# TEACHERS' COMPETENCY IN EVALUATING SENIOR SECONDARY II STUDENT' PSYCHOMOTOR DOMAIN IN MATHEMATICS CURRICULUM IN FEDERAL CAPITAL TERRITORY ABUJA

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## Abstract

The study assessed Mathematics teachers' competency in evaluating psychomotor domain of senior secondary school II mathematics curriculum during classroom lessons in Federal Capital Territory Abuja. Four research questions and three hypotheses guided the study. Descriptive survey research design was adopted. The population of the study was 241 mathematics teachers' from the 62 government owned senior secondary schools in F.C.T-Abuja. The sample for the study was 96 Mathematics teachers. Rating scale on Mathematics teachers' competency in the evaluation of students' psychomotor domain of SS II mathematics curriculum (MTCESPD) served as data collection instrument. Mean and standard deviation were used to answer the research questions, while ANOVA and t-test at 0.05 significance level each, were used to test the hypotheses. The findings of the study indicated that Mathematics teachers do not possess the competency to objectively evaluate students' psychomotor areas during Mathematics lesson. The conclusion was that Mathematics teachers do not possess the *competency to objectively evaluate students' psychomotor areas during* Mathematics lesson, gender do not influence Mathematics teachers' competency to evaluate students' psychomotor domain, also *qualification influences Mathematics teachers' competency to evaluate* students' psychomotor domain and teachers' experience influences Mathematics teachers' competency to evaluate the students' psychomotor component of SS II Mathematics curriculum. It was recommended that Mathematics teachers should be encouraged to improve in their competency to objectively evaluate students' psychomotor domain.

Keywords: Competency, Assessment, psychomotor, domain, Mathematics, Curriculum.

#### Introduction

The instrument for attaining national development in different countries today, especially in Nigeria, is education, which is one of the most important instruments of change. The philosophy of education in Nigeria, as contained in the National Policy on Education (Federal Republic of Nigeria, 2013) states that: Education is an instrument for national development and social change; it maximises the creative potentials and skills of the individual for self-fulfilment and general development of the society; it is compulsory and also the right of every Nigerian irrespective of gender, social status, religion, ethnic background and any individual with peculiar challenges; among others.

In a changing environment, Mathematics is being taught to match the changing demands or requirements of modern society. Mathematics is also one of the core subjects in science that has the function of developing students' skills, knowledge, attitude and values towards solving problems and satisfaction of real needs in life. It is a tool for scientific and technological development. Thus, learning Mathematics is very important for an individual's full development in today's complex society. Mathematics is a tool and language of commerce, engineering and other sciences. It as well has relevance in space travel, business, decision making, modelling the spread of epidemics, predicting stock market prices and so on Harbor-Peters (2001). It is very necessary for an individual to acquire mathematical ability in order to have proper mental development. In this vein, students should acquire mathematical ability so as to effectively function, and to be mentally well in our today nation. Also Awodeyi (2004) opined that Mathematics has always been seen as a factor in the prosperity, development and undertaking of any nation. According to Federal Republic of Nigeria (2013), senior secondary curriculum consists of Science and Mathematics, Technology, Humanities and Business Studies as its core fields of study. The Mathematics curriculum represents the total experiences to which all learners must be exposed to; the contents, performance objectives, activities for both teachers and learners, teaching and learning materials and evaluating guide are provided. All the objectives mentioned reveal the importance of mathematics both to individuals in a particular field and to the society at large. This importance is clearly reflected in its status as a compulsory subject for all learners at basic and secondary school levels (Federal Republic of Nigerian, 2013). Due to the great importance attached to the learning of Mathematics, it becomes important to assess the competencies possessed by Mathematics teachers in the evaluation of learners in Mathematics so as to find out whether learning is actually taking place or not.

