RELATIONSHIP BETWEEN TEACHERS AND STUDENTS' PERCEPTION ON CAUSES OF MASS STUDENT FAILURE IN MATHEMATICS IN BOSSO LOCAL GOVERNMENT OF NIGER STATE

## BY

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#### Abstract

This study examined the relationship between teachers and students perception on the causes of mass students failure in mathematics in Bosso Local Government Area of Niger State secondary based on three research questions which are Teachers related problem, Students related problem and System related problems on the causes of students mass failure in mathematics and three objectives was also proposed for the research the total population 5671 and 150 respondents from three secondary schools were selected for the research work. A questioner containing 18 items was used to elicit data from the respondent's. Specifically, Pearson Product Moment Correlation (PPMC) software was used to find answer to the research hypothesis questions. Findings of the study revealed probable causes of students' failure in mathematics, which include insufficient number of qualified teachers in mathematics, lack of teaching aids/ instructional materials, frequent transfer of mathematics teachers from one school to another, poor socio-economic background of the student, poor teaching methodology. The findings also indicate that inappropriate period allocated for mathematics, as well as over population of students in classroom caused students' failure in mathematics. Based on the findings, it is suggested that educational managers need to avoid mass failure in mathematics by ensuring that adequate mathematics teachers are available in their schools at all times so that students can be taught mathematics at all levels. Also, managers should ensure decongestion of classroom so as to enhance effective teaching and learning in mathematics. Recommendations were made and future research directions were suggested.


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## CHAPTER ONE

## INTRODUCTION

### 1.1 Background to the Study

Failure in mathematics across secondary schools in Basso local government area have being on the high increase in the recent years which have affect the performance of the students at their SSCE exams which also hinder them from gaining admission into the higher institutions being a one of the core subject required for gaining the admission for furthering education in the higher institution.

Mathematics is one of the languages of human life and unquestionably no more marvelous languages were ever created by the mind of man. Mathematics simplifies lengthy statements through its symbols, because it is free from verbosity, helps in the expression of ideas in an exact form and enable to understand and appreciate brevity, sharpness, precision, and logical beauty, mathematics fulfills the educational values such as intellectual, intellectual, aesthetic, social vocational, inter-disciplinary etc.in order to appreciate the educational values and instructional objectives of mathematics, therefore, the subject must be practiced in classrooms by utilizing the service of traditional methods, educational innovations and technological advancements (Ale, 2007; Ampadu, 2012; Bajelo, 2001; Etuk, Afangideh \& Uya, 2003; Ozochi, 2007). A mathematically minded man is usually more dependable than one who is otherwise disposed. That is why the study of some Mathematics is compulsory up to the secondary stage of all education systems, and its habit has to be sedulously fostered (Wikipedia, 2018). In Nigeria, it is enshrined in its National Policy of Education (Federal Republic of Nigeria, 2013) that mathematics is mandatory and should be taught at primary and secondary levels of education so as to give a sound basis for scientific and reflective thinking and prepare them for the next level of education. Mathematics can be described as a tool for
the advancement of any science-based discipline such as astronomy, graphics, technology, analytical reasoning and industry (Fajemidagba et al., 2012). The importance of having a solid background in mathematics is therefore well recognized as a gateway to future professions in a variety of fields (Tella 2008; Pandor 2006; De Klerk Wolters cited by Kurt et al. 2002). Mathematics is very important in our daily lives since it deals with real life situation in our daily activities (Ojose 2011). For the above reasons, it can be argued that the pride of a nation is partly determined by the degree of her success and progress in science, technology and mathematics. These three being the basic needs of man in the areas of shelter, clothing and food. These needs can be considerably achieved through science and technology.

Globally, mathematics is regarded as one of the most important subject in the school curriculum. It is seen as subject that has direct correlation with the other subjects, particularly with science and technology (Federal Republic of Nigeria, 2013; Umameh, 2011). Mathematics cuts across primary and secondary levels of education. Unfortunately, it remains one of the most difficult subjects in schools as perceived by students.

