Educational Administration: Theory and Practice
2023, 29(3), 1630-1640
ISSN: 2148-2403
https://kuey.net/

Research Article

Path Analysis Of Students' Cognitive Ability, Gender And School Location On Their Academic Achievement In Financial Accounting: Implications For Educational Administrators And Curriculum Specialists

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Citation: Patricia Ifeyinwa Adinna, et.al (2023). Path Analysis Of Students' Cognitive Ability, Gender And School Location On Their Academic Achievement In Financial Accounting: Implications For Educational Administrators And Curriculum Specialists, *Educational Administration: Theory and Practice*, 29(3) 1630-1640
Doi: 10.53555/kuey.v29i3.10655

ARTICLE INFO

ABSTRACT

The study examined the relationships between students' cognitive ability, gender and location on their achievement using path analysis. Causal comparative design was employed to investigate how these variables affect achievement. Financial accounting achievement test and cognitive ability test was the instrument for data collection. Reliability coefficient of 0.81 and 0.76 was obtained for achievement test and cognitive ability test respectively. Correlation test, regression analysis and path analysis were used for data analysis. The findings revealed that cognitive ability predicts students' achievement better than gender and school location. There was positive relationship between location, gender and cognitive ability to achievement in Financial Accounting. The direct path coefficient of cognitive ability to achievement is 0.64, school location to achievement was 0.157, and gender to achievement is 0.101 while indirect path is 0.04 for gender, 0.07 for school location and 0.09 for cognitive ability. All the paths in the output diagram are retained.

Keywords: Path Analysis, Achievement, Cognitive Ability, Financial Accounting, Gender and Location

Introduction

Teaching and learning process cannot be completed without finding out the extent to which the set objectives are achieved. The essence is to determine progress students made in learning the concept, principles and theories presented to them in the course of teaching. The outcome of the exercise is academic achievement, which represents the extent to which a student, teacher or institution has achieved their educational goals. Academic achievement has become an index of a child's future in this highly competitive world. Academic achievement has been one of the most important goals of the educational process. It is also a major goal, which every individual is expected to perform in all cultures. Academic achievement could be seen as the level of performance in a particular field of study. Egbule (2004) saw academic achievement as high scores obtained by students in an examination. The high scores are indices, symbols or marks which characterize the students' achievement. It is an indication of amount or level of knowledge an individual learner possesses in a given subject area as opined by Egbule (2004). Crow and Crow (2011) defined academic achievement as the extent to which a learner is profiting from instruction in a given area of learning, that is achievement is reflected by the extent to which skill or knowledge has been imparted to him or her. However, academic achievement is a key mechanism through which students learn about their talents, abilities and competencies

which are an important part of developing career aspirations (Lent, 2000). Academic achievement and career aspirations in adolescence are often correlates (Abu-Hial, 2000). But Achievement of students' in secondary school subject in Nigerian external examination has been sources of worry to researchers over a time. The achievement of students' has continued to decline in various subject especially financial accounting. Studies have attributed the low achievement to broad content area in the curriculum, inadequate instructional materials, and unavailability of textbook, unqualified teachers in the school system (Onah, 2011, Eneja 2013, Eneja & Ikeh, 2016). Researchers have link gender, cognitive ability, school location and other demography variable like age, sex, parental income, societal income to academic achievement of students.

Academic achievement, most especially of secondary school students, has been largely associated with many factors. In recent time, literature has shown that learning outcomes (academic achievement) has been determined by such variables as family size, society and motivational factors (Aremu & Oluwole, 2001; Aremu & Sokan, 2003), socio-economic status (Ajayi & Muraina, 2011), students' employment status (Wantanabe, 2009), student interest (Udegbe, 2009), teaching methods (Eniayeju, 2010), and school entry modalities (Olayemi, 2009; Cameson & Wilson, 2011). In the same vein, Parker, Creque, Harries, Majeski, Wool, and Hogan (2003) noted that much of the previous studies have focused on the impact of demographic and socio-psychological variables on academic achievement. More recently another emerging dimension to the determinants of academic achievement is students' personal and teacher factor (Adekola, 2008). The students' variables are study habit, gender, cognitive style, cognitive ability, emotional intelligence, cognitive level, age and attitude; while the teacher factors include: knowledge of subject matter, experience, classroom management skill, leadership style, teaching approach adopted. However, this present study focuses on students' variables as determinants of academic achievement in senior secondary school financial accounting. The variables are gender location and cognitive ability.