Evaluation, according to Nworgu (2015), is a process of seeking, obtaining and quantifying data with a view to making value judgment about objects, events or their characteristics. Evaluation is a very important part of education. Adodo (2014) sees evaluation as that which is used to ascertain the value of what someone is doing and the extent, to which it is well done. Adodo (2013) also states that, the type of evaluation a teacher uses in the class

room, have high implications on students' academic results also the nature of instructional procedure affects their academic results. Evaluation in education involves three components—cognitive, affective and psychomotor. Cognitive components are intellectual outcomes of instruction, thinking, memory, knowing and problem solving rearrangement. It has six levels which include remembering, understanding, applying, analysing, evaluating and creating. Affective domain deals with description of changes in interest, feelings, emotions, attitude, values and the development of appreciation and adequate adjustment. The affective component has five levels which consist of receiving, responding, valuing, organisation and characterisation. Psychomotor components cover those objectives involving muscular and motor abilities or manipulations of material and objects, or activities that have to do with muscular coordination (Izuagba, Ayanwu, Obiefuuna & Afurobi, 2009). Psychomotor involves imitation, manipulation, precision, articulation, and naturalization. It has five levels made up of reflex movement, basic fundamental movement, perceptual abilities, non-discursive communication, physical abilities and skilled movement.

Mathematics teachers should have or acquire the competency and ability for the evaluation of psychomotor areas of students. However, teachers seem to pay less attention to the psychomotor components. This calls for concern because, for a student to reach an overall mental development, the three components- affective, cognitive and psychomotor- must be reflected to ascertain full learning outcomes. Teachers as the implementer of the curriculum therefore should possess competency to evaluate students especially in the psychomotor areas which are all provided in the curriculum. Competency here is the skills an instructor shows on a job and the understanding they have got from their studies (Adodo, 2013). A competent instructor has the ability to put into practice in the classroom, the knowledge and skills acquired from professional training. A teacher is seen as a store of knowledge acquired and adapted to meet the demands of the teaching profession. Successful teaching and learning which enhance proper evaluation of the students' psychomotor components of Mathematics curriculum can be attained if such teachers combine their experiences with professional training. Experience, in the views of Harrs and Sass (2007), refers to increase in special training found in teachers because of continuity in their work or job, study about their job and the like. Experience therefore could be referred to as knowledge acquired in the job over a reasonable period of time which can be used to improve performance. An experienced Mathematics teacher in this study is one that has acquired more subject content knowledge; pedagogical skills on Mathematics as a result of teaching Mathematics for over a period of time and years.

Another thing that adds to teachers' experiences is the 'in service' training they have obtained. This can be in form of workshops and conferences, attended in relation to the subject and the profession. Mathematics teachers with experience in teaching Mathematics get used to the curriculum and are able to evaluate students' psychomotor areas of Mathematics curriculum in the classroom properly. With this in mind, this study seeks to

ascertain the teacher's ability to evaluate the psychomotor components of senior secondary II Mathematics curriculum during classroom lessons, in relation to years of experience on the job. Ewetan and Ewetan (2015) found out that instructor's teaching experience remarkably affected students performances as it could be seen in their Mathematics final examination result. Oyewole (2011) revealed that there was a significant relationship between teachers' years of experience and teacher' job performance. In a similar study, Joshua, Ekanem and Agborbechem (2010) showed among other things that teacher effectiveness was not significantly influenced by any of the three teacher characteristics (gender, academic qualification and teaching experience).

Teachers' gender is another factor that influences teachers' competency in evaluating students' psychomotor components. Teachers may be classified by gender as either male or female. Gender of the teacher may also influence the acquisition of knowledge, skills and attitudes. Okoro, Ekanem and Udoh (2012) showed that the school result mean scores of pupils taught by male teachers is notably distinct from those pupils taught by female instructors. Odunaike, Ijaduola and Amode (2013), tested a number of variables on teachers gender and found out that female instructors put extra efforts to teach than male instructors who perceive teaching as a profession for the females. Heather, Ozkan and Serkan (2012), studied the effects of teachers' gender on students' achievements. The study revealed that students taught by female Mathematics instructors had poor results. Oreopoulous and Hoffman (2009) revealed that teachers' gender plays only a minor role in determining college students' achievements. Based on the contradictory nature of the findings of these studies, the present study investigated the influence of gender, experience, and educational qualification of Mathematics teachers on their competency in evaluating psychomotor domain of senior secondary school II Mathematics curriculum.

