, banker, technologist, engineers, accountant, lecturer etc ()
 - v) artisans (printer, knitting, tailor, carpenter, goldsmith, blacksmith, mechanic, radionic etc ()
 - vi) self employed as trader, farmer, food seller, shop-owner, petty-traders, cloth-seller, small scale trader etc
 - vii) Other specify (clergy, housewife, etc)
11. On the average what is your total household income per month:
- a. Income from work.....N
 - b. Gift and transfer.....N
 - c. Borrowing.....N
 - d. Rental income.....N
 - e. Others.....N
 - f. TotalN
12. How many earning members are there in your household?
- 1) One () 2) Two () 3) Three () 4) Four and above () None ()
13. How many rooms does your family occupy in your home.....
14. Do you have a library/study room at home Yes () No ()
15. How often do you have problem paying your child's school fees and other fees a) Always () b) often () c) sometimes () d) never ()
16. Which of these language do you speak at home a) English Language b) Hausa () c) Igbo () d) Yoruba () e) Pidgin English () f) others specify ()
17. What is the distance between you house and 1) The nearest government school.....meters/kilometers 2) The nearest private school..... Meters/kilometers
18. What is you expectation of your child?
- i. I want my child to be able to read and write ()
 - ii. I want my child to complete senior secondary school ()

- iii. I want my child to take a diploma or certificate ()
- iv. I want my child to take a degree and higher qualification ()
- v. Others specify.....

19. How satisfied are you with the following aspects of your child's school?

	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	Don't know
1 Teacher ability	()	()	()	()	()
2 Teachers attendance	()	()	()	()	()
3 School discipline	()	()	()	()	()
4 Amount of homework given	()	()	()	()	()
5 Condition of buildings	()	()	()	()	()
6 School facilities (library, laboratory etc.)	()	()	()	()	()
7 Extra curricular activities	()	()	()	()	()
8 Class size	()	()	()	()	()
9 Level of English and mathematics	()	()	()	()	()

20. How important is it to you for child to learn English and Maths? 1) very important () 2) Quite important

() 3) Quite unimportant () 4) Not important at all ()

21. How important do you think English and Maths is for your child's future career i) very important ()

ii) Quite important () iii) Quite unimportant () iv) very unimportant ()

22. Does your child take private lessons you have to pay for after school? Yes () No ()

23. If the child has private lessons after school how much do they cost per month?.....N

24. If the child has private lessons after school, why?

a My child is bright and needs extra work as a challenge ()

b My child is not as bright as some students and needs extra help ()

c My child does not get the education he needs from his/her school hence she needs extra lessons()

d We are unable to help our child as much as she needs ()

25. What type of school would you prefer to send your child to? i) Government () ii) Private ()

26. If fees in all schools were the same, where would you want to send your child? i) Government school () ii) Private school ()

27. On the average what is your total household monthly expenditure level:

a. Expenditure on food.....N

b. Expenditure on child education (fees, books, school uniform)...N

c. Expenditure on health.....N

- d. Maintenance of vehicle (transport costs).....N
- e. Others (clothing, GSM recharge card, house rent, water bill, electricity, little, charity kerosene charcoal, firewood. Remittal (money sent to household members or others not living in the household, other levies, night guards, households.N f.
- Total.....N
28. Approximately, how many books do you think you have in your home? i) Textbooks.....
ii) other books.....
29. How many hours per week do you use to teach your child per week.....?
30. On the average how many hours do you use to assist the child with assignment/homework every week.....
31. Does your home have a toilet? Yes () No ()
32. If yes, where is it located? (i) within the house () Outside the house but within the compound () (iii) Outside the compound () (iv) None ()
33. How do you dispose your refuse.....?
- Do you have a special room as kitchen? Yes () No ()
34. If yes, where is it located? (i) within the house () Outside the house but within the compound () (iii) Outside the compound () (iv) None ()

Thank you for completing this questionnaire. Please send it back to school tomorrow through your child to be handed over to the school teacher. You can put it in an envelope to maintain anonymity.



APPENDIX 2
DEPARTMENT OF EDUCATIONAL MANAGEMENT,
UNIVERSITY OF IBADAN. IBADAN.

**SECONDARY SCHOOL STUDENT HOUSEHOLD FACTORS AND ACADEMIC ACHIEVEMENT
QUESTIONNAIRE (SSSHFAAQ)**

Student Only Confidential Student Code..... School Code.....

This questionnaire is basically designed for Academic purpose only to gather information on the household factors status of your background as it relates to your secondary school academic achievement, kindly respond correctly to all the questions contained in the questionnaire. Fill the appropriate columns with utmost accuracy and genuine response to each of the items by ticking () the relevant box that corresponds to your response.

Note that the information you provide will be treated with confidentiality. Therefore kindly be as truthful as possible. Thank you

SECTION A -----BACKGROUND INFORMATION

- 1a. Name of Student:..... 1b Name of School.....
- 2a. Location of school..... 2b) Type of school i) public () iii) private ()
3. How old are you?:.....
4. Gender; Male () Female ()
5. Class.....
6. What is your Class Size?
7. Are you a Day student? Yes () No () Boarder? Yes () No ()
- 8a. Do you live with your parents? Yes () No () 8b If No, who do you live with?
9. How far from your home is your school? a) Less than 5 kilometer b) 5-10 kilometer c) 11-20 kilometer d) above 20 kilometer
10. How do you get there? a) by walking () b) parents car () c) public transport () d) motorbike () e) school bus f) other specify
11. How many minutes does it take you to reach your school from home each day?
12. How often do you take breakfast before going to school? i) Always ii) Occasionally iii) Rarely iv) Never
13. Do you work to earn money during holidays or during your free time? Yes () No ()
14. If you do work, does your work interfere with your schooling? Yes () No ()
15. How many hours per week do you work and how much do you get paid per week for this work? Numbers of hours
16. Which of this language do you speak at home a) English () b) Yoruba () c) Igbo () d) Hausa () e) Pidgin English () f) others specify
17. How many rooms does your family occupy in your home?

18. What type of building is your home i) brick building ii) Face to Face building () iii) wooden building () iv) mud building () v) container building () vi) other pleas specify
19. Do you have weekly () or monthly () tests at school? Yes () No ()
20. Do you take private lessons that your parent has to pay for Yes () No ()
- 21a. Does your parent help you with your homework?
- i) Yes, mum or Dad always helps me with my home work ()
- ii) Yes, Mum or Dad sometimes helps me with my homework ()
- iii) No, they don't help with homework ()
- iv) No, they don't help as I don't get any homework ()
- 21b. Do you normally have anybody assist you with studies or homework (a) home?
- 22 How many hours a day do you spend in school
- 23a How will you rate your English Teachers ability in their subject that they teach you
- i) Excellent () ii) Good () iii) Poor () iv) very poor ().
- 23b. How will you rate your Maths () Teachers ability in their subject that they teach you
- i) Excellent () ii) Good () iii) Poor () iv) very poor ()
- 24a. How will you describe your English Teacher's punctuality for lessons (starts lesson on time) i) always punctual () ii) mostly punctual () iii) almost always late () iv) i always late ().
- 24b. How will you describe your Maths Teacher's punctuality for lessons (starts lesson on time) i) always punctual () ii) mostly punctual () iii) almost always late () iv) always late
25. How would you describe the discipline at your school i) strict but fair () ii) strict and unfair () iii) lenient but fair (not strict) () iv) too lenient i.e student are out of control.
- 26a. How will you rate the standard of your Maths lesson i) Excellent () ii) Good () iii) poor () iv) very poor ()
- 26b. How will you rate the standard of your English lessons i) Excellent () ii) Good () iii) poor () iv) very poor ()
- How will you describe your home facilities (toilets, library, drinking water, light system etc.)? i) excellent) ii) good () iii) poor () iv) very poor ()

