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Availability and Adequacy of Public Secondary School Mathematics Teachers in Benue State: Implication to Mathematics Education

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Abstract

The study investigated the availability and adequacy of public secondary school Mathematics teachers in Benue State, Nigeria. Based on the purpose and objectives of the study, six research questions were asked and six hypotheses formulated to guide the study. The descriptive survey research design was adopted in carrying out the study. The population of the study was made up of all mathematics teachers of Government owned secondary schools in Benue State. All the 266 mathematics teachers in Benue state were used for the study. The instrument for data collection was a questionnaire titled "Availability and Adequacy of Mathematics Teachers Questionnaire (AAMTQ)" with reliability coefficient of 0.76 determined using Cronbach alpha formula. The instrument was administered to the respondents with the help of the HODs of mathematics in the various schools in the study area. The data collected was analyzed using bar charts. The result of the study revealed that Mathematics teachers were available at a low extent

justifying that they were not adequate. Based on the findings, it was recommended that Government should employ mathematics teachers, provide incentives and use them during mathematics classes.

Keywords: Mathematics, Teacher Availability, Teacher Adequacy, Teaching Experience, Teacher Quality, Teacher-Student Ratio, Gender

Introduction

Mathematics is the foundation of science and technology and the functional role of Mathematics to science and technology is multifaceted and multifarious that no area of science, technology and business enterprise escapes its application. Nwoke and Nnaji (2011) state that Mathematics is the study of quantity, structures, space, and change. It developed through the use of abstraction and logical reasoning from counting, calculation, measurement, and the study of the shapes and motion of physical objects. The ingredient for the effective articulation of the abstract elements of science that gives impetus to the development of technologies of any nation is based on mathematics.

The indispensability of mathematics in human day to day activities cannot be over emphasized; therefore, considered as the bedrock of all scientific and technological breakthrough and advancement for all the activities of human development. According to Arokoyu and Charles-Ogan (2017), Mathematics is not just a core science subject but a precision tool employed by all scientists in their search for a clear understanding of the physical world as well as for the development of any science-based discipline. It is the language, as well as a tool of science and engineering. According to Udousoro in Nwoke, Ugwuegbulam, Duru, and Best-Njoku (2018), Mathematics has generally been accepted as the foundation of science and technology and it is a very important subject in the secondary school curriculum, therefore, every nation needs it for sustained scientific and technological development.

Mathematics occupies a crucial and unique role in the human societies and represents a strategic key in the development of the whole mankind. The ability to compute, related to the power of technology and to the ability of social organization, and the geometrical understanding of space time, that is the physical world and its natural patterns, show the role of Mathematics in the development of a society. The teaching and learning of this all-important subject may have been very difficult to students as a result of the unavailability and the problem of adequacy of mathematics teachers in the secondary schools which may have affected their performance in Benue State.

One of the causes of poor performance of students in mathematics in the public secondary school in Nigeria and elsewhere in the world is poor quality and quantity of teachers (Ingersoll & Perda, 2009). Availability of mathematics teachers has to do with category of teachers that have been trained formally for the task of teaching mathematics. In Nigeria, trained teachers for the public secondary school level are supposed to have a minimum of the Bachelor of Science Education (B.Sc.Ed.) or Bachelor of Education (B.Ed.) degrees before they are qualified to teach any subject including mathematics (Thomas & Mbwas, 2014). Usually, the training of the prospective teachers take place in

recognized tertiary institutions like the Colleges of Education (COE), Universities Institutes of Education in Nigerian universities. Adequacy of mathematics teachers represents the total number of qualified teachers who are employed to teach mathematics in the secondary schools in Benue state, Nigeria.

