# Teachers' Experience and Motivation as Predictors of Students' Achievement and Interest in Mathematics in Delta North Senatorial District, Nigeria

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***Abstract:*** **This study examined teachers' experience and motivation as predictors of students' academic achievement and interest in mathematics in Delta North Senatorial District. Two research questions and two corresponding hypotheses that guided the study were answered and tested, respectively. The study employed the correlational research design. Three research instruments which are the Teachers' Demographics and Motivational Level Questionnaire, Students' Interest Questionnaire and Students' Mathematics Achievement Score were used to collect the data analyzed for this study. The data obtained from the study were analyzed using, Canonical Correlation, Multiple Regression. The result obtained from the study revealed that Experience was found to be a significant predictor of students' academic achievement in mathematics, but did not significantly predict student interest in mathematics. Motivation was also, a significant predictor of academic achievement, but not a predictor of student interest. The combination of the teacher variables highly predicted student academic achievement in mathematics and explained a very large variance in the dependent variable with Motivation being a higher unique contributor in the variance explained than teachers' experience. The combination of the teachers' variables did not significantly predict students' Interest in mathematics. It was recommended that mathematics teachers that are experienced should be made to teach mathematics at the Senior Secondary level in schools and as much as possible, these teachers should be motivated (monetary and non-monetary) by their employers.**

***Keywords*****; Experience, Motivation, Academic Achievement, Interest, Students, Teachers**

## I. INTRODUCTION

The importance of mathematics in the lives of students cannot be overemphasized. Right from the cradle, children are taught mathematics, and as they grow, the mathematics they learn advances from simple counting of numbers to addition and subtraction, and thereafter to division and multiplication, fraction and word problems for those in primary schools. As the children progress in their study, the mathematics they learn advances accordingly, until they get to the secondary school level. At this level, some students begin to lose interest in the subject. Generally, the achievement of students in mathematics at this level also seems to be poor. Hence, mathematics is seen to present many challenges to students at the secondary school level of study.

Mathematics is essential as opined by the National Research and Development Council (NERDC) (1989) where it was stated that "sufficient mathematics skill and understanding affects a student's ability to make critically important educational, life and career decisions". Students according to Sherman et al.,(2014) falls below their expected level in mathematics achievement for several reason such as environmental factor (instruction, curriculum materials, gap between learners and subject) and personal factors (teacher motivation, memory ability of students, attention span of students and understanding of mathematics language).

No doubt, the quality of education in any nation is determined by the quality of teachers in such nations. The importance of teachers' experience in the academic achievement of students in various subjects has been emphasized by various researchers (Adeyemi, 2008; Huang & Moon, 2009; Commeyras, Bisplinghoff, & Olson, 2003). Teachers' experience can be defined as the length of time a teacher has been teaching. Adeyemi (2008) stated that "experienced teachers have been argued as being a necessary tool for the effective result in student's academic achievement'.

Despite the years of teaching experience of mathematics teacher being necessary for teaching effectiveness, the motivation of such teachers has been seen as a necessary tool to encourage teachers as well as increase students' academic achievement (Shabeena, Nighat, Noshaba & Sufiana, 2013). Motivation and satisfaction of employees by their employers have always been an important issue, but very few organizations have made job satisfaction a top priority. Perhaps as stated by Male (2009), "they have failed to understand the significant opportunity that lies in front of them". Male (2009) further opined that employees that were well motivated in terms of training, recognition, salary, induction, and so on tends to be more productive, creative and committed to their employers than those who are not motivated.

The years of experience of a teacher has been defined as the duration a teacher has been teaching a particular subject. Aina and Olanipekun (2015) stated that a teacher's year of experience is one of the indicators believed to be

playing a significant role in the academic performance of students with higher achievement. Darling-Hammond (2000) confirmed this statement in his study, which showed that inexperienced teachers are most time less efficient than the experienced ones, while effectiveness and years of experience have been found to be correlated. It is, therefore, necessary that mathematics teachers be well experienced so as to positively influence students' academic achievement in the subject.