SECTION B - ATTENDANCE AND ATTITUDE TOWARDS SCHOOLING

28. Are you attending school? Regularly () Not regularly ()
- 29 If not regularly what do you do during the period? Hawking/selling commodities () apprentice in another trade ()
- 30 What others issues hinders you from attending school regularly? a) Lack of money () b) Non-availability of school materials (Textbook) () c) Inability to cope academically () d) none ()
31. The building does not have adequate facilities such as a) Toilet () b) bathroom () c) reading space ()d) all of a-c ()
32. I have a separate room to study with table & chair, with number of books such as textbooks,



- journals, magazines, and newspaper. Yes () No ()
- 33a. we have these amount of books at home (a) None () b) 1-10 () c) 10-40 () d) 40 -80 () e) 80-120 ()
- 33b. My textbooks are always complete every term? a) Always b) sometimes c) never
34. My parent provides me with many type of home educational resources such as (a) good home library () (b) table and chair () (c) light for reading () (d) coaching lessons () (e) Private arrangement or general coaching () f) at least two out of all ()
- 34b. Parents or guardian attend my open day to check progress in my studies a) always b) sometimes c) never
35. I have been sent away from school due to my inability to buy recommended books for mathematics and English language and other materials (a) Very often () (b) Rarely
36. After school hours what exactly do you do? (a) Help at the markets, shop or farm () (b) read and do school assignment () (c) engage in available work to pay for my educational requirements () (d) help in domestic activities () (e) idle & play away the time ()
37. My parents helps with quality time set aside for my work (a) always () (b) Sometimes () (c) Never () (d) not often ()

SECTION C: FOR OFFICE USE ONLY - Results of Students in previous year and present class

CLASS	FIRST TERM		SECOND TERM		THIRD TERM		AVERAGE SCORE
	MATHS	ENGLISHH	MATHS	ENGLISH	MATHS	ENGLISH	
JSS THREE							
SS ONE							
SS TWO							

Thank you for completing this Questionnaire.



APPENDIX 3

ENGLISH LANGUAGE ACHIEVEMENT TEST

SCHOOL: _____

CLASS: _____ STUDENT CODE _____

GENDER: _____

L.G.A.: _____

STATE: _____

OBJECTIVE QUESTIONS SECTION A

From the options given, choose the one that is nearest in meaning to the underlined.

1. She has atoned for her sin
A. deceived us B. shown soberness
C. shown repentance D. begged
2. The spread a lot of rumour
A. ideas B. takes C. fact D. evidence
3. His arrival caused a lot of stir
A. leaving B. going C. coming
D. presence
4. He loved giving out millions as charity
A. showing B. dolling C. donating
D. spending
5. The bride was praised by her mother-in-law for her impeccable behaviour
A. spotless B. appropriate C. beautiful D. faultless
6. Ogene was not the least cowed by the bully's threats
A. intimidated B. worried
C. encouraged D. distracted
7. The Principal warned the final-year students about the consequences of procrastination
A. haste B. delay C. protesting D. rioting
8. The incessant chatter of the pupils irritated the teacher
A. excited B. meaningless
C. unceasing D. illogical
9. With his cogent argument in favour of the proposal he was able to check further opposition A.
insistent B. urgent
C. convincing D. uncompromising
10. The accused vehemently denied the charges against him A. ignorantly
B. stupidly C. deliberately D. strongly

SECTION B

Choose the option that best fills the gap in the sentences

11. The man advised his children not to give _____ to the temptations of the city.
A. off B. up C. in D. out
12. Ebiere turned _____ all the advance made by the men
A. aside B. off C. away D. down
13. Ada is _____ to do that kind of thing
A. too intelligent much B. too much intelligent C. intelligent too much
D. much too intelligent
14. The teachers _____ politics when I entered the staff room
A. are discussing B. were discussing about C. are discussing on
D. were discussing
15. The hunter, with his dogs _____ going into the forest
A. was seen B. are being seen C. have been seen D. were seen
16. "It is high time you _____ crying", the woman told her daughter gently
A. stop B. should stop C. stopped D. must stop
17. We received _____ that the workers would soon go on strike
A. an information B. informations
C. those information D. information

SECTION C

Choose the option that is most nearly opposite in meaning to the word[s] underlined and that will at the same time fill the gap in the sentence.

18. "Hello Musa" is a _____ opening for a friendly letter, but it is inappropriate for a formal letter
A. casual B. serious C. happy D. suitable
19. Parking on this street is _____ on weekdays but permitted at weekends
A. rejected B. sanctioned C. abolished D. prohibited
20. They ended the discussion on amicable terms through they were _____ to each other at the beginning
A. unacceptable B. hostile C. unknown D. annoying
21. Traveling by road is pleasing to little _____ children, while traveling by air _____ to them
A. Frightening B. dangerous C. Curious
D. comfortable
22. Most of the developing countries are not _____ they are consumers of manufactured goods
A. producers B. importers C. exporters D. sellers

SECTION D

*Choose the word that **best completes each of the following** sentences*

23. The kidnappers demanded a _____ of one million naira before the hostage could be released
A. penalty B. condition C. levy D. ransom
24. The contractor was highly praised for the excellent _____ of the project
A. installation B. prosecution
C. execution D. planning
25. The boss has _____ trust in his assistant who has never disappointed him
A. faithful B. absolute C. big D. every
26. Although the disciplinary committee _____ him, many students believed that he committed the offence
A. pardoned B. exonerated C. beat D. punished
27. He did _____ home last year
A. traveled B. travelling C. travel
D. went
28. He gave me _____ useful _____
A. many/advice B. much/advice
C. a lot of/advice D. some/advice
29. If you _____ your money, you will bear the _____ alone
A. lost/lose B. lose/lose
C. lose/loss D. loss/lose
30. She _____ at me for long
A. looked B. glanced
C. spied D. stared

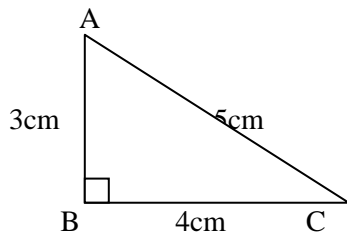
MATHEMATICS ACHIEVEMENT TEST

Answer all questions by shading the correct alphabetic option you have chosen as your answer. You are given five options for each questions A – E, make sure you choose the right one.