The availability and adequacy of mathematics teachers in the public secondary schools determines to a large extent how effective students are taught, understand and perform in mathematics. This is because mathematics teachers that are qualified and employed in the right quantity are supposed to teach effectively leading to effective learning and improved performance for students. But in a scenario where the teachers are not qualified, they cannot teach effectively since they will find the teaching difficult, therefore, this will affect the understanding and performance of their students in mathematics adversely. Unfortunately, the problem of lack of effective teaching of mathematics is affecting Nigerian students because the education system as a whole is said to be faced with many challenges like acute shortage of qualified of teachers, large class-size, archaic facilities and infrastructures and so on (Ukeje, 1999). The shortage of qualified teachers in Nigeria for example, can be seen from the following analysis. Thomas and Mbwas (2014) opined that in 2006, it was reported that Nigeria had a total of 222,238 teachers. From this number, only 97,213 (43.7%) were graduates with teaching qualifications, 45,172 (20.3%) were graduates without teaching qualifications, 63,518 (28.6%) were holders of Nigeria Certificate in Education (NCE) 10,620 (4.8%) were diploma certificate holders and about 27% of the total teaching force were grade 11, SSCE and other certificate holders (FME, 2006). The report further revealed that Nigeria had a total of 14,942 secondary schools with 4,984,560 students. The Gross Intake Rate (GIR) for Junior and Senior Secondary School Students were 21% and 23% respectively. According to the FME report, out of the 14,942 secondary schools, 7,562 (51%) were public schools, 3,624 (24%) were private and 3,756 (25%) were neither public nor private. From this information, it means that on the average, there are in Nigeria approximately 334 students, 15 teachers, 6 graduate teachers with teaching qualifications and teacher/student ratio of 1:55 per secondary school. This means that the average number of qualified teachers in each secondary school is inadequate with a high teacher/student ratio and gross intake rates. Also, the number of teachers with Nigeria Certificate in Education (NCE) certificates still teaching in the secondary schools is high. This is not normal as it is contrary to the required minimum teaching qualification in Nigeria.

Furthermore, the availability and adequacy of teachers affects the performance of students in mathematics if the teachers are not adequate in number and they are overloaded with too many lesson periods and other responsibilities in the school. Also, the issue of large class size does not guarantee effective teaching and learning of mathematics because it affects the output of teachers in the class. On the contrary, when there is availability of qualified teachers in the school system, the teaching of mathematics will be made more effective. This will lead to improvement in understanding and performance as well as the development and fostering of more positive interest and attitudes towards mathematics amongst students.

Since qualified mathematics teachers in the right quantity are supposed to teach effectively by virtue of their training, it is important for the government at all levels and other education providers to employ and retain only the qualified teachers for the purpose of effective mathematics teaching in the secondary school. The retention is important because it is said to be the antidote to staffing problems (Ingersoll & Perda, 2009). Also, it will help in improving the performance of students in mathematics significantly. But if the qualified teachers are not retained and they keep coming in and going out of the teaching profession to greener areas, it will affect the performance of students in mathematics negatively due to what has been descried as the problem of teaching (Ibraheem & Ogunnusi, 2001). According to the authors, the problems account for about 67% of the failure rates of students in mathematics while negative attitudes and difficulty of mathematics itself accounts for about 12% and 21% respectively. This means that if qualified teachers are not retained to ameliorate the effects of teaching problems in mathematics, students will continue to record poor performance in mathematics mainly due to lack of proper teaching of mathematics.

Furthermore, since mathematics is important, it is important also to have it taught by sufficient number of qualified and interested or motivated teachers. The National Policy on Education (NPE, 2004) states that no education can rise above the quality of its teachers. This means that if the quality of mathematics teachers is poor without having interest in the teaching of mathematics, the education system will be poor and if the education system is poor, it will result in poor products and this will affect the development of Nigeria in general and Benue state in particular.

Similarly, the teaching of mathematics requires qualified teachers that are well experienced, if not, those that are not qualified may engage in practices that might short-change students like teaching with poorly prepared lessons, avoiding some topics that may appear difficult for them to teach but are very important for students to learn, making unnecessary computational errors that should be avoided and treating students without respect and so on. There is no doubt that the issue of qualified teachers who are employed in the right quantity among other things is a key element for effective teaching of mathematics. This is supported by many research findings. For example, it has been found that the depth of teachers' mathematical knowledge (Bergeson, 2002), that qualified mathematics teachers help students to score high marks in mathematics (Bergeson, 2002) and that there exists a strong correlation between the ability, education and experience of teachers and achievement of students (Greenwald, Hedges & Lane, in Thomas & Mbwas, 2014). Also, it has been found that a strong correlation exists between competence/quality of teachers and students' performance/achievement in mathematics with the result that teacher experience/competence is said to be the predictors of students' performance in many school subjects (Adeyemi, 2008; Felter, 1999). This means that the more experienced teachers are the better they are able to teach mathematics effectively.