It was however cautioned, that using years of experience in Nigeria as a yardstick to access a teacher may be misleading. In their opinion, many teachers may have been teaching for a very long time, without proper self-development, these categories of teacher Aina and Olanipekun (2015) state cannot cope with the new trends in Education. Hence, "it is better to say there is a positive relationship between experience and student achievement when there is adequate teacher professional and academic development".

There have been a lot of debates as to whether the years of experience of a teacher can influence the academic achievement of the students they teach. As stated earlier, the issue of experienced and inexperienced teachers varies from country to country. While some may indicate that 5 years teaching and above is regarded as experienced, others are of the opinion that for a teacher to be termed experienced, he must have taught that particular subject for up to 20 years. Several Studies (such as that of Alafiatayo et al., 2016; Yusuf & Dada, 2016; Ewetan &Ewetan, 2015) conducted in Nigeria have used above 5 years of teaching experience to qualify a teacher as being experienced in Teaching. While some studies indicated that years of teaching experience can influence students' academic achievement, others were of the opinion that years of teaching experience cannot influence students' academic achievement. Bamidele and Adekola (2017) also that there was a significant difference in the achievement of JSS III students taught by teachers with long-time experience and students taught by teachers with short time experience. Bamidele and Adekola (2017) went further to state that this difference observed may be due to the fact that experienced teachers are not dictatorial in the classroom, are open to correction and have a richer background knowledge and experience. The study of Huang and Moon (2009) indicates how teaching a particular grade for a number of years can influence students' achievement. Their result shows that the achievement gain of the students studied by them increased progressively as the years of experience of the teachers increased from 0 years to about 20 years of teaching a particular grade. But after 20 years they observed that the achievement gain of the students began to drop. Huang and Moon (2009) therefore concluded that years of teaching experience can have a positive and negative influence on students' achievement as students' achievement increases in the first 20 years of the teachers teaching experience for that grade and then start diminishing after 20 years of teaching a particular grade. Ewetan and Ewetan (2015) in their study indicated a significant difference in the achievement of students between schools having more teachers with who are experienced and schools having more teachers with less teaching experience. Sawchuck (2015) stated that findings from a handful of recently released studies are raising questions about the proposition that teachers improve over their first three or so years in the classroom and plateau thereafter. In fact, they suggested that the average teacher's ability to boost student achievement increases for at least the first decade of his or her career—and likely longer. Moreover, teachers' deepening experience appears to translate into other student benefits as well. One of the new studies, for example, link years on the job to declining rates of student absenteeism. Absenteeism in a class depicts lack of interest in that subject, and time spent on reading and homework completion show increasing interest in the subject. Sawchuck (2015) found that as teachers gain experience, absenteeism to class reduced and more mathematics students attended to their homework showing their interest in the subject. Hill, Rowan and Ball (2014) found that many teachers in the kindergarten level and first grade explain their choice of grade level by referencing both their love of young children and their lack of mathematical knowledge. This is quite detrimental. These young children will grow also not having interest in mathematics because they never had a good foundation of the subject. Khayati and Payan (2014) found that there are lots factors that influence students' interest in mathematics. They found that experienced teachers are better at stimulating students' interest in mathematics especially if they have a love for the subject.

Motivation is defined as a predisposition to act in a certain manner. It is concerned with the factors that influenced people to behave in certain ways (Igbaekemem, 2014). It was noted by Igbaakemem (2014) that a major problem facing employers of labour is the ability to motivate their staff in order to improve performance. To motivate an individual, therefore, is to make such an individual move in the direction that you want him or her to go in order to achieve a positive result. Motivation has also been defined as a teacher direction to behaviour, or what causes a person to want to behave in a particular way or vice-versa (Elliot & Covinton, 2001). Motivation is, therefore, the desire and willingness to do something, as result of been prompted by a motive. Shafiwu (2014) is of the opinion that motivation is very essential to the continued growth of the educational system. This is so because a well-motivated teacher will always teach effectively which in turn will result in improved students' academic achievement. When a teacher is motivated to teach, such teacher will help the students build interest in the subject that is being taught.