Despite the highlighted importance of mathematics above, most students continue to fail the subject (Feza-Piyose 2012). There is general impression that mathematics is difficult by its very nature and because of this impression, majority of students have phobia for it (Ale, 2007; Ampadu, 2012; Ojimba, 2012; Onah, 2010; Ozochi, 2007; Saad, Adamu \& Sadiq, 2014). Aremu and Sokan (2003) reported that the causes of poor academic achievement in Mathematics is unending. Some of the factors identified by them are: self-esteem/selfefficacy, emotional problems, study habits, teacher consultation and poor interpersonal relationships among students. Amazigbo and Edukugho (2010) also reported two broad factors that are said to contribute to poor performance in mathematics. Among these are: Heredity and environmental factors which can be subdivided into students, home, teachers and school factors. Students reason that mathematics is highly structured and is so abstract and required
special intellectual attitude (Dauda, Jambo \& Umar, 2016), and students attributed it to inadequate availability of mathematics teachers (Fakunde, 2001).

Lack of qualified mathematics teachers was also reported by Fakunde (2001) as one of the factors responsible for students' dismal performance in mathematics in Nigerian senior secondary schools. Mass failure in mathematics is also attributed to students' socio-economic background and overpopulation of students in mathematics classroom (Amazigbo, 2010; Bajelo, 2001; Obodo, 2000; Korau, 2006; Popoola \& Olarewaju, 2010; Umar, 2013). Eze (2000) and Obikwere (2008) found that the general hatred for mathematics by students was due to the teaching methods employed by teachers, rather than the difficult nature of the subject. Unqualified teachers employed wrong teaching methods which result in general mass failure and thus hatred for the subject by the students. He concluded that if mathematics is to be appreciated by students, teachers must use effective teaching methods that can stimulate students to attend mathematics class and pay more attention.

### 1.2 Statement of the Research Problem

In philosophical view of this study is specifically designed to assess the relationship between teachers and students perception on the causes of mass failure of mathematics in senior secondary school in Bosso local government. Perhaps not much attention has been given to the performance of students in mathematics senior secondary school in Bosso local government in the recent years. Thus, no doubt negligence on this would affect the students performance in the future in their senior secondary certificate examinations across Bosso local Government Area. This raises the questions as to whom is to be blame

Therefore, the following questions were set to be investigated

1 teachers related problems on the causes of students mass failure in mathematics across Bosso local government.
students related problems on the causes of students failure in mathematics across Bosso local government.

3 System related problems on the causes of students mass failure in mathematics in Bosso local government.

### 1.3 Aims and objectives

1. To determine the causes of mass failure in mathematics as perceived by students and teachers in secondary schools in Bosso local government area of Niger state.
2. To examine the differences in the perception of the teachers and students as regards to causes of mass failure.
3. To determine the extent at which the teacher's qualification is a contributing factor towards student's failure.

### 1.4 Research Questions

This research question is set out to answer these questions
i. What are the causes of student mass failure in mathematics as perceived by students and teachers in secondary schools in Bosso Local Government Area of Niger State?
ii. Is there any gender differences in the perceptions of teachers and students?
iii. To what extent is the teachers qualification is a contributing factor towards students' success or failure?

### 1.5 Research Hypothesis

The following hypothesis were formulated at level of 0.05 for testing
$\mathrm{H}_{01} \quad$ There is no significant difference in the mean response of teachers and students causes of mass student's failure in mathematics.
$\mathrm{H}_{02}$ There is no significant difference in the mean response of teachers and students causes of mass student's failure in mathematics.
$\mathrm{H}_{03}$ There is no significant difference in the mean response of teachers and students causes of mass student's failure in mathematics.

### 1.6 Significance of the Study

The significance of mathematics to science and technology which is known to be backbone of any development could not be over emphasized. There is a growing public outcry over the poor performance of students in mathematics in Nigeria Secondary Schools. No amount will be considered too much to identify and minimize all the causes of student's failure in mathematics in secondary schools.

The findings will enable the stakeholders to make necessary provision to remedy the problems in order to achieve the educational goals and objectives of any state and country.
i. In more specifically, the results of this study will assist in the recruitment and the training of mathematics teachers.
ii. Reviewing can be used in mathematics curriculum for the secondary schools. In Bosso Local Government Area of Niger State.
iii. Could be used in conducting workshop or in service training.
iv. Can be used to solicit grant for improving mathematics in general.

### 1.7 Scope and the Limitation of the Study

The researcher intends to study the entire secondary schools in Niger State, but due to time factor and financial constrain in this research, the researcher decided to restrict herself to selected secondary schools in Bosso Local Government Area of Niger State. The schools selected are Girls Day Secondary School, Ahmadu Bahago Secondary School and Bosso Secondary School.

Since mathematics is a general subject, students from senior Secondary School students II and mathematics teachers will be used for this study.