At the secondary education level, the student-teacher ratio shall be 1:40 (National policy on education, 2014) but this is not in practice in many government schools and private owned schools. This means that the average number of qualified teachers in each secondary school is inadequate with a high teacher/student ratio and gross intake rates.

Also, the number of teachers with NCE certificates still teaching in the secondary schools is high. This is not normal as it is contrary to the required minimum teaching qualification in Nigeria. Furthermore, the availability and adequacy of teachers affects the performance of students in mathematics if the teachers are not adequate in number and they are overloaded with too many lesson periods and other responsibilities in the school. Also, the issue of large class-size does not guarantee effective teaching and learning of mathematics because it affects the output of teachers in the class. On the contrary, when there is availability of qualified teachers in the school system, the teaching of mathematics will be made more effective. This will lead to improvement in understanding and performance as well as the development and fostering of more positive interest and attitudes towards mathematics among students. Since qualified mathematics teachers in the right quantity are supposed to teach effectively by virtue of their training, it is important for the government at all levels and other education providers to employ and retain only the qualified teachers for the purpose of effective mathematics teaching in the secondary school. The retention is important because it is said to be the antidote to staffing problems (Ingersoll & Perda, 2009). Also, it will help in improving the performance of students in mathematics significantly. But if the qualified teachers are not retained and they keep coming in and going out of the teaching profession to greener areas, it will affect the performance of students in mathematics negatively due to what has been described as the problems of teaching (Ibraheem & Ogunnusi, 2001). According to the authors, the problems account for about 67% of the failure rates of students in mathematics while negative attitudes and difficulty of mathematics itself accounts for about 12% and 21% respectively. This means that if qualified teachers are not retained to ameliorate the effects of the teaching problems, students will continue to record poor performance in mathematics mainly due to lack of proper teaching. Furthermore, since mathematics is important, it is important also to have it taught by sufficient number of qualified and interested or motivated teachers. The National Policy on Education (FGN, 2004) states that no education can rise above the quality of its teachers. This means that if the quality of teachers is poor without having interest in teaching, the education system will be poor and if the education system is poor, it will result in poor products and this will affect the development of Nigeria in general and Benue state in partSimilarly, the teaching of mathematics requires qualified teachers that are well experienced, if not, those that are not qualified may engage in practices that may short-change students like teaching with poorly prepared lessons, avoiding some topics that may appear difficult for them to teach but are very important for students to learn, making unnecessary computational mistakes that should be avoided and treating students without respect and so on. These can affect the performance and interest of students in mathematics. There is no doubt that the issue of qualified teachers who are employed in the right quantity among other things is a key element for effective teaching of mathematics. This is supported by many research findings. For example, it has been found that the depth of the knowledge of mathematics correlates strongly with the depth of teachers' mathematical knowledge (Bergeson, 2002), that qualified mathematics teachers help students to score high marks in mathematics (Bergeson, 2002) and that there exists a strong correlation between the ability, education and experience of teachers and achievement of students (Greenwald, Hedges & Lane, in Thomas & Mbwas 2014). Also, it has been found that a strong correlation exists between competence/quality of teachers

and students' performance/achievement in mathematics with the result that teacher experience/competence is said to be the predictors of students' performance in many school subjects (Adeyemi, 2008; Fetler, 1999). This means that the more experienced teachers are the better they are able to teach mathematics effectively.

Another factor that may affect the effective teaching and learning of mathematics is class size. Class-size is the number of students per teacher in a classroom. It varies from one school to another and from one country to another (Adeyimi, 2008). In Nigeria, the FGN (2004) recommended that the teacher/student ratio should be 1:40 in the secondary school but this is not the case because of the problem of acute shortage of qualified teachers and large students' enrolment such that many schools register up to 50-100 students and above per class (Ijaiye, 1999). However, class-size needs to be small or normal because it helps in promoting effective teaching and learning of mathematics. Blatchford (2009) observed that small class-size makes it easy for teachers to spot problems and give feedback, identify specific needs and gear teaching to meet them but large classes do not. He found out that pupils in small reading and mathematics classes performed significantly better than those in regular classes. Yara (2010) found out that the performance of students in large classes is low (23%) compared to those in smaller classes (64%). This means that large classes have a negative effect on learning progress, thus it needs to be addressed in order to ensure effective teaching and learning of mathematics in the secondary school in Benue State, Nigeria.