1. Simplify $3^3 \times 6^{-3} \times 2^5$
A. 0 B. 1 C. 2 D. 4 E. 12
2. Use table to find the logarithms of 37.4
A. 1.5729 B. 2.5739 C. 2.5729
D. 1.6729 E. 1.5829
3. Write down the value of $10^{2.9517}$
A. 8.947 B. 8947 C. 894.7 D. 89.47
E. 8947000

4. Calculate the value of $\left\{ \frac{27}{125} \right\}^{-\frac{1}{3}} \times \left\{ \frac{4}{9} \right\}^{\frac{1}{2}}$
 A. $12/125$ B. $2/5$ C. $3/5$ D. $9/10$ E. $10/9$
5. Which one of the following is the logarithm of 8.2?
 A. 0.3010 B. 0.9138 C. 8.3010
 D. 8.9138 E. 9.138
6. Express 40cm as a percentage of 8m
 A. 5% B. 8% C. 10% D. 20% E. 32%
7. If $N = \{\text{Odd numbers greater than 11}\}$, which of the following is an element of N
 A. 9 B. 10 C. 11 D. 12 E. 13
8. If $Y = \{8, 4, 7, 1, 2, 1, 6, 5, 1\}$ then $n[Y] =$
 A. 1 B. 5 C. 6 D. 7 E. 20
9. If $P = \{1, 3, 5, 7, 9\}$ and $Q = \{1, 4, 9, 16\}$; the elements of the set $P \cup Q$
 A. $\{1, 3, 4, 5, 7, 9, 16\}$
 B. $\{1, 3, 5, 7, 9, 16\}$ C. $\{1, 9\}$
 D. $\{1, 5, 4, 7, 9, 16\}$ E. $\{1, 3, 9, 16\}$
10. Evaluate $5y^2 - 7y - 8$ where $y = -2$
 A. -8 B. -4 C. 4 D. 8 E. 26
11. If $P = \sqrt{x+y}$ then, in terms of P and y, $x =$
 A. $\sqrt{p-y}$ B. $p^2 - y$ C. $\sqrt{p^2 + y}$
 D. $p^2 - y^2$ E. $[p-y]^2$
12. Express $\frac{4-y}{x^3}$ as a single fraction
 A. $\frac{4-y}{3x}$ B. $\frac{4x-3y}{3x}$ C. $\frac{4-y}{3x}$
 D. $\frac{3-x}{3x}$ E. $\frac{12-xy}{3x}$
13. A rectangle is five times as long as it is wide. Its area is 180cm^2 , then the length of the rectangle is
 A. 6cm B. 12cm C. 15cm D. 30cm E. 75cm
14. Evaluate $149^2 - 139^2$
 A. 32 B. 139 C. 141 D. 280 E. 560
15. What is $n[A]$ if $A = \{x : 2 \leq x \leq 9, x \in \mathbb{Z}\}$?
 A. 2 B. 6 C. 7 D. 8 E. 9

16. How many subsets can be formed from the set $\{0, 2\}$
 A. 2 B. 3 C. 4 D. 5 E. 1
17. List the members of the set $\{y : 1 < y \leq 6, y \in \mathbb{N}\}$ A. $\{2, 3, 5, 6\}$ B. $\{2, 3, 4, 6\}$
 C. $\{2, 3, 4, 5\}$ D. $\{2, 3, 4, 5, 6\}$
18. Factorise $6a^2 + 15a + 9$
 A. $\{2a + 3\} \{3a + 1\}$ B. $3\{2a + 3\} \{a + 1\}$ C. $\{2a + 1\} \{a + 1\}$ D. $3\{a + 3\} \{a + 1\}$ E.
 $3\{a + 3\} \{2a + 1\}$
19. Solve the equation $\{a - 3\} \{a + 5\} = 0$
 A. $-3, -5$ B. $-3, 5$ C. $1, -5$ D. $3, -5$ E. $-1, -5$
20. Find the quadratic equation whose roots is given 3 and 4
 A. $x^2 - 7 + 12 = 0$ B. $x^2 + 7 + 12 = 0$
 C. $x^2 + 7 - 12 = 0$ D. $x^2 - 7 - 12 = 0$
 E. $2x^2 - 7 + 12 = 0$



In the above diagram, ABC is a triangle
 $\angle B = 90^\circ$ $|AB| = 3\text{cm}$, $|BC| = 4\text{cm}$

21. $\tan A =$
 A. $\frac{4}{5}$ B. $\frac{4}{3}$ C. $\frac{3}{5}$ D. $\frac{5}{3}$ E. 1
22. $\sin C =$
 A. $\frac{4}{5}$ B. $\frac{3}{5}$ C. $\frac{5}{4}$ D. $\frac{5}{3}$ E. 1
23. $\cos C =$
 A. $\frac{4}{5}$ B. $\frac{4}{3}$ C. $\frac{3}{5}$ D. $\frac{5}{3}$ E. 1
24. If $x^2 - 10x - 24 = 0$, then $x = 12$ or
 A. -3 B. -2 C. -1 D. 1 E. 2
25. A rope 24m long is divided into three pieces in the ratio 2:1:5. The length of the shortest piece, in M, is
 A. 3 B. 6 C. 8 D. 15 E. 16
26. Increase $\text{N}330$ in the ratio 6:5
 A. ~~N~~180 B. ~~N~~275 C. ~~N~~360 D. ~~N~~390 E. ~~N~~396

27. Pythagora's rule applies only to which of the following triangles?

- A. Equilateral B. Isosceles C. Obtuse-angled D. Right-angled E. Scalene

28. A diagonal of a rectangle is 4cm long and makes an angle of 60° with one side. The length, in cm, of the longest side of the rectangle is

- A. $2\sqrt{2}$ B. $2\sqrt{3}$ C. 4 D. $4\sqrt{2}$ E. $4\sqrt{3}$

29. A parallelogram of sides a cm by b cm. The formula for its perimeter is

- A. $2\{a + b\}$ B. $a + b$ C. $a \times b$ D. $\frac{1}{2}^{ab}$ E. $2a \times 2b$

30. Calculate the length of a sector of a circle of radius 7cm. The angle of the sector being 108° If $\frac{\pi}{7}$ is $\frac{22}{7}$

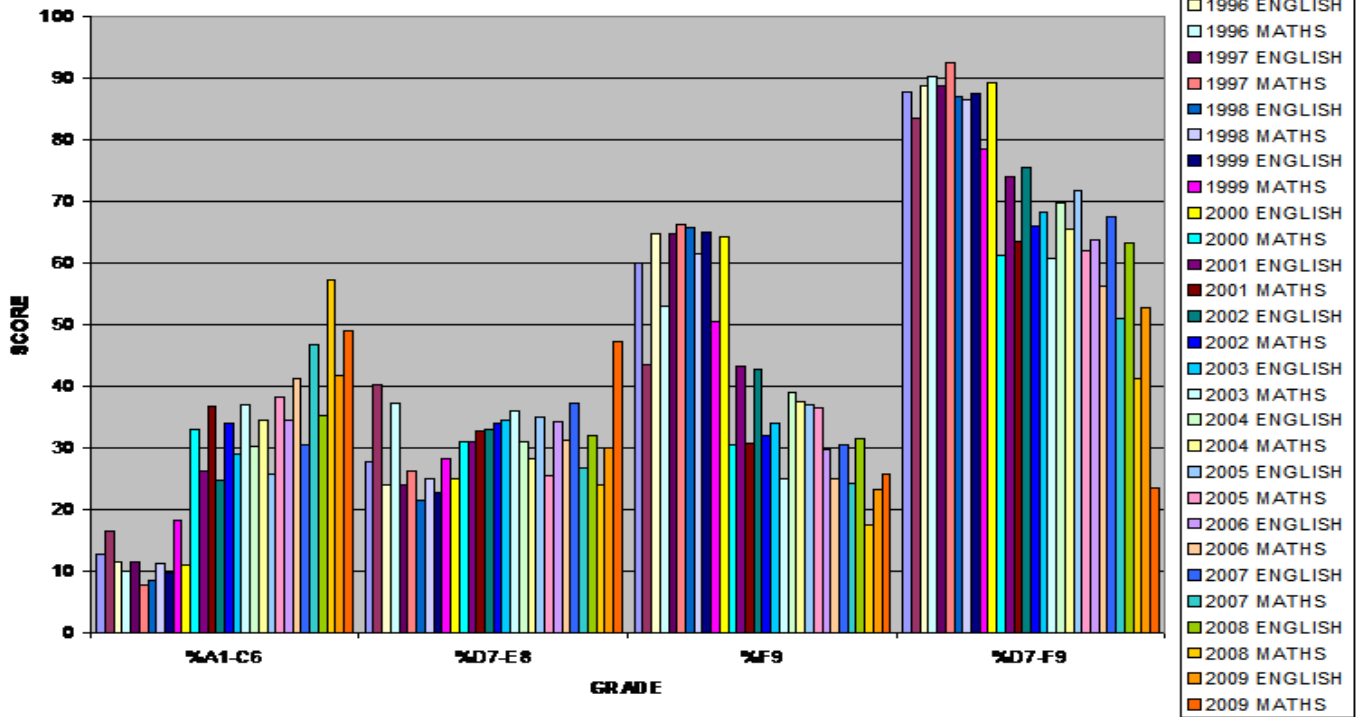
- A. 13.0cm B. 13.5cm C. 13.2cm
D. 13.3cm E. 13.4cm