Educators and researchers have long recognized the unique differences among individuals and the impact these differences can have on learning. Concern for these differences led to research on the cognitive ability of individuals in teaching and learning process. Cognitive ability is indirect measures of biological differences in brain morphology and/or function. According to Smith (2011), cognitive ability is the biology-based differences in the make-up of the human brain that affect the capacity of an individual to benefit from instruction. It influences the rate, quantity and quality of new learning, and causes differences in the rate, quality and retention of academic learning. While these differences do not appear to set specific limits on learning, they do cause achievement differentiation among students, especially when students are exposed to similar learning resources. Cognitive ability is the individual's capacity to think, reason, and solve problem. It is the capacity to perform higher mental processes of reasoning, remembering, understanding, and problem solving in teaching and learning process (cognitive ability –Brookings institution). Latham (2006) opined that cognitive ability is the brain-based skills and mental processes needed to carry out any task. It has more to do with mechanism of how to learn, remember, and pay attention rather than any actual knowledge you have learned. This suggest that students of high and low ability in a given task is not as a result of his or her previous knowledge about the task presented to them, but due to his ability to be active in learning process, pay attention in a classroom when the lesson or instruction is going on and retained what he or she learnt in class and transfer it in the long term memory. Ability also affects how well new learning is converted to long term memory and how well the new learning can be applied to new situations. Put simply, some brains are more efficiently wired to process the kind of learning provided in the core public school curriculum like financial accounting curriculum. It is a firmly established principle of educational psychology that there is a strong positive relationship between measures of cognitive ability and measures of academic achievement, especially in those content areas emphasizing verbal and mathematical concepts and operations (Smith, 2011).

Further, cognitive ability has been shown to strongly influence the extent to which students benefit from formal instruction. That is, learning difficulties increase and the rate of learning slows inversely proportional to cognitive ability. To a certain extent, cognitive ability places constraints on the amount and type of learning that can attained in a given time frame. Certainly all children can learn. But they cannot all learn the same amount in the same time frames with exposure to basically the same learning resources. Agulanna and Nwachukwu (2009) noted that students can be different in terms of cognitive ability and achievement. On the basis of cognitive ability students can be grouped into high, average and low ability groups (Biehler & Snow 1990). Such differences can be taken care of through ability grouping. There are two major approaches to ability grouping: between class ability grouping and within class ability grouping.

Between class ability grouping, students are usually grouped into ability levels and placed into different classes. Each group covers the same subject but classes A and B may cover the subjects in greater depth than the other classes. Between class ability grouping is thought to improve the teacher's efficiency and effectiveness, since their level and place of instruction can match the intellectual characteristics of learners. Low achievers can have the individual attention, slow pace, repetition and review that require in their classes. High achievers can, on the other hand, be given more autonomy and more difficult tasks.

In spite of the wide spread use of between class ability grouping and despite evidence that teachers overwhelming believed in their necessity and effectiveness, research does not support its use. Researchers

have found that while ability grouping may have slight benefits for students assigned to high ability (brighter students') classes, these benefits are outweighed by losses for students assigned to low ability (weaker students') classes (Slavin, 1994)

Further, low achieving students in low ability classes seem to receive lower quality instruction in general. They are exposed to very few positive role models. Also, many teachers do not like to teach such classes and may subtly communicate low expectations on student achievement. Researches also show that teachers of low ability classes are less enthusiastic; less organized, and teach more facts and fewer concepts than do teachers of high ability classes. They also have a higher level of stress. The more damaging effect of ability grouping is its stigmatizing effects on students assigned to low ability classes. These students get the message that academic success is not within their capabilities. As a result, there are more student problems, lower attendance and lower self confidence among these students (Woolfolk, 2004).