Most teachers teaching the subject are not qualified to teach the subject, this has made majority of students to find it difficult to grasp the concepts and slowly develop a dislike and fear for the subject. A qualified mathematics teacher is a member of teaching profession. Teaching as a profession is the mother of other professions. Haskew in John (2021) defines teaching profession as a profession that consists of all those persons who teach or directly aid teachers in elementary and secondary schools. This implies that the profession embraces all qualified teachers in all levels of education. A professional mathematics teacher is a well-trained person that assists the students to develop positive attitude towards learning of mathematics in the classroom.

Pound and Lee (2011) and Back (2014) notes that, though some of these students may exhibit traits of interest in mathematics; it is clearly evident that the teaching and learning process is still void of the experiences, innovations and creativities needed to jolt and motivate their young and energetic minds into exploring the vast field of mathematics. This has resulted to general poor performance of students in the subject as noted by several researchers.

Adedayo as cited in Charles-Ogan, Onwioduokit, and Ogunkunle (2014) indicates that despite the perceived importance of mathematics in scientific and technological development of the nation, students' performance in Nigerian institution has not been encouraging. Students exhibit nonchalance attitude towards mathematics, even when they know that they need it to forge ahead in their academic pursuit and in life. Such students who have already conditioned their minds that mathematics is the most difficult subject are usually not serious in learning of mathematics and thus perform poorly in mathematics assessment.

The teaching and learning of mathematics should involve a student-centered approach that guarantees understanding of the concepts. According to Fatoba and Abidakun (2019), availability and utilization of materials for practical activities improve students' skills in observation and creative thinking, successfully integrating practical activities with classroom lessons and field investigations will make the learning experience richer and more meaningful to students. Practical activities help develop students understanding of scientific concepts, aids memory and stimulate interest. This can only be achieved in an atmosphere where competent mathematics teachers are available and are adequately utilized for optimum productivity in the schools. The abstract nature of mathematics should be demystified through demonstration and practical methods of teaching. Utilization of mathematics teachers offers teaching opportunity that allows the students to be involved in activities that reduces the abstract nature of mathematics.

The quality of teaching and learning experience in secondary school mathematics depend on the extent of the adequacy of mathematics teachers and their utilizations. This will enhance teacher's effectiveness in the use of appropriate mathematical terminologies with the aim of facilitating and providing meaningful learning experiences in the learners.

Statement of the Problem

The issue of availability and adequacy of mathematics teachers is important because without mathematics teachers in the right quantity, there will be no effective teaching and without effective teaching, students will find it difficult to learn and succeed in mathematics. They will also find it difficult to develop interest, understand and pass their examinations with good grades. This is because it has been found that teacher experience, attitude and level of education significantly correlate with students' achievement in mathematics. It has also been found that sufficient number of qualified teachers exert considerable influence on students' learning and achievement in mathematics.

However, what is yet to be ascertained in the present circumstance is the availability and adequacy of mathematics teachers as it affects public secondary schools that are in different geographical areas in Benue state and how they are distributed in terms of their qualifications, teaching experience and gender within the areas. This study, therefore, set out to address this problem. This is significant because of the need to know the categories of teachers engaged in teaching mathematics in public secondary schools over the years in different locations in Benue state. Also, it is significant because of the need for up-to-date information on teacher characteristics with respect to teaching and learning mathematics in the secondary school in Benue state, Nigeria.

Purpose of the Study

The purpose of the study was to determine the availability and adequacy of mathematics teachers in public secondary schools in Benue state. Specifically, the study will determine the:

i. number of teachers teaching Mathematics in public secondary schools in Benue State.
ii. number of teachers that are qualified to teach Mathematics in secondary schools in Benue State.

iii. experience of Mathematics teachers in Benue State.
iv. population of mathematics teachers in Benue State according to gender.
v. ratio of qualified mathematics teachers to students in the secondary school in Benue State.