In the light of the foregoing discussion, most teachers have continued to focus only on the cognitive domain to the exclusion of the psychomotor domain in students' evaluation, after the introduction of continuous assessment in the education system over many years. This implies that the overall ability of the learner may not be assessed. The continuous assessment programme gives the teacher the task of giving evidence of the child's achievements in the affective, cognitive and psychomotor domains. For the teacher to be able to do this effectively, the teacher needs to possess certain competency. The continuous poor results of some students in Mathematics as evidenced by the Senior School Certificate Examination (SSCE) results and also the number of candidates that registered for mathematics in the University Tertiary and Matriculation Examination (UTME) in Nigeria may not be good enough for a growing nation such as Nigeria (WAEC, 2016). The below-standard performance in mathematics maybe attributed to mathematics teachers' inability to evaluate overall ability of students during teaching and learning processes, for they only evaluate 1/3<sup>rd</sup> of students' abilities (cognitive domain) at the expense of 2/3<sup>rd</sup> of students' abilities (affective and psychomotor domain).

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In the same way, students' inability to use their manipulative skills (psychomotor) properly leads to the application of these skills negatively to the detriment of the society. This is seen in the forms of ill manufacturing of explosives and destructive weapons, hacking people's accounts and high rate of fraudsters in the society (Okpara, 2019). Most of these problems arise possibly because of teachers' inability and incompetency to monitor and evaluate students psychomotor domain and to properly channel the students' psychomotor skills the way they should go (career wise) for the development of the society and in advancing science and technology in the country.

Students' underperformance, which may be accredited to teachers' inability, has brought about worrisome state of affairs (Okpara, 2019). This study, therefore, assessed Mathematics instructors' competency in evaluating students' psychomotor domain of SSII Mathematics curriculum during classroom lessons in the six Education Zones of FCT-Abuja. Specifically, the study assessed influence of gender on mathematics teachers' competency in evaluating the psychomotor domain of SSII Mathematics curriculum during classroom lessons; qualification influence on mathematics teachers' competency (skills and ability) in the evaluation of the psychomotor domain of SSII Mathematics curriculum during classroom lessons; impact of experience on Mathematics teachers' competency to evaluate the psychomotor domain of SSII mathematics curriculum during classroom lessons.

### **Research Questions**

- 1. What is the mean rating of mathematics teachers' competency to objectively evaluate students' psychomotor areas of SSII mathematics curriculum during classroom lessons?
- 2. What is the influence of gender on mathematics teachers' competency to objectively evaluate students' psychomotor areas of SSII mathematics curriculum during classroom lessons?
- 3. What is the influence of qualification on mathematics teachers' competency to objectively evaluate students' psychomotor areas of SSII mathematics curriculum during classroom lessons?
- 4. What is the influence of experience on mathematics teachers' competency to objectively evaluate students' psychomotor areas of SSII mathematics curriculum during classroom lessons?

## **Research Hypotheses**

 $Ho_1$  There is no significant influence of gender on mathematics teachers' competency to objectively evaluate students' psychomotor areas of SSII mathematics curriculum during classroom lessons.

 $Ho_2$ . There is no significant influence of qualification on mathematics teachers' competency to objectively evaluate students' psychomotor areas of SSII mathematics curriculum during classroom lessons.

**Ho**<sub>3.</sub> There is no significant influence of experience on mathematics teachers' competency to objectively evaluate students' psychomotor areas of SSII mathematics curriculum during classroom lessons.

#### Methods

The descriptive survey research design was deployed in carrying out this research work. The study area was the Federal Capital Territory (F.C.T), Abuja. Abuja is made up of 6 Local Government Councils, namely: Gwagwalada, Kuje, Abaji, Bwari, Municipal and Kwali Area Council. Each of the area councils has one educational zone, totalling six educational zones in the FCT. The study's population was composed of 241 teachers; the sample size was 96 (68 male and 28 female) SSII Mathematics teachers. The sample constituted only 40% of the population size, because the population size was of few hundred. Purposive sampling method was used to draw 4Area Councils out of the 6Area Councils in FCT-Abuja. The selected Area Councils are Municipal, Bwari, Gwagwalada and Kuje Area Councils. The 2 other Council Areas were excluded from this study because they had had less than 20 mathematics teachers, which was the basic requirement for inclusion in the study. Proportionate sample procedure was used to select mathematics teachers who were included in the study, to ensure equal representation of teachers from each of the selected education zones. Also proportionate stratified sampling pattern was used to choose the numbers of male and female mathematics instructors. Area councils form the strata and mathematics teachers were randomly drawn from each stratum according to their relative calculated proportions in the strata, number of teachers selected from each of the area councils are as follows; 20 from Bwari, 20 from Gwagwalada, 10 from Kuje and 46 from Municipal area council.