APPENDIX 4

Table1. WASSCE RESULT (1995-2009 MAY\JUNE) ENGLISH LANGUAGE AND MATHEMATICS

YEAR	SUBJECTS	TOTAL NO.THAT SAT FOR EXAM	%A1-C6	%D7-E8	%F9	%D7-F9
1995	ENG LANG	464270	12.6	27.7	59.9	87.6
	MATHS	462273	16.5	40.2	43.3	83.5
1996	ENG LANG	515196	11.3	24.0	64.6	88.6
	MATHS	514342	10	37.1	52.9	90.1
1997	ENG LANG	618139	11.3	24	64.6	88.6
	MATHS	616923	7.6	26.18	66.16	92.4
1998	ENG LANG	636777	8.48	21.49	65.54	87.03
	MATHS	635686	9.63	25.01	65.36	86.51
1999	ENG LANG	757233	9.71	22.59	64.92	87.51
	MATHS	756680	18.26	28.09	53.66	78.45
2000	ENG LANG	636064	10.82	25	64.18	89.18
	MATHS	538074	32.79	31.09	36.12	61.21
2001	ENG LANG	1025027	26.07	30.9	43.02	73.92
	MATHS	1023102	36.55	32.73	30.71	63.44
2002	ENG LANG	909888	24.57	32.81	42.61	75.42
	MATHS	908235	34.06	32.62	33.32	65.93
2003	ENG LANG	929271	29.03	34.45	33.81	68.26
	MATHS	926212	36.91	35.11	27.98	60.58
2004	ENG LANG	833204	30.27	30.85	38.87	69.72
	MATHS	832689	34.52	28.22	37.26	65.48
2005	ENG LANG	1064587	25.63	34.85	36.93	71.78
	MATHS	1054853	38.2	25.36	36.44	61.80
2006	ENG LANG	1154266	32.48	34.13	29.65	63.78
	MATHS	1149277	41.12	31.09	24.95	56.04
2007	ENG LANG	1252270	30.32	37.23	30.28	67.51
	MATHS	1249028	46.75	26.72	24.24	50.94
2008	ENG LANG	1274166	35.03	31.86	31.4	63.26
	MATHS	1268213	57.28	23.83	17.24	41.07
2009	ENG LANG	1355725	41.55	29.54	23.23	52.77
	MATHS	1348528	47.04	25.56	23.41	48.97

WASSCE RESULT (1995-2009) MAY/JUNE ENGLISH LANG.& MATHEMATICS



WASSCE REPORT 1995-2009

In 2009 WAEC Examination, only 25.99% of the candidates that sat for the examination nationwide had 5 credits and above in English Language and Mathematics, this is disturbing; a situation where at the NECO Examination, only 7.2% of the candidates had 5 credits and above in English Language and Mathematics, call for concern. For the previous and just concluded public Examinations WAEC and NECO below is the record of performance of candidates in the South-West states showing the percentages of candidates that scored 5 credits and above including English Language and Mathematics in the three public examination.