Cognitive ability is measured through test of intelligence and cognitive skills. Intelligence encompasses a number of mental abilities such as reasoning, planning and problem-solving. Intelligence is one of the most talked about subjects within psychology; there is no standard definition of what exactly constitutes intelligence. Some researchers have suggested that intelligence is a single general ability while others believe that intelligence encompasses a range of aptitudes, skills and talents. According to Agulanna and Nwachukwu (2009), intelligence could be said to be capacity to learn. The American Psychological Association (APA), quoted in Wood and Wood (1999), defined intelligence as an individual's ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various form of reasoning and to overcome obstacles through mental effort. Sternberg (1985) argued that intelligence is a mental activity directed toward purposive adaptation to selection and shaping of real world environments relevant to one's life. However, intelligence is a combination of the ability to:

1. Learn: This includes all kinds of informal and formal learning via any combination of experience, education and training.
2. Pose problems: This includes recognizing problems situations and transforming them into more clearly defined problems.
3. Solve problems: This includes solving problems, accomplishing tasks, fashioning products and doing complex project.

In this study, Test of Logical Thinking (TOLT) was used to assess students' cognitive ability in senior secondary school financial accounting. The test measures an individual's ability in five reasoning abilities; namely, controlling variables, proportional reasoning, probabilistic reasoning, correlational reasoning and combinatorial reasoning.

Writing on the importance of cognitive ability, Deary, Strand, Smith and Fernandes (2007) are of the view that cognitive ability plays an important role in predicting academic achievement. Cognitive ability is of central importance in predicting not only academic outcomes (Ackerman & Lohman, 2003; Deary et al, 2007; Sternberg, Grigorenko & Bundy, 2001), but also wealth and socio- economic success (Zagorsky, 2007), job performance (Hunter & Hunter, 1984), and also job type (Gottfredson, 2003), to mention a few. Psychologists and educationists have been interested in the links between various tests of mental ability and academic achievement, the crucial factor in academic achievement is the individual's levels of general cognitive ability.

Research studies have been carried out among secondary school students to determine the influence of cognitive ability on students' achievement. In Nigeria, Aiyedun (1995) reported that there is a difference between the mean performances in mathematics of students with high academic ability and those with low academic ability while Uzoegwu (2004) shows that ability level has no significant effect on the achievement of students in essay writing. In a study, Deary et al (2007) obtained correlation of .69 between a standardized cognitive abilities test (CAT) and total grade (General Certificate of Secondary Education Examination), and .72 between CAT scores and students' Best 8 exam scores. Colom, Escorial, Shih, and Privado (2007) demonstrated that measures of intelligence (example, abstract reasoning and inductive reasoning), short term memory (example digit span and block design), and working memory (example, computation span and dot matrix) were all predictive of academic achievement among secondary school students. This students' academic achievement may be influence by gender.

Gender is a broad analytic concept which highlights women's roles and responsibilities in relation to those of men. Gender is the position or place of men and women in the society. It refers to roles and responsibilities ascribed or allowed to either man or woman by society. Imoh (2002) described gender as those cultural constructs or conditioning which are products of nurturing, socio-cultural norms, roles and expectations that vary within and between cultures. It is also referred to as the social attributes and opportunities associated with being male or female. This includes the way in which the difference whether real or imagined have valued, used and relied upon to classify women and men to assign roles and expectation to them. Gender in relation to achievement has been an issue of interest to researchers in education. The difference in academic achievement due to gender differences is a crucial matter to the educationists. David (2001) opined that one of the areas of bias study that have been particularly dynamic in recent years is scoring differences that correlate with gender. The effect or influence of gender on students' achievement in senior secondary school