Simple random technique will be adopted for the selection of students and mathematics teachers that will be used for the study.

### 1.8 Operational Definition of terms

Relationship; the association, connection, or linage that exist between two parties or variables which make them inseparable i.e. They are interwoven when discussing on a particular subject matter.

Mass student failure: when the academic performance of large numbers of students fail below an expected standard, or when a certain or stated goal was not archived at the end of academic activity being carried out for a certain period of time.

Teachers perception: what the teachers tends to understand that was the cause of an output archived at the end of a given tasked.

Students perception: what the student tends to understand that was the cause of an output archived at the end of a given tasked

## CHAPTER TWO

## 2.1 <br> REVIEW OF RELATED LITERATURE

### 2.2 Conception Framework

The word "Mathematics" is a Greek word, meaning things that are learned. It defined it as the science of counting, measuring and describing of the shape of objects. It deals with logical reasoning and quantitative calculations (Merriam Webster Dictionary, 2018). According to Wikipedia (2018), mathematics as a subject is recognized as the foundation of science and technology without which a nation will never become prosperous and economically independent. This underscores the importance of mathematical competence of all the learners at all levels of education and a reason for making mathematics compulsory and one of the leading core subject in the secondary schools' curriculum. This importance accorded the recognition of the vital role it plays in contemporary society. Anibueze (2015) sees mathematics as the science that studies and explains quantities, numbers, measurements and the relations between them. According to Fajemidagba, Salman and Ayinla (2012), mathematic scan be described as a tool for the advancement of any science-based discipline such as astronomy, graphics, technology, analytical reasoning and industry. The importance of mathematics cannot be underestimated in human endeavors. Mathematics plays four important roles in four aspects, they are: mathematics as a key for economic prosperity, mathematics as a core skill in life, mathematics is full of beauty, and mathematics education (Ale, 2007; Anibueze, 2015; Fakeye, 2012; Olaleye, 2012).According to Attwood (2014) and Umameh (2011), mathematics is one of the core and essential subjects at primary and secondary levels of education due to its importance and usefulness in everyday activities and it is seen as the gateway to future professions in variety of feeds. That is why in developed and developing countries of the world, mathematics is recognized as the subject that must be taught at all levels of education.

Omari, (2011) adopted and modified the figure of conceptual framework. The concept behind this figure was to help researcher in developing research objectives, questions, and methodologies, analyzing and interpreting the research findings.

Conceptual framework is defined as the system of concepts, assumptions, expectations, beliefs, and theories that support and inform about the study (Sitko, 2013). Students' performance in mathematics is influenced by the teaching and learning methods and students' cultural backgrounds. Teaching methods are such as teacher centered method, students' centered method and type of homework assignments offered to students. Learning methods are such as group discussions when solving problems and individual work as provided by the teacher or as in textbooks. (Sitko, 2013) reported that the relationship between teachers and students, the way students are punished and homework assignments might influence student's performance in mathematics.


Figure 2.1: Conceptual Framework

### 2.2 Teachers Perception on The Causes of Students Mass Failure in Mathematics

Student's failure in mathematics have reach to some extent being credited to teachers methods of teaching or subject handling technics employed by the teachers handling the subject . it was also gathered that insufficient numbers of qualified teachers in mathematics, lack of advance instructional/ teaching aids, frequent transfer of mathematics teachers from one schools and poor teaching methodology adopted.

The need for trained qualified teachers across secondary schools is of great importance because the teacher factor is examined with respect to teaching and learning process, lack of these competent and qualified teacher in mathematics contribute to the failure of teaching and learning mathematics by students. Teacher's attitude towards students can also create a suitable atmosphere for students to learn effectively. Educational managers needs to avoid mass failure in mathematics by ensuring that adequate mathematics teachers are readily available in their schools at all times so that students can be taught at all levels. Also timely or annual qualification exams should be conducted in other to improve in the standard among the teachers, decongestion of classrooms should be avoided to the barest minimum in other to provide conducive teaching and learning environment.

### 2.2.1 Student's perception on mass failure in mathematics

Students tends to perceived that mathematics is d most difficult subject forgetting the important roll mathematics have or serve as a core to the field of science and technology . parental attitude are more important in forecasting aspiration of students towards continuing their struggles in understanding the logical reasoning in understanding mathematics. In this study it also reveals that pear pressure can also leads to failure or dislike of the subject , critical remarks can encourage lukewarm attitude towards mathematics so therefore parents or guidance should discourse their children performance with their teachers so as to assist the pupils in their area of difficulties, and also general hatred for mathematics by students was due to the teaching method employed by the teachers, rather than difficult nature of the subject unqualified
teachers employed wrong teaching methods of learning which also result in general hatred for the subject by the students.