APPENDIX 5

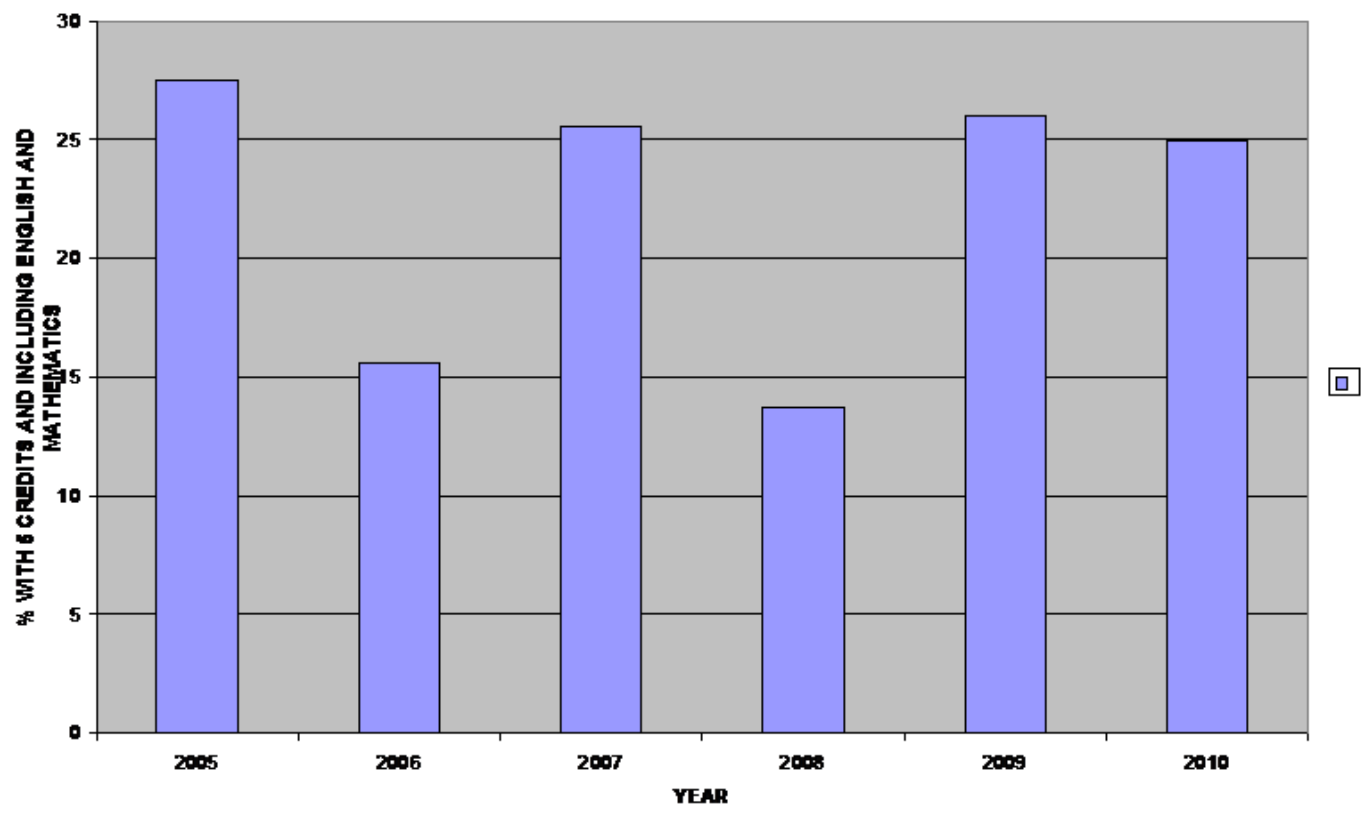
Performance in WASSCE 2005-2010

Year	% with 5 Credits (including Maths and English)	No.of Candidates
2005	27.53	1,091,676
2006	15.56	1,184,384
2007	25.54	1,275,330
2008	13.76	1,369,142
2009	25.99	1,373,009
2010	24.94	1,351,557

Source – WAEC, Research section, Ibadan and Ilorin



PERFORMANCE IN WASSCE IN 2005-2010

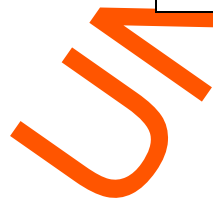


APPENDIX 6

Table 2: Summary of Performances of candidates in the South-West States in Three public Examinations.

S\N	STATE	WAEC %	NECO%	NABTEB%	PERFORMANCE AVERAGE IN WAEC,NECO &NABTEB %
1	OYO	05	12	09	8.7
2	OSUN	06	10	04	6.7
3	ONDO	22	07	18	15.7
4	EKITI	31	11	18	20.0
5	OGUN	09	21	13	14.3
6	LAGOS	13	18	06	12.3
	AVERAGE FOR SOUTHWEST STATES	14.3	13.2	11.3	12.9

Source-Ministry of Education Oyo State.2009



APPENDIX 7

Summary of performance in Mathematics and English Language in Oyo- State WASSCE and NECO May -

June 2000-2004.

WASSCE

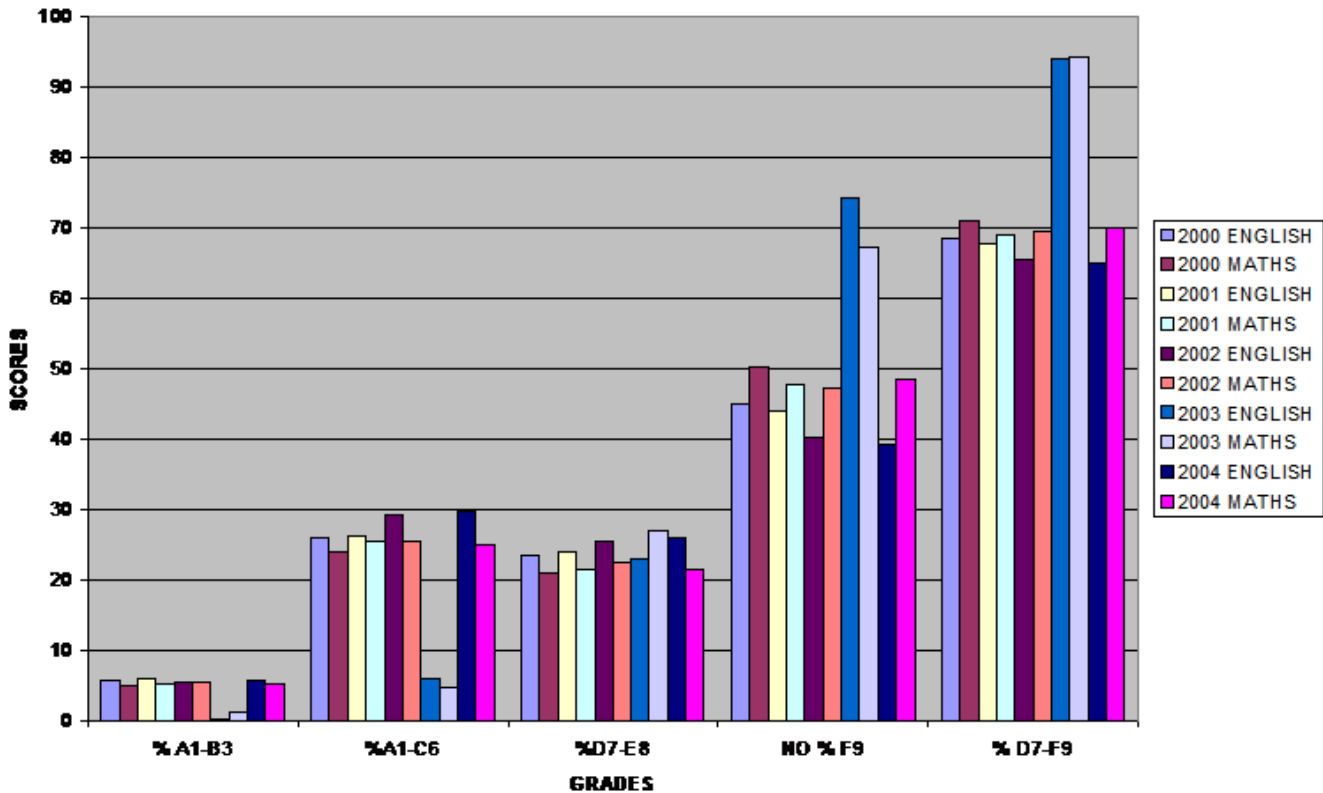
YEAR	SUBJECTS	NO. OF CANDIDATES	NO.&A1-B3	NO.&% AI-C6	NO.&% D7-E8	NO.&%F9	% D7-F9
2000	ENGLISH	30,225	1,69(5.6)	7,805 (25.8)	7,128 (23.5)	13,597 (45)	68.5
	MATHS	30,138	1,523 (5.0)	7,215 (23.9)	6,283 (20.8)	15,117 (50.2)	71
2001	ENGLISH	31,312	1,827 (5.83)	8,225 (26.26)	7,524 (24)	13,736 (43.87)	67.87
	MATHS	30,678	1,592 (5.19)	7,825 (25.51)	6,521 (21.26)	14,440 (47.67)	68.93
2002	ENGLISH	31,632	1,721 (5.44)	9,206 (29.10)	8,022 (25.36)	12,683 (40.09)	65.45
	MATHS	30,825	1,621 (5.26)	7,789 (25.26)	6,921 (22.45)	14,494 (47.02)	69.47
2003	ENGLISH	25,569	58 (0.23)	1,485 (5.80)	5,845 (22.86)	18,181 (71.10)	93.93
	MATHS	25,577	301 (1.18)	1,195 (4.67)	6,881 (26.90)	17,200 (67.24)	94.14
2004	ENGLISH	33,225	1,842 (5.55)	9,832 (29.59)	8,572 (25.80)	12,979 (39.06)	64.86
	MATHS	33,220	1,732 (5.21)	8,301 (24.98)	7,112 (21.41)	16,075 (48.39)	69.80