subjects has been an area of focus by researchers. There are differing opinions on which gender achieves better than the other. There are those that claim that males perform better than the females, yet others uphold that females achieve better than their counterparts. This is why Buadi (2000) opined that the difference in gender as it affects students' and academic achievement is inconclusive. Probably the most publicized differences are in the area of college aptitude, where test scores are supposed to predict the applicants' subsequent college-level performance. Kesel and Linn (1996) found that, in some instances, SAT data may under predict college- grade for women in mathematics. The scores suggest that females' performance in college-level mathematics will be lower than they turn out to be. In another study, Offorma (1990) found out that there is no significant difference in students' achievement in French, although male students have slightly higher mean difference than female students. Odoul (2006) reported that gender is a significant factor in students' achievement in mathematics. Girls perform poorly in mathematics than male. Nwosu and Azih (2011) reported that gender had no significant interaction with teaching approach (instructional scaffolding) on students mean achievement in financial accounting. However Ikeche (2004) argued that achievement in financial accounting is gender sensitive because female students are always afraid of calculating figure. This has necessitated the need to find out if there is any significant difference between male and female students as regards to their academic achievement in senior secondary school financial accounting regardless of students' school location.

Location is a geographical place or an area (Benton, 1980). It can also mean a settlement, whether a village, town or city usually occupied by human beings. The status of a location whether urban or rural (in this case, a settlement), depends on the size, infrastructures, population distribution among other things. Usually, considerable human population, infrastructure such as school, good roads and hospital characterizes urban location than rural. By school location therefore it means urban-rural school settings and this classification has influence on educational development. Educational opportunities vary from one location to another. While some places are known to have enough schools with facilities and teachers, other does not. Abidogun (2006) stated rural areas as having greater challenges concerning educational development than the urban centres, due to the peculiar socio-economic and institutional structures of the rural areas. Some of the challenges, according to Anyaegbu (2003), are (1) lack of zeal and interest by teachers due to poor and delayed salaries and poor conditions of work; (2) Frequent strike actions by teachers. However, a study carried out in Enugu State by Onah (2011) showed that location is a significant factor in students' achievement in Agriculture science. Bosede (2010) and Uzoegwu (2004) show that location is not a significant factor in students' achievement. Adepoju (2001) found that students in urban schools manifest more brilliant performance than their rural counterparts. Also Ogunleye (2002), Ndukwu (2002), Odinko (2002) and Warwick (1992) reported a significant difference in the achievement of students in urban and semi-urban areas. However, Daramola cited in Ogunleye (2002) and Orji (1997) did not find any significant difference in the urban and semi-urban schools. In view of these conflicting reports, there is need to carry-out a study with a view to determining whether school location will exert influence on students' achievement in senior secondary school financial accounting. There is attempt to link achievement with students factor using path analysis.

Path analysis is the statistical procedure to determine the relationship between dependent and independent variable through a path diagram. The diagram will provide the direct and indirect relationship between variable of interest in the study. Path analysis is the extension of regression analysis and special case of structural equation model. According to Akintunde (2012) Path analysis can be referred to as the process of splitting correlations coefficient into its components parts. It could be defined as the ration of standard deviation of the effect due to a given cause to the total deviation of the effect (direct path coefficient). The overall correlations between an independent and the dependent variable can be separated into its direct effect plus the sum of its indirect effects. Path analysis allows the investigation of direct and indirect predictors of dependent variables. It is a subset of structural equation modeling. A multivariate method of for establishing the magnitude of influence of multiple presumed independent variables on one dependent variable is structural equation modeling. In conducting path analysis, different software is available but SPSS can produce the same result by running series of regression analysis. This present study adopts SPSS and SPSS AMOS. The outcome of the analysis shows r (regression coefficient) and Beta (B). The values of r and B tell us three things:

1. The value of beta is the direct effect;
2. Dividing beta by r gives the proportion of direct and indirect effect
3. The product of beta and r summed across each of the variables with direct arrows into the dependent variable is R^2
4. The value of 1- R^2 is e

Specifying the path coefficient (betas), several facts are apparent, among which are that independent variables has the highest percentage of direct effect (ie 0.63/0.69) = 92% of its correction is a direct effect, 8% is an indirect effect), moreover, although, the overall correlation of variable of interest may be positive or negative.