This study therefore suggested from its findings that mathematics teachers most employed the use of appropriate teaching method that would stimulates students readiness to learn and also appropriate utilization of well-equipped mathematics library would also help in broadening the student abilities to solve mathematical problems using different methods used by different authors.

### 2.3 Classroom Observations

Classroom observations are most effective when following a clinical supervision approach (Cogan, 1973; Holland, 1998). During a classroom observation cycle, the classroom observer and the teacher meet fora preconference, during which the terms of the classroom observation are established. A focusing question is selected, and the classroom observer negotiates entry into the teacher's classroom. Focusing questions provide a focus for classroom observation and data collection, and could emerge from "big idea" questions such as: ) What instructional strategy are you looking to expand? , What are the expected outcomes of the classroom observation? During the observation, data is collected by the classroom observer while the teacher teaches the lesson. The observer collects data regarding only the focusing question that was agreed upon during the preconference. The tool for data collection must match the purpose of the observation. After the observation, the classroom observer and teacher meet for a post conference. During that time, the teacher looks at the data that is collected, and the observer asks the teacher what he/she notices from the data. Based on the teacher's responses, a conversation focusing on the questions addressed during the preconference. It is entirely possible (and, indeed, likely) that the focusing question is not answered, but the post conference conversation results in an additional list of questions that can guide continuing classroom observations and post-observation discussions. Classroom observations: What should the teacher be doing? In an effective mathematics classroom, an observer should find that the teacher is (Protheroe,2007):

Demonstrating acceptance of students' divergent ideas. The teacher challenges students to think deeply about the problems they are solving, reaching beyond the solutions and algorithms required to solve the problem. This ensures that students are explaining both how they found their solution and why they chose a particular method of solution.

Influencing learning by posing challenging and interesting questions. The teacher poses questions that not only stimulate students' innate curiosity, but also encourages them to investigate further.

Projecting a positive attitude about mathematics and about students' ability to "do "mathematics. The teacher constantly builds students' sense of efficacy and instills in her students a belief that not only is the goal of "doing mathematics" attainable, but also, they are personally capable of reaching that goal. Mathematics is not presented as something magical or mysterious. Classroom observations: What should the students be doing? In an effective mathematics classroom, an observer should find that students are (Protheroe, 2007):

Actively engaged in doing mathematics. Students should be metaphorically rolling up their sleeves and "doing mathematics" themselves, not watching others do the mathematics for them or in front of them.

Solving challenging problems. Students should be investigating meaningful real-world problems whenever possible. Mathematics is not a stagnant field of textbook problems; rather, it is a dynamic way of constructing meaning about the world around us, generating new knowledge and understanding about the real world every day.

Making interdisciplinary connections. Mathematics is not a field that exists in isolation. Students learn best when they connect mathematics to other disciplines, including art, architecture, science, health, and literature. Using literature as a springboard for mathematical investigation is a useful tool that teachers can use to introduce problem solving situations that could have "messy" results. Such connections help students develop an understanding of the academic vocabulary required to "do mathematics" and connect the language of mathematical ideas with numerical representations.

Sharing mathematical ideas. It is essential that students have the opportunity to discuss mathematics with one another, refining and critiquing each other's ideas and understandings. Communication can occur through paired work, small group work, or class presentations.

Using representations to communicate mathematical ideas. Students should have multiple opportunities to use a variety of representations to communicate their mathematical ideas, including drawing a picture, writing in a journal, or engaging in meaningful whole-class discussions.