Motivation is according to Armstrong (2006) is associated with factors that influence people to behave in a particular way. In a study by Falola, Ibidunni and Olokundun (2014), it was agreed that salaries, bonus and allowances motivate employees to have a prolific attitude towards work. A greater percentage of the respondents in this study also established that well-paid employees perform better in their

job. In a study that was conducted by Imo (2013) in Ikot Ekpene Local Government Area of Akwa-Ibom State, Nigeria to examine the influence of Motivation of Teachers and their incentives on Students Academic Performance in Biology, it was found that teachers that are well motivated, teach effectively in classroom than those teachers that were not motivated at all. He, therefore, recommended that a teaching and learning atmosphere that is conducive should be provided for teachers to enhance effective teaching and learning process. Nordin (2007) found that the students rated mathematics the most interesting subject to learn. He noted that interest is closely related to motivation. They found that in their study, students' interest in mathematics was influenced by the use of English and not because the teachers are motivated to teach. Vansteenkiste, Sierens, Soenens, Luyck, and Lens (2009) found in that study that when a teacher is motivated to teach, it influences students study strategies, as the student will be more interested in studying. They noted that the teachers that were motivated to teach, had their medical student willing to study and follow a highly specified path to be able to qualify to practice as doctors.

Mathematics is a body of knowledge that is essential for achievement in any endeavor of man (Anaduaka& Okafor, 2013). Academic achievement is the measurable behaviour in a standardized series of test. It is regarded as an act of completing an action (Simpson & Weiner, 1989). Academic achievement score is therefore measured in relation to what is attained at the end of a course. It is the accomplishment of a medium- or long-term goal. Since the students' result to be used for this will be the last terms mathematics score, the term academic achievement will mainly be used for this study. For a secondary school student to be termed successful in his WASSCE or NECO, he/she should have had at least a credit in the subject mathematics. The mathematics achievement score of students in Nigeria in recent years has been very poor (Anaduaka& Okafor, 2013; Musa & Dauda, 2014). Musa and Dauda (2014) in their study on the trends of mathematical achievement in WAEC from 2004 to 2013 predicted based on the observed achievement scores, that by 2020 only 31.50% of students will have credit in mathematics in WAEC.

Interest according to Ugbouma (2012) is an important variable in learning, this, according to him is because when a person becomes interested in an activity such a person is likely to be more deeply involved in that activity. Interest is the quality in something that attracts somebody's attention and makes them want to know more about it. It is the tendency to seek out and participate in certain activities. It can be expressed through simple statements made by individuals of their likes and dislikes (Ugbouma, 2012). Allahnana, Akande, Vintseh, Alaku and Alaku (2018) opined that the lack of interest in Mathematics has direct implications for students' involvement in areas that require a Mathematics background, and an indirect effect on other areas of life. Poor mathematics-related achievement tests and lower grades in Mathematics has been attributed to lack of interest in the subject which results in less interest in taking challenging Mathematics curricula prior to enrolling in College and less interest in pursuing a career in the sciences (Allahnana et al., 2018)

Education, especially the subject Mathematics, has been acknowledged as the engine for growth and development (Male, 2009). To achieve this, Teachers are expected to teach well. This can only be achieved if they are experienced and work from a supportive and conducive environment. Male (2009) stated that a conducive environment is one in which a teacher is well motivated either with monetary or non–monetary motivators.

*Statement of the Problem*

Despite several efforts of the government to encourage teachers to improve the academic achievement of students as well as get students interested in studying mathematics, there are still concerns that students' interest in mathematics is diminishing and their academic achievement is generally poor in the Senior Secondary School Examination conducted by WAEC and NECO. This has brought a lot of concern to the government, examination bodies and even parents. Lots of factors have been attributed to the poor achievement and lack of interest in mathematics by senior secondary school students. These factors are variables that could inhibit effective teaching and learning of mathematics. They include lack of qualified teachers, teaching experience, lack or inadequate use of instructional materials and lack of motivation. It is against this backdrop of students' poor academic achievement and lack of interest in mathematics that this study sought to examine the variables of teachers' experience, motivation, as predictors of students' academic achievement and interest in Mathematics among secondary school students in Delta North Senatorial District.