Observation technique was used for data collection. The researchers constructed a rating scale on mathematics teachers' competency in evaluation of students' psychomotor domain of senior secondary school II mathematics curriculum (MTCESPD) as guide. The instrument has 2 parts: Section one and Section two. Section one captured the demographic information of the respondents while Section two elicited data on mathematics teachers' competency in evaluating students' psychomotor domain of senior secondary school II mathematics curriculum and was made up of two clusters. Each of the clusters was rated on three point-rating scales as follows: Highly Competent (3), Competent (2) and Low Competent (1). MTCESPD was validated. The face and content validation was done by 3 evaluators and one mathematics lecturer. Corrections and comments made by the experts were used to improve the validity of MTCESPD. Cronbach Alpha technique was used and the reliability coefficient was 0.86, indicating reliable instrument. A direct observation of

mathematics instructors was used. Four research assistants were engaged for this research work. In an intensive training that lasted three hours, the research assistants were instructed on how to rate the respondents. Each research assistant was assigned to observe 24 Mathematics teachers. The research assistants used rating scale to indicate the level to which the mathematics teachers are competent in evaluating students' psychomotor components of SSII mathematics curriculum. The level of Mathematics teachers' competence in evaluating students' psychomotor components were observed and rated during instructions. At end of each day observation, the research assistants' submitted the rated instrument to the researcher. This process was repeated until the observation of 96 Mathematics teachers was completed. The entire process for data collection lasted for ten days. Independent sample t-test and ANOVA at 0.05 significant levels each were used to test the null hypotheses.

## Results

**Research Question 1:** What the mean ratings of mathematics teachers' competency to objectively evaluate students' psychomotor areas during mathematics lessons?

 Table 1: Mean and Standard Deviation of the mean ratings of Mathematics Teachers'

 competency to objectively evaluate students' psychomotor areas during mathematics lesson

S/N Psychomotor Areas	Mean	SD	Remark
1 Hand writing on mathematics note	2.04	0.76	Competent
2 Drawing skills in mathematics lessons	1.77	0.74	Low Competent
3 Handling of mathematical tools	1.83	0.74	Low Competent
4 Verbal fluency in mathematics lessons	1.81	0.66	Low Competent
Grand Mean	1.86	0.73	Low Competent

The result in Table 1 shows that item 1 had a mean of 2.0 which is the benchmark, while item 2 to 4 had a mean below the benchmark. Also, the grand mean is 1.86, which is below the benchmark. This implies that the mathematics teachers have low competency to objectively evaluate students' psychomotor areas during mathematics lesson.

**Research Question 2:** What is the influence of gender on mathematics teachers' competency in evaluation of students' psychomotor components?

 Table 2: Mean and Standard Deviation analysis of the influences of gender on mathematics teachers' competency in evaluating students' psychomotor component of SSII mathematics curriculum

Gender	Ν	Mean	SD
Male	68	2.23	0.47
Female	28	2.09	0.22

The result in table 2 shows that male mathematics teachers' had the mean score of 2.23 and standard deviation of 0.47 while the female mathematics teachers had the mean score of 2.09 and standard deviation of 0.22, both fall within the range of the bench mark, which is 2.0. This implies that, male mathematics teachers' have high mean ratings than the female teachers, in evaluating students' psychomotor component of SSII mathematics curriculum.

**Research Question 3:** What is the influence of experience on mathematics teachers' competency to objectively evaluate students' psychomotor areas of SSII mathematics curriculum during classroom lessons?