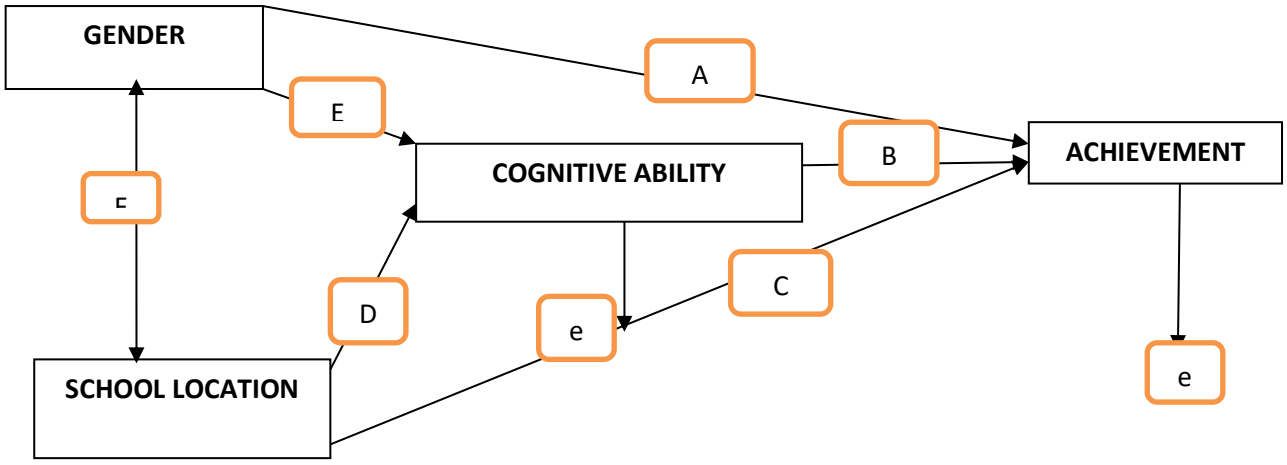

Figure 1: Hypothesized Path Diagram

The diagram shows the relationship between the variable of interest in the study. Also the arrows indicates the direction of the relationship for instance relationship between gender and school location, gender and cognitive ability, school location and cognitive ability , cognitive ability and achievement, gender and achievement, school location and achievement, cognitive and achievement. However, in the diagram there was two proposed causal model.

The hypothesized causal model
Key:
X1 = Gender
X2= School location
X3 = Cognitive ability
X4= Achievement

In order to identify which paths in the model are significant, direct and indirect, the researchers explained all the hypothesized linkages by forming the following set of structural equation from the hypothesized model. The structured equations are:
$X4= \beta_1x_1+ \beta_2x_2+\beta_3+x_3+e$
$X3=\beta_1X_1+\beta_2X_2+e$

To compute values of the path coefficient for the hypothesized causal model, two regression analyses were run.
Madu and Akobi (2014) reported that there was a significant relationship between parental socioeconomic status and students' academic achievement, there was also a significant relationship between home education environment and students' academic achievement. Adeleke and Onocha (2017) reported that class taught and teacher-student relationship was found to be meaningful causal of teaching job confidence with beta weight (BS) 0.079 and 0.077 respectively. Adesoji and Olatunboson (2008) investigated students, teacher and school environment factors as determinant of achievement in senior secondary school chemistry and reported that 7.20% of the total effect on achievement in chemistry was accounted for by all the seven predictor variables when taken together. It was also revealed that only four variables - school location, laboratory adequacy, and teacher attitude to chemistry teaching and teacher attendance at chemistry workshop had direct causal influence and also made significant contribution to the prediction of achievement in chemistry. However, the present study looked at path analytical study of students' cognitive ability, gender and school location on their achievement in financial accounting.

Research Questions

The following research questions were posed for the study:
1. What is the correction matrix between variable of interest in the study?
2. What is the relative contribution of the each predictor variable to the students' achievement in financial accounting?
3. What is the path coefficient of predictor variable in the path model?
4. What is the proportion of the variation in student achievement that is attributed to the predictor variables?
5. What is the significant path coefficient of direct and indirect?

Research Method

Causal comparative design was adopted in this study. According to Nworgu (2015) Casual comparative design is a design where the researcher has no control of the independent variable of the study. The variables naturally occur before the study commence. The design is appropriate because the study is set out to determine the relationships amount the variable of gender, location and cognitive ability. Population of the study consist SS2 financial accounting students in Imo state secondary schools offering financial accounting 2018/2019 academic year while purposive sample was used to select 564 financial accounting student who register for SSCE in 2018/2019 academic session. The instruments used for data collection were: Test of Logical Thinking (TOLT) and Financial Accounting Achievement Test (FAAT).