*Research Questions*

The following questions were raised to guide the study.

1. What is the Relationship between Teachers' Years of Experience, motivation and Students' Achievement in Mathematics?
2. What is the Relationship between Teacher Years of Experience, motivation and Students Interest in Mathematics?

*Hypotheses*

The following hypotheses were formulated and tested at a significance level of 0.05:

$H_o1$: Teachers' Experience and Motivation are not significant predictors of Student's Achievement in Mathematics

$H_o2$: Teachers' Experience and Motivation are not significant predictors of Student's Interest in Mathematics

*Purpose of the Study*

The main purpose of this study is to determine the relationship exists between teachers' qualification, experience, and motivation with students' academic achievement and

interest in Mathematics among secondary school students in Delta North Senatorial District.

The specific objectives of this study are to:

1. Determine the Relationship between Teachers' Experience, Motivation and Student's Achievement in Mathematics
2. Determine the Relationship between Teachers' Experience, Motivation and Student's Interest in Mathematics

*Significance of the study*

The outcome of this study would be significant to teachers, school management, parents, students, ministries of education, Future researchers and school proprietors and proprietresses. The findings of this study would be of great help to teachers via on the imperative of formal education as it will help them to realize that more training produces better achievement in students. This will help them strive for higher qualifications to help improve their teaching methods and knowledge to enhance the better achievement of their students in mathematics. This is likely to help awaken head teachers and principals on the need for better ways of motivating teachers in schools.

The Educational administrators through this study may be well informed of the importance of employing qualified and experienced mathematics teachers and on the need to provide policies that motivate the teachers working under them since a teacher that is well motivated will have a positive influence on the students. Information provided by this study will be a source of information to school administrators and Parents teachers association as they would know that motivating teacher through monetary and non–monetary means will result in job satisfaction which will, in turn, improve students' academic achievement and interest in the study of mathematics and other subjects in general.

Information provided by this study will be a source of information for future researchers such that variable not covered in this study can then form the basis for their own research work. For curriculum planners, this study may help them include into curriculum the appropriate variables that will help in realizing the objectives of the curriculum.

*Scope and Delimitation of the study*

The scope of the study is restricted to teachers' experience and motivational level as predictors of students' academic achievement and interest in Mathematics. The Scope of mathematics Teachers' Experience is based on their years of teaching service that is from 1 to 35 years of service as a mathematics teacher. The motivational level was based the job satisfaction, relationship with fellow teachers, school management, their salaries and promotion. The study was delimited to selected SS I mathematics teachers and SS I students in Delta North Senatorial District.

*Limitations of the Study*

The Study was limited to SS1 students (males and Females), as students' opinions from other classes were not considered, thus giving room for incomplete comparison which imposes a limitation to the study.

## II. RESEARCH METHOD AND PROCEDURE

*Research Design*

The research design for this study is the correlational research design.

*Population of the Study*

The population for the study comprised all mathematics teachers and senior secondary school mathematics students in SS1 in Delta North Senatorial District.

*Sample and Sampling Technique*

The sampling technique used is the stratified random sampling technique, the study area, Delta North Senatorial District comprises nine local government areas. The Senatorial District was stratified into three Educational Zones, Furthermore, four secondary schools were sampled from each Local Government Area selected (using the simple random sampling) in the zones. The sampled teachers used for this study are one mathematics teacher for SS 1 in each of the schools, making it 24 mathematics teachers. For the sampled students, intact classes that these 24 mathematics teachers are teaching were used for the study. A total of 952 SS1 students were used for this study.

*Research Instruments*

Three Instruments were used for this study. They are Teachers' variables and Motivational Level (TDML) Questionnaire, Students Interest in Mathematics (SIM) Questionnaire and Past Mathematics Achievement Scores for the SS1 student sampled.