 Table 3: Mean and Standard Deviation analysis of the influence of experience on

 mathematics teachers' competency in evaluating students' psychomotor component of SSII

 mathematics curriculum

Experience	Ν	Mean	SD
1 to 8 Years	34	2.09	0.56
9 to 16 years	46	2.23	0.32
17 years and above	16	2.25	0.29

The result in table 3 shows that mathematics teachers' with 1-8 years, 9-16 years, 17 years and above have the following mean ratings 2.09, 2.23 and 2.25 and standard deviation of 0.56, 0.32 and 0.29 respectively. This implies that, mathematics teachers' with 17 years and above experience are more competent in evaluating students' psychomotor components of SSII mathematics curriculum, followed by those with 9-16 and 1-8 years being the least among the group.

**Research Question 4:** What is the influence of qualification on mathematics teachers' competency to evaluate students' psychomotor component of SSII mathematics curriculum?

 Table 4: Mean and Standard Deviation analysis of the influence of qualification on

 mathematics teachers' competency in evaluating s tudents' psychomotor component of SSII

 mathematics curriculum

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Qualification	Ν	Mean	SD	
B.ED / PGDE	38	2.27	0.27	
HND / B.SC	34	2.22	0.36	
M.ED AND ABOVE	24	2.02	0.62	

The result in Table 4 shows that mathematics teachers' with B.ED/PGDE, HND/B.SC, M.ED and above have the following mean scores 2.27, 2.22, and 2.02, standard deviation of 0.27, 0.36 and 0.62 respectively. This implies that, mathematics teachers' with B.ED/PGDE are more competent in evaluating students' psychomotor component of SSII mathematics curriculum.

**Hypothesis 1:** There is no significant influence of gender on mathematics teachers' competency in evaluating the students' psychomotor component in SS II mathematics curriculum.

 Table 5: t -test analysis of the influence of gender on mathematics teachers' competency in evaluating students' psychomotor component of SS II mathematics curriculum

Gender	Ν	X	SD	Df	t-value	Sig. (2-tailed)
Male	68	2.23	0.47	94	1.45	0.15
Female	28	2.09	0.22			

The result in Table 5 above shows that the probability associated with t-value of 1.45 is 0.15. Since probability value is greater than the level of significance 0.05. The null hypothesis  $(H_{01})$  was not rejected. Hence, the t-test above shows that there is no significant influence of gender on mathematics teachers' competency in evaluating the students' psychomotor component in SS II mathematics curriculum.

**Hypothesis 2:** There is no significant influence of qualification on mathematics teachers' competency in evaluating the students' psychomotor component in SS II mathematics curriculum.

 Table 6: ANOVA on the influence of qualification on mathematics teachers' competency in evaluating the students' psychomotor component in SS II mathematics curriculum

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.930	2	.465	2.760	.016
Within Groups	15.667	93	.168		
Total	16.597	95			

The result in Table 6 shows that the probability associated with F-value of 2.76 is 0.016. Since probability value is less than the level of significance 0.05. The null hypothesis was rejected. Hence, the ANOVA table above shows that there is significant influence of qualification on mathematics teachers' competency in evaluating the students' psychomotor component in SS II mathematics curriculum.

 Table 7: Post Hoc Test of the Comparison between the Mean ratings of influence of qualification on mathematics teachers' competency to evaluate students' psychomotor component of SS II mathematics curriculum

		Mean Difference		<b></b>	D
(I) Qualification	(J) Qualification	(I-J)	Std. Error	Sig.	Dec
B.ED / PGED	HND / B.SC	.04775*	.09689	.023	S
	M.ED AND ABOVE	.19702	.10943	.205	NS
HND / B.SC	B.ED / PGED	.04775*	.09689	.023	S
	M.ED AND ABOVE	.24477*	.10702	.044	S
M.ED AND	B.ED / PGED	.19702	.10943	.205	NS
ABOVE	HND / B.SC	.24477*	.10702	.044	S

The result in Table 7 is a multiple comparison test of the difference in the mean ratings, among B.Ed/ PGDE, HND/B.SC and Masters Degree and above, on the influence of qualification on mathematics teachers' competency to evaluate students' Psychomotor component of SS II mathematics curriculum. The mean difference between B.Ed/PGDE and HND/B.SC was 0.047 with associated probability value of 0.023. The result showed that there was a significant difference between the mean ratings of B.Ed/ PGDE and HND/B.SC Mathematics teachers in favour of B.Ed/PGDE teachers. This is because the associated probability value of 0.023 was less than 0.05 level of significance. A comparison of HND/B.SC and Master's degree and above showed a mean difference of 0.244 with associated probability value of 0.44. The result of the study showed that there was a significant difference between the mean ratings of HND/B.SC and Master's Degree and above in favour of Master's degree. The result of Table 7 also shows that the mean difference of B.Ed/PGDE and Master's degree and above was 0.197 with associated probability value of 0.205. This implies that there is no significant difference between the mean ratings of B.Ed/PGDE and Master's degree and above. Hence the significant difference observed in hypothesis 2 ( $H_{02}$ ) was between B.Ed/ PGDE and B.SC/HND in favour of B.Ed/PGDE; HND/B.SC and Master's degree and above only in favour of Master's degree.