NECO

2000	ENGLISH	62,942	262 (0.41)	2,201 (3.49)	8,257 (13.11)	52,222 (82.96)	96.07
	MATHS	60,494	3,668 (6.06)	13,209 (21.83)	16,741 (27.67)	26,886 (44.44)	72.11
2001	ENGLISH	64,235	372 (0.56)	2,644 (4.12)	8,725 (13.58)	52,494 (82.72)	95.30
	MATHS	61,790	4,021 (6.8)	13,649 (22.09)	17,254 (27.92)	26,686 (43.18)	71.1
2002	ENGLISH	35,833	358 (0.99)	2,606 (7.27)	9,678 (27.01)	23,191 (64.72)	91.73
	MATHS	35,952	803 (2.23)	4498 (12.51)	14,959 (41.61)	15,692 (43.65)	85.26
2003	ENGLISH	25,569	58 (0.23)	1485 (5.8)	5,845 (22.86)	18,181 (71.1)	93.96
	MATHS	25,577	301 (1.18)	1195 (4.67)	6,881 (22.86)	17,200 (67.24)	91.14
2004	ENGLISH	34,225	188 (0.55)	2956 (8.64)	5300 (15.59)	25,781 (75.33)	90.92
	MATHS	34,220	851 (2.49)	4,638 (13.55)	5068 (14.81)	23,663 (69.15)	83.96



PERCENTAGE OF PERFORMANCE IN ENGLISH LANGUAGE IN NECO RESULTS



UNIVERSIT

APPENDIX 8
DEPARTMENT OF EDUCATIONAL MANAGEMENT
FACULTY OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN
MATHEMATICS AND ENGLISH LANGUAGE ACHIEVEMENT TEST (MELAT)

KEY TO MELAT

MATHEMATICS						ENGLISH					
1	D	11	B	21	B	1	C	11	C	21	A
2	A	12	E	22	B	2	A	12	D	22	A
3	C	13	A	23	A	3	C	13	D	23	D
4	B	14	D	24	E	4	C	14	B	24	C
5	B	15	D	25	A	5	D	15	D	25	B
6	A	16	C	26	E	6	A	16	A	26	B
7	E	17	D	27	D	7	B	17	A	27	A
8	D	18	E	28	B	8	C	18	D	28	C
9	A	19	D	29	A	9	C	19	D	29	C
10	E	20	A	30	B	10	D	20	B	30	D

APPENDIX 10

PERFORMANCE OF CANDIDATES FROM SOUTH-WEST STATES THAT SCORED FIVE CREDIT AND ABOVE IN 2009 WAEC, NECO AND NABTEB EXAMINATIONS.

S/N	STATE	WAEC %	NECO %	NABTEB %	PERFORMANCE AVERAGE IN WAEC, NECO & NABTEB %
1	OYO	05	12	09	8.7
2	OSUN	06	10	04	6.7
3	ONDO	22	07	18	15.7
4	EKITI	31	11	18	20.0
5	OGUN	09	21	13	14.3
6	LAGOS	13	18	06	12.3
AVERAGE FOR SOUTH-WEST STATE		14.3	13.2	11.3	12.9

NORTH-CENTRAL STATES

S/N	STATE	WAEC %	NECO %	NABTEB %	PERFORMANCE AVERAGE IN WAEC, NECO & NABTEB%
1	KWARA	02	04	18	8.0
2	NIGER	05	05	10	6.7
3	KOGI	17	08	09	11.3
4	BENUE	15	08	36	19.7
5	NASARAWA	09	03	12	8.0
6	PLATEAU	06	03	01	3.3
AVERAGE FOR NORTH-CENTRAL STATE		09	5.2	14.3	9.5

SOUTH-EAST STATES

S/N	STATES	WAEC %	NECO %	NABTEB %	PERFORMANCE AVERAGE IN WAEC, NECO & NABTEB%
1	ANAMBRA	28	06	16	16.7
2	ENUGU	16	05	08	9.7
3	EBONYI	18	04	04	8.7
4	ABIA	30	12	42	28
5	IMO	30	13	33	25.3
AVERAGE FOR SOUTH-EAST STATES		24.4	08	20.6	17.7

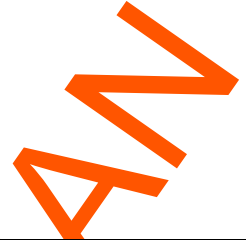
SOUTH-SOUTH

S/N	STATES	WAEC %	NECO %	NABTEB %	PERFORMANCE AVERAGE IN WAEC, NECO & NABTEB %
1	DELTA	25	13	03	13.7
2	RIVERS	52	20	01	24.3

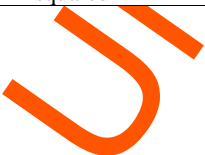
3	CROSS RIVER	18	0	31	16.3
4	EDO	39	19	02	20
5	BAYELSA	63	34	0	32.3
6	AKWA IBOM	20	10	27	19
AVERAGE FOR SOUTH-SOUTH		36.2	16.0	10.7	20.9
NORTH- EAST					
SN	STATES	WAEC %	NECO %	NABTEB %	PERFORMANCE AVERAGE IN WAEC, NECO & NABTEB%
1	BORNO	04	02	06	4.0
2	ADANAWA	03	01	33	12.3
3	BAUCHI	02	02	20	8.0
4	GOMBE	01	01	10	4.0
5	TARABA	05	01	18	8.0
6	YOBE	0	0	10	3.3
AVERAGE FOR NORTH-EAST STATES		2.5	1.2	16.2	6.6
NORTH WEST					
SN	STATES	WAEC %	NECO %	NABTEB %	PERFORMANCE AVERAGE IN WAEC, NECO & NABTEB%
1	SOKOTO	05	01	01	2.3
2	ZAMFARA	0	01	11	4.0
3	KEBBI	02	01	33	12.0
4	KANO	02	01	14	5.7
5	KATSINA	04	03	38	15
6	JIGAWA	01	0	01	0.7
7	KADUNA	06	02	18	8.7
AVERAGE NORTH WEST STATE		2.9	1.3	16.6	6.9

SOURCE: STATES MINISTRY OF EDUCATION DEPARTMENT OF RESEARCH, STATISTICS AND PLANNING (2009)