The first instrument used for data collection was a questionnaire titled; Teachers' variables and motivational level Questionnaire. The teachers' questionnaire was divided into two sections. Section A elicited personal information of the teacher like their Gender, Educational attainment, grade level, Certification, Years of experience, and the area of specialization. Section B addressed the motivational level of the mathematics teachers. The items on the motivation scale were adapted from the work of Bernard, Wilson, and Gardner (2009). It adopted the Four points Likert scale (4- strongly agree, 3- Agree, 2 –disagree and 1 strongly disagree) and has 12 statements addressed to various aspects of motivation. This questionnaire was distributed to the SS1 mathematics teachers from the schools sampled.

The second instrument was the students' questionnaire titled 'Students Interest in Mathematics' Questionnaire (SIMQ). The questionnaire addressed their gender, Age and Class. As well as their likes and dislikes for the subject mathematics. Negatively worded statement was

reversely coded. The Third instrument used was the First term (2018/2019 session) Mathematics Achievement scores for the SS1 students in the sampled secondary schools where be provided by the various school authorities.

*Reliability of the Research Instruments*

To ensure the internal consistency of the instrument, the researcher prior to the administration of the instrument, administered it to a non-test group. The reliability of the instrument was tested using Cronbach's alpha for estimating the internal consistency of the instrument. For the Student Questionnaire which is the SIM, the instrument had a reliability index (α) of 0.82, while the TDMS instrument had a reliability index (α) of 0.81. These were adjudged high enough for the study.

*Method of Data Collection*

Copies of the questionnaires were administered by the researchers to the teachers and students in the 24 secondary schools that were used for the study. These questionnaires were administered by the researcher and with the help of some research assistants that lived in some of the locations of the study. The various school authorities were approached for permission to distribute the questionnaire to the students of the various schools. All the administered copies of the questionnaire were retrieved from the respondents by the researcher and her assistants. The past result (previous terms mathematics achievement scores) of the students were collected from the schools.

*Method of Data Analysis*

The data collected were collated and analyzed using the Statistical Package for Social Science (SPSS) version 23. The research questions were answered using the Pearson Product Moment Correlation and Canonical correlation. Hypotheses were tested were tested using Multiple Regression Analysis. These tests were conducted at a 95% confidence level (or 0.05 levels of significance).

## III. RESULTS

Research question I

What is the Relationship between Teachers' Experience, Motivation and Student's Academic Achievement in Mathematics?

Table I: canonical correlation between Teachers' Experience, Motivation and Student's Academic Achievement in Mathematics

| Teachers Variable | R | Canonical r | Variance explained |
|---|---|---|---|
| Teachers Experience | 0.455 | 0.774 | 0.598 |
| Motivation | 0.609 | | |

Table 1 showed that teachers experience has a positive relationship with academic achievement (r = 0.455), motivation also has a positive relationship with students' academic achievement (r = 0.609), the combination of teachers experiences and motivation had a positive relationship with Students' academic achievement in Mathematics (cancor r = 0.774). The variance explained by the combination of the teachers experience and motivation is 0.598, indicating that the combination of the two teachers' variables have a positive influence of 59.8% on the academic achievement of their students in Delta North Senatorial District.

*Hypothesis 1*

Teachers' Experience and Motivation are not significant predictors of Student's Achievement in Mathematics

Table II: Multiple Regression analysis between Teachers' Experience, Motivation and Student's Achievement in Mathematics

| **Source** | **SS** | **df** | **MS** | **F** | **Adjusted $R^2$** | **Std. error of Estimate** | **P** |
|---|---|---|---|---|---|---|---|
| **Regression** | 533.50 | 2 | 266.75 | 15.69 | 0.560 | 4.13 | 0.00 |
| **Residual** | 357.98 | 21 | 17.047 | | | | |
| **Total** | 891.48 | 23 | | | | | |