The test of logical thinking (TOLT) developed by Tobin and Capie (1981) was used to measure the cognitive ability of students. The test consists of ten multiple choice items designed to measure students' five reasoning abilities namely, controlling variables (item 3&4), proportional reasoning (item 1&2), probabilistic reasoning (item 5&6) , correlational reasoning (items 7&8), and combinatorial reasoning (items 9&10). The students are required to select a response from five possibilities and then they are provided with five justifications from which they choose. The correct answer is the correct choice plus the correct justification. Cronbach's alpha reliability of the test was found to be 0.81 by Tobin and Capie (1981). The total score of the test is ten (10). Students' ability in the test is grouped as: (4-10) high ability, (2-3) medium ability while (0-1) low ability. Financial Accounting Achievement Test (FAAT) was developed from the new content of senior secondary school financial accounting curriculum published by (NERDC). The test was a multiple choice test while the face validation and content validation was achieved through the table of specification. Validity of test of logical thinking (TOLT) has been established as it is widely adopted by researcher to measure individuals' ability to think, reason and solve problem. The kuder-Richardson 20 formula was used to ascertain the internal consistency (reliability) of the financial accounting achievement test. Reliability coefficient of 0.91 was obtained. On the other hand, Cronbach's alpha reliability of test of logical reasoning thinking (TOLT) was found to be 0.81. The researchers administered the instruments (FAAT and TOLT) with the help of the accounting teachers in the school. The research questions were answered using correlation test, regression analysis and path analysis diagram.

Results

Research Question One

What is the correction matrix between variable of interest in the study?

Table 1: Correlation coefficients among the study variables

	Gender	School Location	Cognitive Ability	Achievement
Gender	1	0.655	0.474	0.507
School Location		1	0.593	0.603
Cognitive Ability			1	0.781
Achievement				1

Result on Table 1 shows the correlation coefficients of the relationship among the study variables as presented in the path model. Result reveals that the correlation between gender and school location was 0.655. This means there was a moderate positive relationship between gender and school location. Result also shows that the correlation between gender and cognitive ability was 0.474 while the correlation between gender and students' academic achievement was 0.507. Result also show that the correlation between school location and cognitive ability was 0.593 and the coefficient between school location and students' academic achievement was 0.603 and lastly the correlation coefficient between cognitive ability and students' academic achievement was 0.781. The result of the study therefore shows that cognitive ability has the highest relationship with students' academic achievement. This therefore implies that cognitive ability can predict students' achievement better than other variables in the study.

Research Question Two

What is the relative contribution of the each predictor variable to the students' achievement in financial accounting?

Table 2: Relative contribution of each predictor variable to students' academic achievement

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	T	Sig.
1 (Constant)	6.936	.974		7.122	.000
Gender	0.129	.043	.101	3.012	.003
Sch.Loc	0.188	.044	.157	4.270	.000
Cog.Abi	0.529	.026	.640	20.298	.000

The result of the study as presented in Table 2 shows the relative contribution of each predictor variable to students' academic achievement in financial accounting. Result shows that students' cognitive ability has the highest contribution to students' academic achievement in financial accounting with a regression coefficient of 0.529 followed by school location (0.188) and finally gender with a coefficient of 0.129. However P (0.003) < 0.05 for gender is significant, p (0.000) < 0.05 is significant for school location and P (0.00)<0.05 is significant for cognitive ability. The entire path coefficients are significant and make contribution to the model.

Research Question Three

What is the path coefficient of the predictor variable in the path model?