APPENDIX 11



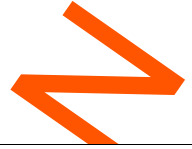
EXPLANATORY VARIABLES	DEPENDENT VARIABLE: MATHEMATICS						DEPENDENT VARIABLE: ENGLISH					
	Ownership : Public			Ownership : Private			Ownership : Public			Ownership : Private		
	Coeff.	P-value	Stdzd Beta	Coeff.	P-value	Stdzd Beta	Coeff.	P-value	Stdzd Beta	Coeff.	P-value	Stdzd Beta
<i>Household size</i>	-0.25	0.11	-0.05	0.34*	0.08	0.08	-0.16	0.23	-0.04	0.22	0.32	0.05
<i>Log of h/h monthly expen</i>	1.23	0.57	0.02	-6.01**	0.02	-0.12	1.10	0.47	0.02	0.85	0.74	0.02
<i>Father's education(Tertiary)</i>	5.48*	0.08	0.08	4.68	0.36	0.04	0.94	0.68	0.02	1.06	0.87	0.01
Non-formal	-0.37	0.85	-0.01	-2.86	0.45	-0.04	-2.66	0.11	-0.07	0.65	0.86	0.01
Primary	-1.25	0.36	-0.04	-0.82	0.66	-0.03	-2.29**	0.05	-0.10	-0.67	0.75	-0.02
Secondary												
<i>Mother's education(Tertiary)</i>	-2.96	0.28	-0.05	-6.68	0.25	-0.07	-1.02	0.65	-0.02	-3.33	0.55	-0.04
Non-formal	-1.67	0.39	-0.05	1.01	0.72	0.02	1.14	0.45	0.04	-0.18	0.95	0.00
Primary	-1.78	0.27	-0.06	-0.90	0.60	-0.03	1.72	0.19	0.07	-0.77	0.66	-0.03
Secondary												
<i>Father's occuptn (self emplyd)</i>	-1.87	0.21	-0.05	0.23	0.91	0.01	-1.10	0.37	-0.04	1.56	0.49	0.05
Waged	1.55	0.38	0.04	0.94	0.65	0.03	2.76*	0.06	0.09	2.45	0.26	0.09
Professional	0.09	0.94	0.00	0.60	0.78	0.02	-0.33	0.74	-0.01	0.60	0.78	0.02
Artisan												
<i>Mother's occuptn (self emplyd)</i>	-0.35	0.84	-0.01	2.29	0.21	0.07	-0.04	0.98	0.00	1.19	0.55	0.04
Waged	-2.55	0.17	-0.06	-0.37	0.86	-0.01	-1.45	0.32	-0.04	-3.03	0.13	-0.10
Professional	-1.86	0.16	-0.05	-1.43	0.52	-0.03	0.77	0.48	0.02	-0.08	0.97	0.00
Artisan												
Library at home	2.02**	0.05	0.07	5.56**	0.00	0.19	-0.98	0.22	-0.04	6.52***	0.00	0.23
<i>Schl. Fees problems(Never)</i>	-0.48	0.72	-0.01	2.74	0.22	0.07	-2.31**	0.03	-0.08	-0.40	0.85	-0.01
Always	-0.03	0.98	0.00	1.82	0.33	0.05	-2.50**	0.05	-0.07	1.04	0.58	0.03
Often	0.95	0.45	0.03	0.27	0.85	0.01	-2.72***	0.01	-0.11	-1.45	0.30	-0.05
Sometimes												
<i>Less than do. Expectation</i>	-0.72	0.54	-0.02	0.44	0.80	0.01	-0.24	0.80	-0.01	-2.53	0.11	-0.07
<i>Private lesson</i>	1.88*	0.08	0.06	0.75	0.58	0.03	-1.03	0.25	-0.04	-2.09	0.12	-0.08
<i>Books at home(substantial)</i>	-1.75	0.15	-0.06	-1.28	0.33	-0.05	-0.73	0.46	-0.03	-0.27	0.83	-0.01
Few	-4.22**	0.02	-0.09	-5.06*	0.09	-0.07	-3.10**	0.04	-0.08	5.60	0.12	0.08
None												
<i>Hrs. Teach child weekly</i>	0.04	0.68	0.02	-0.06	0.63	-0.03	-0.06	0.38	-0.03	0.03	0.82	0.01
<i>Hrs. Assist child weekly</i>	-0.23*	0.09	-0.07	-0.10	0.60	-0.03	0.01	0.93	0.00	-0.07	0.70	-0.02
<i>After schl. Activities (Read)</i>	-3.73***	0.01	-0.09	-4.68*	0.08	-0.09	-4.34***	0.00	-0.12	-1.25	0.66	-0.02
Help in mkt, shop or farm	-1.89	0.23	-0.04	-8.01***	0.01	-0.13	-4.06***	0.00	-0.10	-9.94***	0.00	-0.16
Work to pay for education	-0.14	0.93	0.00	-2.13	0.32	-0.05	1.11	0.40	0.03	1.32	0.47	0.03
Help in dom. Work												
_ Constant	37.72***	0.00	.	73.78***	0.00	.	41.43***	0.00	.	45.87***	0.00	.
F(27,1338)	2.12			1.93			2.80			2.20		
Prob>F	0.0008			0.0039			0.0000			0.006		
R-squared	0.0570			0.0923			0.0733			0.1161		



APPENDIX 12

EXPLANATORY VARIABLES	DEPENDENT VARIABLE: MATHEMATICS						DEPENDENT VARIABLE: ENGLISH					
	Location: Rural			Location: Urban			Location: Rural			Location: Urban		
	Coeff.	P-value	Stdzd Beta	Coeff.	P-value	Stdzd Beta	Coeff.	P-value	Stdzd Beta	Coeff.	P-value	Stdzd Beta..
<i>Household size</i>	0.43	0.43	0.08	-0.10	0.49	-0.02	-0.36	0.42	-0.07	-0.10	0.46	-0.02
Log of h/h monthly expen	-0.43	0.92	-0.01	-0.01	1.00	0.00	6.36	0.14	0.13	2.10	0.16	0.04
<i>Father's education(Tertiary)</i>	-2.70	0.62	-0.05	5.89*	0.06	0.07	-5.03	0.46	-0.09	0.98	0.67	0.01
Non-formal	4.74	0.49	0.05	-1.32	0.47	-0.03	-1.48	0.80	-0.02	-2.48	0.14	-0.05
Primary	-0.37	0.91	-0.01	-1.80	0.15	-0.06	-3.00	0.43	-0.11	-2.61**	0.03	-0.09
Secondary												
<i>Mother's education(Tertiary)</i>	-3.63	0.50	-0.07	-5.88*	0.02	-0.08	-1.55	0.78	-0.03	-4.47**	0.05	-0.06
Non-formal	-4.55	0.35	-0.11	-2.16	0.22	-0.06	-3.96	0.33	-0.10	-0.62	0.68	-0.02
Primary	-1.99	0.54	-0.07	-1.92	0.15	-0.06	-4.78*	0.09	-0.18	0.94	0.44	0.03
Secondary												
<i>Father's occuptn(Self Emplyd)</i>	0.99	0.75	0.03	-1.13	0.39	-0.03	-1.33	0.71	-0.04	0.26	0.84	0.01
Wage	0.94	0.82	0.03	1.25	0.41	0.04	-0.95	0.82	-0.03	3.50***	0.01	0.11
Professional	5.64*	0.07	0.17	-1.11	0.32	-0.03	3.66	0.19	0.11	-0.99	0.34	-0.03
Artisan												
<i>Mother's occuptn(Self Emplyd)</i>	2.56	0.47	0.06	1.60	0.26	0.04	3.81	0.22	0.10	1.37	0.29	0.04
Wage	-1.78	0.67	-0.06	-1.95	0.22	-0.05	-4.02	0.26	-0.13	-2.31	0.10	-0.06
Professional	-3.25	0.25	-0.09	-2.52**	0.05	-0.06	2.37	0.41	0.07	-0.69	0.54	-0.02
Artisan												
<i>Library at home</i>	3.15	0.25	0.10	3.32***	0.00	0.11	0.42	0.89	0.01	1.94***	0.01	0.07
<i>Schl. Fees problems(Never)</i>	9.04***	0.01	0.24	-1.09	0.38	-0.03	3.43	0.21	0.09	-2.70***	0.01	-0.08
Always	4.60	0.21	0.12	0.65	0.61	0.02	-2.51	0.44	-0.07	-0.52	0.67	-0.01
Often	-0.06	0.98	0.00	1.28	0.23	0.04	-4.27	0.11	-0.16	-1.39	0.14	-0.05
Sometimes												
<i>Less than dog. Expectation</i>	2.98	0.30	0.09	-1.02	0.34	-0.03	-1.42	0.58	-0.04	-0.88	0.35	-0.02
<i>Private lesson</i>	-1.13	0.73	-0.03	0.65	0.47	0.02	4.38	0.12	0.14	-2.87***	0.00	-0.10
<i>Books at home(Substantial)</i>	-2.11	0.39	-0.08	-2.24**	0.02	-0.07	-1.69	0.41	-0.06	-1.58*	0.08	-0.06
Few	-10.66**	0.02	-0.21	-5.37***	0.00	-0.10	-	0.00	-0.31	-2.29	0.16	-0.05
None							15.02**					
<i>Hrs. Teach child weekly</i>	-0.43*	0.07	-0.18	0.05	0.58	0.02	0.16	0.39	0.07	-0.06	0.44	-0.03
Hrs. Assist child weekly	0.63	0.26	0.15	-0.18	0.10	-0.05	-0.45	0.26	-0.12	0.06	0.50	0.02
<i>After schl. Activities (Read)</i>	-3.04	0.51	-0.06	-4.50***	0.00	-0.09	-1.16	0.79	-0.02	-5.03***	0.00	-0.11
Help in mkt, shop or farm	-9.41**	0.03	-0.19	-3.86***	0.01	-0.07	-	0.00	-0.28	-5.22***	0.00	-0.10
Work to pay for education	-4.22	0.34	-0.09	0.32	0.82	0.01	13.29**	0.65	-0.04	2.06*	0.09	0.05
Help in dom work							-1.81					
Constant	49.62**	0.02	.	46.03**	0.00	.	28.69	0.13	.	40.09**	0.00	.
F()	2.65			5.01			4.06			6.21		
Prob>F	0.0001			0.0000			0.0000			0.0000		
R-squared	0.2518			0.0911			0.3175			0.1201		