Significance: P< 0.05

Table II showed that there was a significant relationship between Teachers' Experience, motivation and Students' Academic Achievement in Mathematics (F (2, 21) = 15.69; $\rho < 0.05$). The adjusted $R^2$ value of 0.560 indicates that the combination of teachers' years of their teaching experience and motivation has a large influence of 56% on the academic achievement of students in mathematics. The null hypothesis Eight is therefore rejected. The result therefore showed that there is a significant relationship between Teachers' Experience, motivation and Students' Academic Achievement in Mathematics. To determine the level at which each variable significantly predicted student academic achievement, the regression coefficients were computed. The result is presented in Table 3

Table III: Regression coefficients of Teachers' experience and motivation on students' academic achievement in mathematics

| Model | Unstandardized Coefficients | | Standardized Coefficients | P |
|---|---|---|---|---|
| | B | Std. Error | Beta | |
| (Constant) | 28.141 | 5.951 | | 0.000 |
| Teachers years of Experience | 0.480 | 0.139 | 0.477 | 0.002 |
| MOTIVATE | 0.746 | 0.165 | 0.626 | 0.000 |

Table III showed that the B values for Teachers years of experience and motivation. For teachers' experience, the B value is 0.480 indicating that if there is an increase in teacher experience by one unit; students' academic achievement will increase by 0.480 units (this is true only if the effect of motivation is held constant). For motivation the B value is 0.746. This means that for every one unit increase in teachers' motivation, there will be an increase of 0.746 units in the academic achievement of students (this also is true only if the effect of teachers' years of teaching experience is held constant).

In determining if the predictors are making significant contribution to students' academic achievement in mathematics, the beta value is used. The Table 3 shows that both teachers variables are significant positive predictors of students' academic achievement in mathematics; but of the two, teachers experience ($\beta = 0.477$; $\rho < 0.05$), is a lesser significant positive predictor of students' academic achievement in mathematics than teachers' motivation ($\beta = 0.626$; $\rho < 0.05$), in the model.

*Research Question 2*

What is the Relationship between Teachers' Experience, Motivation and Student's Interest in Mathematics?

Table IV: Canonical Correlation between Teachers' Experience, Motivation and Student's Interest in Mathematics

| Teachers Variable | R | Canonical r | Variance explained |
|---|---|---|---|
| Teachers Experience | 0.299 | 0.332 | 0.110 |
| Motivation | 0.134 | | |

Table IV showed that the combination of teachers' experience and motivation had a positive relationship on Students' interest in Mathematics (cancor r = 0.332). The variance explained by the combination of the teachers experience and motivation is 0.110, indicating that the combination of the two teachers' variables have a positive influence of 11% on the academic achievement.

*Hypothesis 2*

Teachers' Experience and Motivation are not significant predictors of Student's Interest in Mathematics?

Table V: Multiple Regression Analysis between Teachers' Experience, Motivation and Student's Interest in Mathematics

| **Source** | **SS** | **df** | **MS** | **F** | **Adjusted $R^2$** | **Std. error of Estimate** | **P** |
|---|---|---|---|---|---|---|---|
| **Regression** | 27.69 | 2 | 13.84 | 1.30 | 0.026 | 3.26 | 0.29 |
| **Residual** | 222.99 | 21 | 10.62 | | | | |
| **Total** | 250.68 | 23 | | | | | |

Table V showed that there is no significant relationship between Teachers' experience and motivation on students' interest in Mathematics ($F(2, 21) = 1.30$; $\rho > 0.05$). The adjusted $R^2$ value of 0.026 indicates that the combination of teachers' qualification and years of their teaching experience has a very small influence of 2.6% on interest of students in mathematics. The Null hypothesis eleven is therefore accepted. The result maintained that Teachers' Experience and Motivation are not significant predictors of Student's Interest in Mathematics.