Research Questions

The following research questions guided the study.

i. How many teachers are teaching Mathematics in Benue State?
ii. How many teachers are qualified to teach Mathematics in secondary schools in Benue State?
iii. What is the teaching experience of Mathematics teachers in Benue State?
iv. What is the population of mathematics teachers in Benue State according to gender?
v. What is the ratio of qualified mathematics teachers to students in the secondary schools in Benue State?

Methodology

The descriptive survey research design was adopted in carrying out the study since it required opinion on availability and adequacy of mathematics teachers in public secondary schools. The population of the study was 266 Mathematics teachers in the two hundred and seventy-seven (277) secondary schools in the twenty-three (23) local government areas of Benue state under the Teaching Service Board. The sample size of the study is all the 266 Mathematics teachers in Benue State.

The instrument for data collection was a questionnaire titled "Availability and Adequacy of Mathematics Teachers Questionnaire (AAMTQ)". It was divided into two parts, part A dealt with respondents' demographic variables while part B dealt with Availability and Adequacy of Mathematics Teachers. The instrument was face and content validated by experts in test and measurement. The instrument was administered by the researcher with the assistance of the Inspectors of Education from the Teaching Service Board. Data analysis was done using descriptive statistics and charts

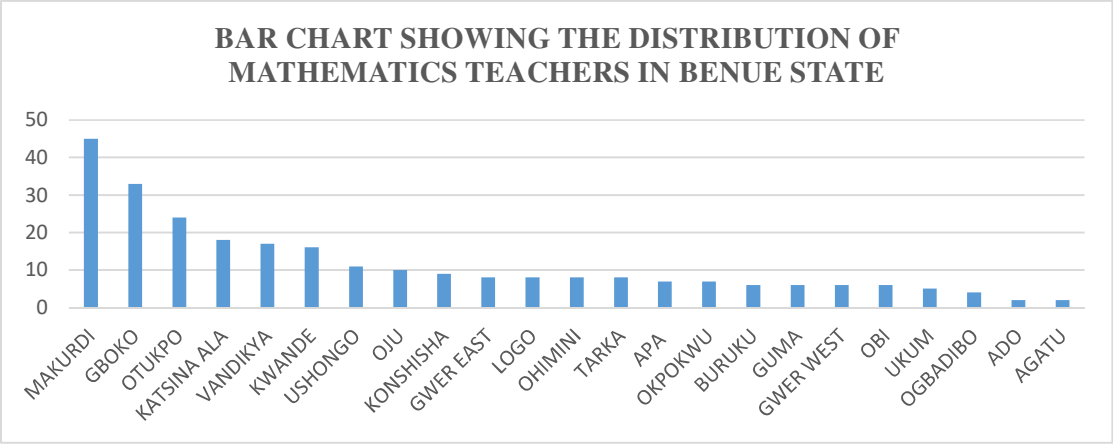
Results

Research Question One

How many teachers are teaching Mathematics in Benue State?

Table 1: Summary of the distributions of Mathematics teachers per local government in Benue state using bar chart.

LOCAL GOVERMEN AREA	FREQUENCY
MAKURDI	45
GBOKO	33
OTUKPO	24
KATSINAALA	18
VANDIKYA	17
KWANDE	16
USHONGO	11
OJU	10
KONSHISHA	9
GWER EAST	8
LOGO	8
OHIMINI	8
TARKA	8
APA	7
OKPOKWU	7
BURUKU	6
GUMA	6
GWER-WEST	6
OBI	6
UKUM	5
OGBADIBO	4
ADO	2
AGATU	2
TOTAL	**266**



The table 1 above shows the distribution of Mathematics teachers per local government area of Benue state. From the chart, some local government areas like Agatu and Ado has only two mathematics teachers to teach 876 and 1045 students respectively.