APPENDIX 13



EXPLANATORY VARIABLES	DEPENDENT VARIABLE: MATHEMATICS						DEPENDENT VARIABLE: ENGLISH					
	Gender: Male			Gender: Female			Gender: Male			Gender: Female		
	Coeff.	P-value	Stdzd Beta	Coeff.	P-value	Stdzd Beta	Coeff.	P-value	Stdzd Beta	Coeff.	P-value	Stdzd Beta
<i>Household size</i>	-0.30	0.11	-0.06	0.06	0.76	0.01	-0.20	0.25	-0.05	-0.10	0.63	-0.02
<i>Log of h/h monthly expen</i>	-3.37	0.17	-0.06	4.92*	0.06	0.09	1.70	0.35	0.03	4.64**	0.05	0.08
<i>Father's Education(Tertiary)</i>	4.54	0.30	0.06	3.04	0.41	0.04	1.26	0.70	0.02	-0.82	0.81	-0.01
Non-formal	-1.11	0.64	-0.02	-1.22	0.64	-0.02	-2.31	0.27	-0.05	-1.92	0.44	-0.04
Primary	0.79	0.66	0.02	-3.33**	0.03	-0.11	-1.81	0.26	-0.07	-2.94*	0.07	-0.10
Secondary												
<i>Mother's Education(Tertiary)</i>	-5.44	0.15	-0.08	-3.09	0.38	-0.04	-5.30	0.11	-0.09	-0.96	0.76	-0.01
Non-formal	-4.72**	0.05	-0.13	-1.81	0.42	-0.05	-2.00	0.30	-0.06	-0.95	0.66	-0.03
Primary	-4.18**	0.03	-0.13	-0.74	0.66	-0.02	-0.87	0.60	-0.03	1.21	0.45	0.04
Secondary												
<i>Father's occupation</i>	-0.34	0.86	-0.01	-2.02	0.21	-0.06	0.76	0.67	0.02	-0.67	0.69	-0.02
Wage	4.16**	0.05	0.12	-2.50	0.18	-0.07	3.64**	0.05	0.12	1.46	0.44	0.05
Professional	-1.14	0.45	-0.03	-0.16	0.92	0.00	-1.79	0.17	-0.06	0.06	0.97	0.00
Artisan												
<i>Mother's occupation</i>	-0.93	0.65	-0.02	3.46**	0.05	0.09	-0.73	0.68	-0.02	3.58**	0.04	0.09
Wage	-6.74***	0.00	-0.17	2.55	0.19	0.07	-5.72***	0.00	-0.17	1.02	0.56	0.03
Professional	-2.10	0.19	-0.05	-1.85	0.32	-0.04	-0.25	0.86	-0.01	0.60	0.72	0.01
Artisan												
<i>Library at home</i>	3.15***	0.01	0.10	3.55***	0.00	0.12	1.58	0.14	0.06	2.14*	0.06	0.07
<i>Schl. Fees problems(Never)</i>	0.68	0.71	0.02	-1.30	0.43	-0.04	-1.41	0.33	-0.04	-3.16**	0.04	-0.09
Always	0.77	0.68	0.02	1.38	0.40	0.03	-0.30	0.86	-0.01	-1.30	0.43	-0.03
Often	2.20	0.11	0.07	0.34	0.81	0.01	-1.72	0.16	-0.06	-1.15	0.37	-0.04
Sometimes												
<i>Less than dog. Expectation</i>	0.47	0.75	0.01	-1.13	0.43	-0.03	-0.40	0.76	-0.01	-0.91	0.48	-0.02
<i>Private lesson</i>	-0.02	0.99	0.00	1.32	0.27	0.04	-2.37**	0.03	-0.08	-2.09*	0.08	-0.07
<i>Books at home(Substantial)</i>	-2.14	0.11	-0.07	-2.93**	0.02	-0.10	-0.90	0.46	-0.03	-2.43**	0.05	-0.08
Few	-6.20***	0.01	-0.11	-5.22***	0.01	-0.10	-3.47*	0.07	-0.07	-2.92	0.24	-0.06
None												
<i>Hrs. Teach child weekly</i>	0.10	0.34	0.04	-0.05	0.71	-0.02	-0.02	0.87	-0.01	0.02	0.83	0.01
<i>Hrs. Assist child weekly</i>	0.23	0.25	0.05	-0.28*	0.06	-0.10	0.31	0.10	0.08	-0.15	0.18	-0.06
<i>After schl. Activities (Read)</i>	-6.32***	0.00	-0.13	-3.00	0.15	-0.06	-4.17***	0.01	-0.10	-5.38***	0.00	-0.11
Help in mkt, shop or farm	-7.24***	0.00	-0.13	1.71	0.44	0.03	-7.66***	0.00	-0.16	-2.31	0.33	-0.04
Work to pay for education	-1.75	0.35	-0.04	1.34	0.48	0.03	-0.14	0.93	0.00	3.49**	0.04	0.08
Help in dom. Work												
Constant	63.21***	0.00	.	23.45**	0.05	.	42.92***	0.00	.	29.13***	0.01	.
F()	4.14			3.76			4.17			3.74		
Prob>F	0.0000			0.0000			0.0000			0.0000		
R-squared	0.1230			0.1148			0.1348			0.1285		