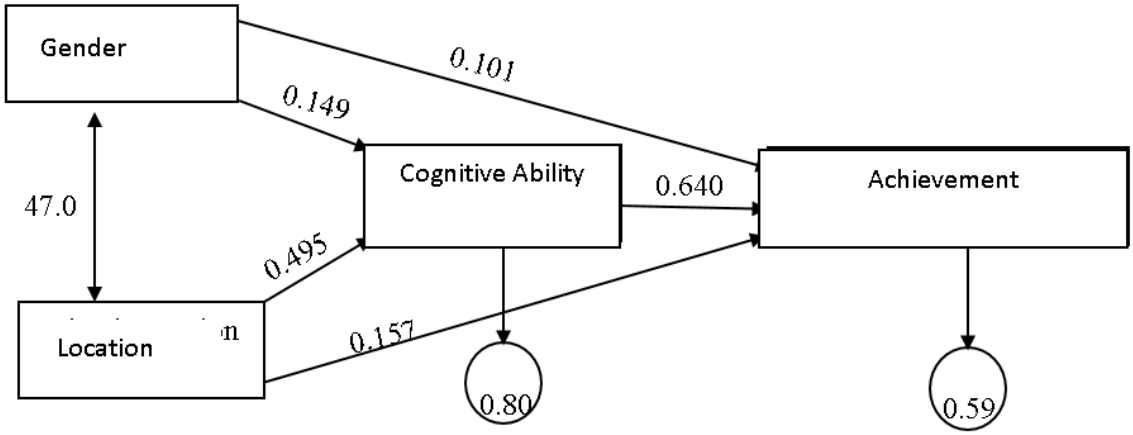

Fig 2: Path coefficient of predictor variables in the path model

The result of the study as presented in Figure 2 shows the path coefficients (beta) among the study variables as presented in the input path diagram. School location and cognitive ability had a direct path coefficient of 0.157 and 0.101 respectively to achievement, while cognitive ability to achievement had a path coefficient of 0.64 among others. Gender and school location influence each other, therefore the covariance estimate between gender and school location is 47.00. All paths are shown to be significant. The indirect path coefficient of gender through cognitive ability to achievement is 0.149 while school location to achievement through cognitive ability is 0.495. Cognitive ability had no indirect path coefficient to achievement.

Research Question Four

What is the proportion of the variation in student achievement that is attributed to the predictor variables?

Table 3: Proportion of the variation (direct and indirect) in student achievement that is attributed to the predictor variables

Predictor Variables	Beta	Direct Effect	Indirect Effect	Total Effect	R	R^2	Sig
Gender –Achievement	0.101	0.01	0.05	0.06	0.81	0.65	0.003
School Location –Achievement	0.157	0.02	0.07	0.09			0.000
Cognitive Ability –Achievement	0.64	0.41	0.09	0.50			0.000

The result of the study as presented in Table 3 shows the proportion of the variation in students' academic achievement that attributed to the predictor variables. Result shows that cognitive ability has the highest contribution with a coefficient of determination of 0.50 which implies that 50% of students' academic achievement in financial accounting is attributed to students' cognitive ability. Result also shows that school location has a predictive ability of 9% while gender has the least with a coefficient of determination of 0.06 (i.e. 5% contribution), these mean that 9% and 5% of students' academic achievement in financial accounting are attributed to school location and gender respectively. When put together 65% disparity in students achievement in financial accounting is explained by their cognitive ability, gender and school location. There was significant path coefficient of cognitive ability (P<0.05 =0.000), school location (P< 0.05 = 0.000) and gender (P< 0.05 = 0.003). The entire path coefficient is significant in the model.

Research Question Five

What is the significant path coefficient of direct and indirect?

The result of the study as presented in Table 3 was also used to answer research question five. The result shows the direct and indirect significant path coefficients. Result shows that all the path coefficients – both direct and indirect – are above 0.05. This implies that all the paths in the output path diagram are retained. It is a practice in path analysis that any path with a coefficient less than 0.05 is deleted. The indirect path coefficient of gender on students' achievement through cognitive ability is 0.15 while the indirect path

coefficient of school location on students' achievement through cognitive ability is 0.49. Cognitive ability has no indirect effect on students' achievement as shown in Figure 1 with a coefficient of 0.00.