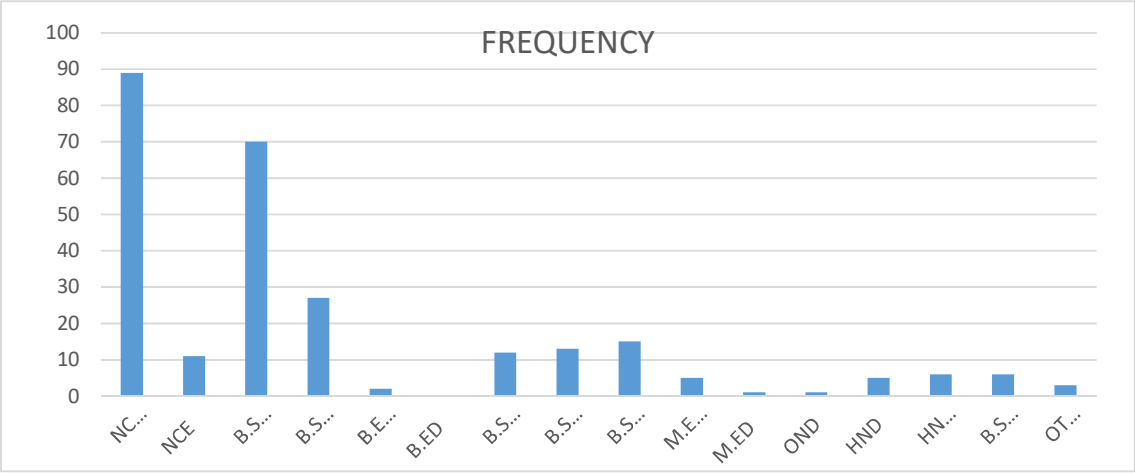
While Makurdi local government has 45 Mathematics teachers to teach 28, 968 students in all the schools in the local government. Hence, the answer to question one.

Research Question Two

How many teachers are qualified to teach Mathematics in secondary schools in Benue State?

Table 2: Summary of the number of teachers that are qualified to Mathematics teachers in secondary schools in Benue state.

QUALIFICATION	FREQUENCY
NCE MATHS	89
NCE	11
B.SC.ED MATHS	70
B.SC MATHS	27
B.ED MATHS	2
B.ED	0
B.SC/PGDE MATHS/ B.TEC	12
B.SC./PGDE/B.TEC	13
B.SC/B.TEC	15
M.ED MATHS	5
M.ED	1
OND	1
HND	5
HND/PGDE	6
B.SC ED	6
OTHERS	3
TOTAL	**266**



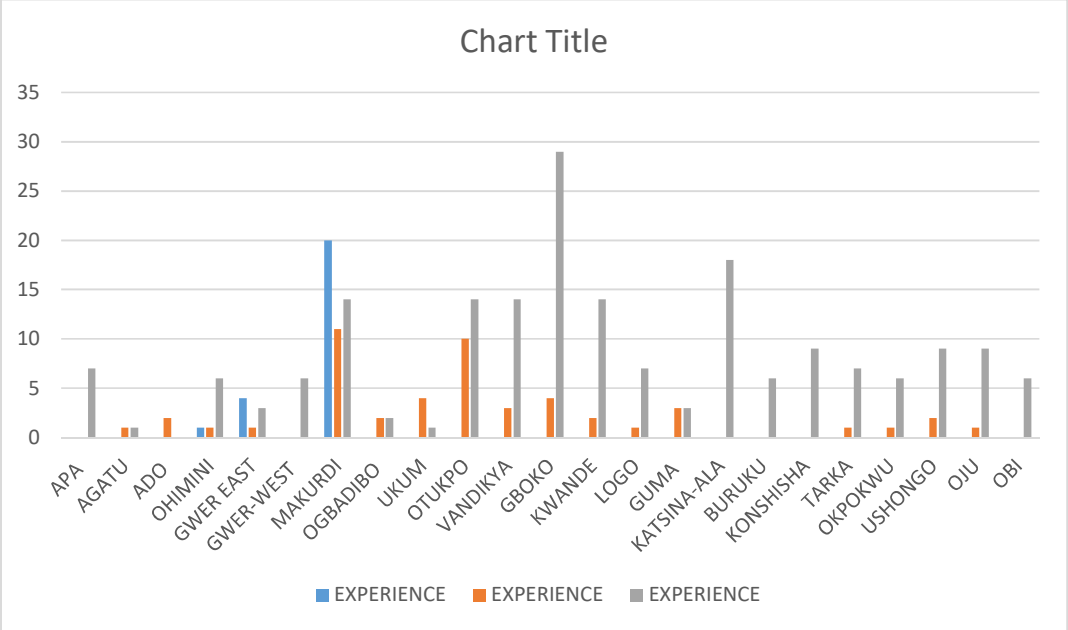
The table 2 above shows the number of teachers that are qualified to teach Mathematics in secondary schools per local government in Benue. From the chart, teachers with Nigeria Certificate in Education (NCE) in Mathematics dominate in the teaching of mathematics in the state while non in Bachelor degree in Education (B.Ed.).