## IV. DISCUSSION OF RESULT

The study revealed a significant relationship between teachers' years of experience and students' academic achievement in mathematics. This finding is similar to that of Ewetan and Ewetan (2015) who reported in their study, that year of teaching experience influence student's achievement. Rice (2010) also reported that the impact could positive or negative. This study however reported a positive impact of experience on students' academic achievement in mathematics. Other studies which reported similar finding are that of Bamidele and Adekola (2017) and Bonney *et al.* (2015). Both reported in their study, that teachers with higher years of experience had students with higher achievement scores, confirming the predictive direction of this study. The study revealed no significant relationship exists between teachers' years of experience and students' interest in mathematics. This is contrary to the findings of Khayati and Payan (2014) and Hill, Rowan and Ball (2014), whose studies revealed that teachers' year of experience is a factor that influences students' interest in mathematics positive.

This study also revealed that there was a significant relationship between teachers' motivation and students' academic achievement in mathematics, hence motivation is a significant predictor of students' achievement in mathematics. The finding in this present study is similar to that reported by Shafiwu (2014) in Wa Municipality, where the researcher reported that public basic school teachers that were motivated reflected in their students' achievement. Ofoegbu (2004) also reported a similar finding in his study, where he observed that primary school teachers indicated that quality of education could be improved by motivating teachers to teach. Unlike the report of Vansteenkiste *et al.* (2009), who reported that teacher motivation influence students' self-determination in students, the finding of this study reveals otherwise. In this study it was revealed that there was no significant relationship between teachers' motivation and students' interest in mathematics. Vansteenkiste *et al*. (2009) however, stated that the quality of the motivation matters. As noted by Male (2009) monetary and non- monetary motivation of teachers, tends to yield better results in the students.

This study revealed that there was a significant relationship between Teachers' Experience, motivation and Students' Academic Achievement in Mathematics (hence significant predictors of students' achievement in mathematics). This finding is in line with the report of Bamidele and Adekola (2017), where it was asserted that experienced teachers are less dictatorial in the classroom and are open to correction because they draw from the wealth of experience that they have, hence they are able to influence

their students' academic achievement positively. This finding is also supported by Male (2009) who reported that higher academic achievement of students is associated with teachers that motivated to teach (such as those with higher pay). The significant positive relationship of experience and motivation with students' academic achievement could probably be because of the fact, that teachers that are experienced in public secondary also have their salaries or other benefits higher than the inexperienced teachers. And so their experience being commensurate with the income or other incentives tends to boost the effort the teachers apply in the teaching and learning process in schools, which eventually may lead to higher academic achievement in students. The study revealed that was no significant relationship between Teachers' experience and motivation on students' interest in Mathematics.

Finally, this study revealed that while teachers' years of experience and motivation are significant predictors of students' academic achievement in mathematics, they are not significant predictors of students' interest in mathematics. In addition, motivation was the higher predictor of students' academic achievement and interest in mathematics. This finding is supported by the works of Shafiwu (2014), Male (2009) and Ofoegbu (2004). They all reiterated in their various studies that when teachers are motivated to teach, their performance will be at its peak and will be reflected in the achievement scores of their students. Male (2009) also reported in his study that teacher's motivation is instrumental in maintaining an outstanding academic performance in students.

## V. CONCLUSION

Based on the findings of this study, it was concluded that the Teachers' years of teaching experience and motivation has a medium impact on students' achievement in mathematics and a very small impact on student interest in mathematics. While the combination of teachers' experience and motivation had a large impact on students' achievement in mathematics, and a small impact on students' interest in mathematics,

## VI. RECOMMENDATIONS

Based on the findings and conclusions drawn from this study, the following recommendations were made:

1. Teachers that are experienced should be made to teach mathematics in secondary schools.
2. Teachers' policies that focus on retaining experienced teachers as well as training newly employed mathematics teachers in secondary schools should be implemented.
3. Other than salaries, efforts should be made by the government to motivate Mathematics teachers (both in monetary and non-monetary value) because as indicated in this study, it is largest contributor to student academic achievements and interest in mathematics.
4. Also award giving day should be organized by the government /school authorities to appreciate the outstanding mathematics teachers.

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