Discussions

The result of the findings of the study shows that cognitive ability predicts students' achievement more than school location and gender in financial accounting. The relationship between cognitive ability and students' achievement is 0.781, school location and achievement is 0.603 while gender and achievement is 0.507. Also cognitive ability contributes more in the model than school location and gender on students' achievement. Cognitive account for (50%) variation in students' achievement, school location explained (9%) in the students' achievement while gender had (6%) variation in the achievement. When put together (65%) of the variation in achievement is explained by cognitive ability, gender and location while (35%) was explained by other variable not considered in this study. The findings of the study also revealed that the path coefficient of cognitive ability through achievement is 0.64; school location is 0.157 and gender 0.101. The proportion of the indirect effect obtained for cognitive ability is (0.09), school location had indirect effect of (0.07) while gender recorded (0.05). There was significant path coefficient of cognitive ability, gender and location on students' achievement in financial accounting. From the findings the biology-based differences in the make-up of the human brain that affect the capacity of an individual to benefit from instruction influences the rate, quantity and quality of new learning, and causes differences in the rate, quality and retention of academic learning. While these differences do not appear to set specific limits on learning, they do cause achievement differentiation among students, especially when students are exposed to similar learning resources. Therefore teachers should pay attention to instruction that accommodates all students with different learning capacity so that everyone should benefit from the instruction. On the school location learning opportunity should be provided by government in-terms of quality of teachers, learning resources, conducive learning environment so that achievement will be equal and not affected by location and gender of the students. The findings of this study agreed with Madu and Akobi (2014) reported that there was a significant relationship between parental socioeconomic status and students' academic achievement, there was also a significant relationship between home education environment and students' academic achievement. Also in agreement with the findings of Adeleke and Onocha (2017) reported that class taught and teacher-student relationship was found to be meaningful causal of teaching job confidence with beta weight (BS) 0.079 and 0.077 respectively. And finally with the result Adesoji and Olatunboson (2008) who investigated students, teacher and school environment factors as determinant of achievement in senior secondary school chemistry and reported that 7.20% of the total effect on achievement in chemistry was accounted for by all the seven predictor variables when taken together.

Conclusions and Recommendations

Students' achievement was explained more by their cognitive ability followed by the location of the school and lastly their gender. The conclusion was that 65% of the total effect in achievement was partition into 50% for cognitive ability, 9% for school location and 6% for their gender. There was significant path coefficient of cognitive ability, gender and school on students' achievement in financial accounting. Based on the findings of the study the following conclusion was drawn. Teachers should use or adopt the best teaching approach that will improve students cognitive ability so as to improve their achievement in financial accounting, government should provide educational opportunity in-terms facility for students in the urban and rural area for equal achievement of the school subject. Teachers should not use gender bias method of teaching that will favor male or female students rather achievement should favor all students irrespective of gender.

Implications for Educational Administrators

The findings from the path analysis of students' cognitive ability, gender, and location on achievement in Financial Accounting have important implications for educational administrators. First, understanding the predictive influence of cognitive ability underscores the need for targeted interventions such as enrichment programs, remedial classes, and differentiated instruction to cater for varying intellectual capacities among students. Second, since gender significantly influences achievement, administrators should implement gender-responsive teaching strategies and mentorship initiatives that promote equal participation and performance. Third, significant location effects would necessitate equitable allocation of resources, teacher deployment, and infrastructural development to reduce rural–urban disparities in learning outcomes. Finally, the study provides empirical evidence that can guide data-driven policies and professional development programs aimed at enhancing teaching quality, promoting equity, and improving students' achievement in Financial Accounting.

Implications for Curriculum Specialists

The study's findings have meaningful implications for curriculum planning and implementation in Financial Accounting. First, since cognitive ability was found to significantly predict achievement, curriculum specialists should ensure that learning content is sequenced progressively, integrating activities that develop

critical thinking, analytical reasoning, and problem-solving skills. Second, the observed gender differences in achievement calls for the inclusion of gender-sensitive instructional materials and teaching examples that engage all learners equally irrespective of gender. Third, location effects would require adapting the curriculum to accommodate contextual realities; such as resource limitations in rural areas by integrating flexible, locally relevant content and incorporating digital or low-cost instructional aids. Furthermore, curriculum specialists could use the path analysis results to design differentiated learning pathways that address diverse learner profiles, ensuring equitable access to quality accounting education regardless of cognitive, gender, or locational differences.

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