Research Question Three

What is the teaching experience of Mathematics teachers in Benue State?

Table 3: Summary of the Experience of Mathematics teachers

LOCAL GOVERNMENT AREA	YEARS OF EXPERIENCE OF TEACHERS		
	1-10	11-20	20^{+}
APA	-	-	7
AGATU	-	1	1
ADO	-	2	-
OHIMINI	1	1	6
GWER-EAST	4	1	3
GWER-WEST	-	-	6
MAKURDI	20	11	14
OGBADIBO	-	2	2
UKUM	-	4	1
OTUKPO	-	10	14
VANDEIKYA	-	3	14
GBOKO	-	4	29
KWANDE	-	2	14
LOGO	-	1	7
GUMA	-	3	3
KATSINA-ALA	-	-	18
BURUKU	-	-	6
KONSHISHA	-	-	9
TARKA	-	1	7
OKPOKWU	-	1	6
USHONGO	-	2	9
OJU	-	1	9
OBI	-	-	6



The table 3 above shows the experience of Mathematics teachers in Benue state per local government area. From the chart, teachers that have been teaching Mathematics above twenty years dominates in the teaching of mathematics especially in Gboko local government area of the state while teachers who have been teaching below ten years are facing out gradually. This could be attributed to unwillingness of government towards employment of Mathematics teachers in recent times. Hence the answer to question three.

Research Question Four

What is the population of mathematics teachers in the state according to gender?

Table 4: Summary of the population of Mathematics teachers based on gender in the study areas

Gender	MSc/MEd	BSc.Ed.	B.Ed.	NCE	Total
Male	16	106	37	81	240(90.2%)
Female	02	08	03	13	26(9.8%)
Total	18	114	40	94	266

The table 4 above shows that male teachers teaching mathematics in Benue state dominates their female counterparts.

Research Question Four

What is the ratio of qualified mathematics teachers to students in the secondary school?

Table 5: Teacher/Student Ratio and Quantity of Mathematics Teachers

LGA	No. of Maths Trs.	No. of students	Teacher/Student Ratio
Apa	7	2367	1:338
Agatu	2	876	1:438
Ado	2	1045	1:523
Ohimini	8	2431	1:304
Gwer East	8	3201	1:400
Gwer West	6	2342	1:540
Makurdi	45	28968	1:644
Ogbadibo	4	4221	1:1055
Ukum	5	3243	1:649
Otukpo	24	20123	1:834
Vandikya	17	13121	1:772
Gboko	33	25232	1:765
Kwande	16	12342	1:771
Logo	8	3245	1:406
Guma	6	2555	1:426
Katsina Ala	18	12122	1:673
Buruku	6	6423	1:1071
Konshisha	9	2333	1:259
Tarka	8	4231	1:529
Okpokwu	7	2312	1:330
Ushongo	11	3222	1:293
Oju	10	2423	1:242
Obi	6	1223	1:204
Total	**266**	**159,601**	**1:600**

Table 6 shows that there are 266 teachers with a student population of 159,601. Overall, the teacher/student ratio is 1:600. This varies from one area to another with Buruku local government having the highest ratio while Oju local government is having the least ratio 1:242.

Discussion

This study was designed to examine the availability and adequacy of mathematics teachers in the public secondary school in Benue state, Nigeria. The findings from the study revealed the distribution of the number of Mathematics teachers teaching mathematics per local government area of Benue state. From the chart, some local government areas like Agatu and Ado has only two mathematics teachers to teach 876 and 1045 students respectively. While Makurdi local government has 45 Mathematics teachers to teach 28,968

students in all the schools in the local government. The distribution of mathematics teachers from the twenty-three local government area of Benue state are not enough for effective mathematics instruction in the public secondary schools in the state. this finding agrees with the Federal Ministry of Education (2006) report which shows that out of the 14,942 secondary schools, 7,562 (51%) were public schools, 3,624 (24%) were private and 3,756 (25%) were neither public nor private. From this information, it means that on the average, there are in Nigeria approximately 334 students, 15 teachers, 6 graduate teachers with teaching qualifications and teacher/student ratio of 1:55 per secondary school. This means that the average number of qualified teachers in each secondary school is inadequate with a high teacher/student ratio and gross intake rates.