**Hypothesis 3:** There is no significant influence of experience on mathematics teachers' competency in evaluating the students' psychomotor component in SS II mathematics curriculum.

Table 8: ANOVA on theinfluence of experience on mathematics teachers' competency inevaluating the students' psychomotor component in SS II mathematics curriculum

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.425	2	.213	1.223	.029
Within Groups	16.171	93	.174		
Total	16.597	95			

The result in Table 8 shows that the probability associated with F-value of 1.223 is 0.029. Since probability value is less than the level of significance 0.05. The null hypothesis was rejected. Hence, the ANOVA table shows that there is significant influence of experience on mathematics teachers' competency in evaluating the students' psychomotor component in SS II mathematics curriculum.

(I) YEARS OF TEACHERS EXPERIENCE	(J) YEARS OF TEACHERS EXPERIENCE	Mean Difference (I-J)	Std. Error	Sig.	Dec
1 to 8 Voors	9 to 16 years	13457	.09431	.157	NS
1 10 6 10018	17 years and above	15045*	.12642	.023	S
9 to 16 years	1 to 8 Years	.13457	.09431	.157	NS
	17 years and above	01589*	.12103	.018	S
17 years and above	1 to 8 Years	.15045*	.12642	.023	S
	9 to 16 years	.01589*	.12103	.018	S

 Table 9: Post Hoc Test of the Comparison between the Mean ratings of influence of experience on mathematics teachers' competency to evaluate students' psychomotor component of SS II mathematics curriculum

The result in Table 9 is a multiple comparison test of the difference in the mean ratings among 1-8 years, 9-16 years, 17 years and above on the mathematics teachers' competency to evaluate the students' psychomotor component of SS II mathematics curriculum during lesson. The mean difference between 1-8 years and 9-16 years was 0.134 with associated probability value of 0.157. The result showed that there was no significant difference between the mean ratings of 1-8 years and 9-16 years Mathematics teachers. This is because the associated probability value of 0.157 was greater than 0.05 level of significance. A comparison of 1-8 years and 17 years and above showed a mean difference of 0.150 with associated probability value of 0.023. This result showed that there was a significant difference between the mean ratings of 1-8 years and 17 years and above in favour of 17 years. The result of Table 18 also shows that the mean difference of 9-16 years and 17 years and above was 0.0158 with associated probability value of 0.018. This implies that there is a significant difference between the mean ratings of 9-16 years and 17 years and above in favour of 17 years. Hence the significant difference observed in hypothesis 3 ( $H_{03}$ ) was between 1-8 years and 17 years and above; 9-16 years and 17 years and above in favour of 17 years and above for both comparison.

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

The result of this study in table1 revealed that mathematics teachers are competent only in evaluating students' hand writing on mathematics note while they are not competent in evaluating students in the following psychomotor areas; drawing

skills in mathematics lesson, handling of mathematical tools and verbal fluency in mathematics lesson. This implies that mathematics teachers do not possess the competency to objectively evaluate students' psychomotor areas during mathematics lesson. Also, only one out of many psychomotor areas listed in students' dossier was objectively evaluated by mathematics teachers. The researchers suggest that mathematics teachers should objectively evaluate students in these psychomotor areas. Also proper observations and records should be kept on each student by their mathematics teachers. It would be a good thing if records are being kept on each student and objective observations documented. This study has established empirically that mathematics teachers do not possess the competency to objectively evaluate students' psychomotor areas during mathematics lesson.