On the number of teachers that are qualified to teach Mathematics in Benue state, the findings from the study revealed the number of teachers that are qualified as Mathematics teachers per local government in Benue State. From the chart, teachers with Nigeria Certificate in Education (NCE) in Mathematics dominate in the teaching of mathematics in the state while non in Bachelor degree in Education (B.Ed.). This contradicts the assertion of Thomas and Mbwas, (2014) who opines that in Nigeria, trained teachers for the public secondary school level are supposed to have a minimum of the Bachelor of Science Education (B.Sc.Ed.) or Bachelor of Education (B.Ed.) degrees before they are qualified to teach any subject including mathematics.

On the years of teaching experience of Mathematics teachers in Benue state per local government area, the findings revealed that the teachers that have been teaching Mathematics from twenty years and above dominated in the teaching of mathematics especially in Gboko local government area of the state while teachers who have been teaching below ten years are facing out gradually. This may have affected their performance in mathematics. This is good but is inadequate considering the fact that there is a strong correlation between teaching experience and performance of students in mathematics. This could be attributed to unwillingness of government towards employment of Mathematics teachers in recent times. This negates the work of Habour-Peters and Ogomaka (1991) who did not find any significant difference between the mean score of the experience teachers and the mean score of the less experience teachers.

On gender of the mathematics teachers in various schools in Benue state, the findings from the study found out that male teachers teaching mathematics in secondary schools in Benue state dominated their female counterparts. This means that men dominate the teaching of mathematics in the public secondary schools in Benue state, Nigeria. this findings negates the work of Odili in Ahmed and Sani (2015) who observes that our educational institutions produce more female teachers than male teachers, specifically, the ratio of female teachers to male teachers is 3:1. To bridge this gap, female students should be encouraged and motivated to study mathematics education in the universities and subsequently be employed to teach mathematics in the state.

The findings from the study in relation to teacher/student ratio showed that on the average, the ratio is too high 1:600, that is, one teacher to teach six hundred students. This contradicts the National Policy on Education (FGN, 2004) in Nigeria which stipulated a teacher/student ratio of 1:40. To reduce this ratio, therefore, a large number of

qualified mathematics teachers should be employed. This result is in agreement with that of STAN as cited in Ojimba (2012) who opines that prominent causes of poor performance in mathematics are; acute shortage of qualified professional mathematics teachers, exhibition of poor knowledge of mathematics content by many mathematics teachers, overcrowded mathematics classrooms, students' negative attitude toward mathematics, undue emphasis on the coverage of mathematics syllabus at the expense of meaningful learning of mathematics concepts, inadequate facilities and mathematics laboratories.

Conclusion

The study was conducted to determine the availability and adequacy of public secondary schools' mathematics teachers in Benue state, Nigeria. The results of the study revealed that, the mathematics teachers are availability but at low level. This implies that public secondary schools in Benue State are faced with the challenge of mathematics teachers.

Recommendations

Based on the result of the study, it was recommended that;

i. The Government should employ mathematics teachers in public secondary schools in Benue State and be posted to all the local government areas with emphases on local government areas that have few mathematics teachers to enhance effective teaching and learning of Mathematics.
ii. Only graduates who studied mathematics education from the department of Mathematics Education from universities should be employed to teach mathematics in the secondary schools in the State.
iii. The available mathematics teachers should be given adequate remunerations to boost their morale towards effective service delivery and also to employ mathematics teachers as mathematics teachers within the lower cadre are facing-out gradually.
iv. Special allowance should be given to mathematics teachers in the state so that students aspiring for further studies will be motivated to study mathematics education as a discipline in our tertiary institutions and also be employed to teach mathematics in our public schools across the twenty-three local government areas of the State.
v. Female students should be encouraged and motivated to study mathematics education in the universities and colleges of education and subsequently be employed to teach mathematics in the State.
vi. To reduce this ratio, therefore, a large number of qualified mathematics teachers should be employed to teach mathematics in the secondary schools in the state to reduce few mathematics teachers handling many students in our schools.

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