The result in table 5 showed that there is no significant influence of gender on mathematics teachers' competency in evaluating students' psychomotor components of SS II mathematics curriculum. This is because the probability associated with t-value of 1.45 is 0.15. Since probability value is greater than the level of significance 0.05. The null hypothesis was accepted empirically establishing that there is no significant influence of gender on mathematics teachers' competency to evaluate students' psychomotor component of SS II mathematics curriculum. This finding agrees with that of Heather, Ozkan & Serkan (2012), which revealed that teacher's gender does not have any influence on students' achievement in mathematics; taking into account teacher's academic background in mathematics. However, the finding contradicts that of Lowerire and Diezmanin (2011) who conducted a research on gender difference in the implementation of performance objectives of graphical language in mathematics (GUM). The findings indicated that male teachers implement the performance objectives of graphical language than the female teachers and that of Adodo (2014), who observed a significant difference in teachers' gender and their competency in evaluating science learning outcomes.

The findings of this study revealed that there is significant influence of qualification on mathematics teachers' competency in evaluating students' psychomotor component of SS II mathematics curriculum as it is shown in table 6 and 7. This is because the probability associated with F-value of 2.76 is 0.016. Since probability value is less than the level of significance 0.05. The null hypothesis was rejected. Hence, concludes that there is significant influence of qualification on mathematics teachers' competency in evaluating the students' psychomotor component in SS II mathematics curriculum. This finding is in line with that of Aliyu, Yashe and Adeyeye (2013) and Abe (2014). They observed that there is significant influence of qualification on students taught by teachers of different qualifications. However, it contradicts that of Musau and Abere (2015), who observed that teachers' qualifications do not have any significant influence on students. The current study has been able to establish that teachers' qualifications have a significant influence on mathematics teachers' competency in evaluating students' psychomotor component of SS II mathematics teachers' qualifications have a significant influence on mathematics teachers' competency in evaluating students' psychomotor component of SS II mathematics uncluments.

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The result in table 8 and 9 revealed that teachers' experience has significant influence on mathematics teachers' competency in evaluating students' psychomotor component of SS II mathematics curriculum. This is because the probability associated with F-value of 1.223 is 0.029. Since probability value is less than the level of significance 0.05. Thus, the null hypothesis was rejected. Hence, there is significant influence of experience on mathematics teachers' competency in evaluating students' psychomotor component in SS II mathematics curriculum. This finding agrees with that of Oyewole (2011), who showed a significant relationship between teacher's years of experience and teacher's job performance and that of Ewetan and Ewetan (2015), which revealed that teachers' teaching experience significantly influenced students' academic performance in mathematics. However, the finding contradicts that of Adodo (2014), which revealed that teachers' years of experience and qualification do not have any effect on teachers' competency in evaluating students' cognitive and psychomotor achievement in basic science and technology. This study therefore has established empirically, that there is significant influence of experience on mathematics teachers' competency to evaluate students' psychomotor component of SS II mathematics curriculum

## Conclusions

Mathematics teachers do not possess the competency to objectively evaluate students' psychomotor areas during mathematics lesson. Gender do not influence mathematics teachers' competency to evaluate students' psychomotor component of SS II mathematics curriculum. Qualification influences mathematics teachers' competency to evaluate students' psychomotor component of SS II mathematics curriculum. Teachers' experience influences mathematics teachers' competency to evaluate the students' psychomotor component of SS II mathematics curriculum.

#### Recommendation

- i. Mathematics teachers should be encouraged by the government, to improve in their competency to objectively evaluate students' psychomotor areas. There should be an objective record of students' psychomotor areas kept by teachers each term just as it is objectively done for the cognitive areas.
- ii. Mathematics teachers should objectively evaluate students in these psychomotor areas. Also, proper observations and records should be kept on each student by their mathematics teachers. It would be a good thing if records are being kept on each student and objective observations documented
- iii. Teachers should be encouraged to go for a higher degree in education, seminars and workshops in order to increase their knowledge and skills to objectively evaluate students' psychomotor components

- iv. The government should employ more mathematics teachers in F.C.T. schools because of the number of student enrolled each year. This will enable the mathematics teachers to objectively evaluate students' psychomotor components in the curriculum.
- v. Due to heavy work load on F.C.T. mathematics teachers, financial allowances should be provided to encourage mathematics teachers to put in their best.

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