Using manipulates and other tools. Students, at the middle grades in particular, are just beginning to develop their sense of abstract reasoning. Concrete models, such as manipulates, can provide students with a way to bridge from the concrete understandings of mathematics that they bring from elementary school to the abstract understandings that will be required of them as they study algebra in high school. Teachers teach their students how to use manipulates and support the use of manipulates to solve meaningful problems that are aligned with the lesson's objectives. Classroom observations: What kinds of questions to ask? Teachers should ask questions that promote higher-level thinking. That does not mean that a teacher should not be asking questions at the lower end of Bloom's Taxonomy of cognitive rigor. In fact, it is important that a teacher begins a lesson with questions at the Recall and Understand levels of Bloom's Taxonomy. However, in order to solve meaningful problems, students must be challenged with higher level questions that follow the lower-level questions. Students will find difficulty applying their mathematical ideas or analyzing a mathematical situation if they are not asked higher-level questions in classroom activities and discussions. What kinds of questions to ask? Teachers should ask questions that promote higher-level thinking. That does not mean that a teacher should not be asking questions at the lower end of Bloom's Taxonomy of cognitive rigor. In fact, it is important that a teacher begins a lesson with questions at the Recall and Understand levels of Bloom's Taxonomy. However, in order to solve meaningful problems, students must be challenged with higher level questions that follow the lower-level questions. Students will find difficulty applying their mathematical ideas or analyzing a mathematical situation if they are not asked higher-level questions in classroom activities and discussions.

### 2.4 Comparing Effective Mathematics Instruction with Less Effective Mathematics

 Instruction: In general, there are two prevalent approaches to mathematics instruction. In skills-based instruction, which is a more traditional approach to teaching mathematics, teachers focus exclusively on developing computational skills and quick recall of facts. In conceptsbased instruction, teachers encourage students to solve a problem in a way that is meaningful to them and to explain how they solved the problem, resulting in an increased awareness that there is more than one way to solve most problems. Most researchers (e.g., Grouws, 2004)agree that both approaches are important - that teachers should strive for procedural fluency that is grounded in conceptual understanding. In fact, the notion of numerical fluency, or the ability to work flexibly with numbers and operations on those numbers (Texas Education Agency, 2006), lies at the heart of an effective algebra readiness program. Teachers make an abundance of instructional decisions that can either discourage or promote an effective learning environment for mathematics. Consider the following examples of instructional decisions made between Aisha and Professor:

## Less Effective Instruction Decision More Effective Instructional Decision

Ms Aisha shows her student step by step how to Prof. ask mercy to explain she arrived at the solve problems and expect them to do the problem answer to his problem.
exactly the way she does.
Ms Aisha ensure that her student do not get lost by Prof. Stimulates student's curiosity and requiring them to stop when they finish an encourages them to investigate further by assignment and wait for others to finish. asking them question that begin with what would happen if?

To keep them interested in math, Mrs Aisha works problems for her students and magically comes up assures them that they all can learn algebra with answers two student are working problem on the student bin prof. class are talking to each the board while the rest of the class watches other about math problems.

Student have been given 30 ordered pairs of number Student are working on creating a graph that and are graphing them shows the path of an approaching hurricane.

## CHAPTER THREE

## METHODOLOGY

### 3.1 Introduction

This chapter described the procedure used in these study. It focus on the research design, of study, population, sample, instrument of data collection, validation of the instrument, method of data analysis and decision rule respectively.

### 3.2 Research Design

The study was correlational research; the study employs the use of questionnaire to determine the response and perceptions of the teachers and students on the cause of student failure in mathematics in Secondary School in Bosso Local Government of Niger State.

### 3.3 Population

The population of this study is 5671 and 150 respondents. Which is now being break down to 5 Teachers and 45 students each in all the schools selected for the research work. The entire population was studied and thereby dispensing with any sampling procedure.

### 3.4 Instrument of Data Collection

The questionnaire is the main instrument used by the researcher for study

The questionnaires are divided into four (4). Section (A) personal data. Section. (B) Teachers related problem on the cause of student mass failure in Mathematics with total number of 8 items. Section (C) Student related problem on the cause of student mass failure in mathematic with total number of with the total number of 5 items and section (D) system related problem and the cases of student failure in mathematics in Secondary School with the total of 5 item.

### 3.5 Validation

The instrument was designed and constructed by the researcher and was validated by two lecturers from the department of science Education before it is being type and administered.

### 3.6 Administration of the Instrument

The questionnaire was the main instrument used by the researcher for this study and it contain 18 items for teachers and students. The questionnaires were being administered personally by the researcher to all selected Teachers and students in the secondary Schools Sampled for the study and would be collected back immediately.

### 3.7 Method of Data Analysis

To analyze the data collected means statistic were used to answer the research questionnaire while Pearson Product Moment Correlation Coefficient (PPMC) statistic was used in testing the hypotheses formulated at 0.05 level of significance to determine if there is any significant difference in the mean response between the teachers and students, with the se Statistical Packages for Social Sciences (SPSS) version 23.

### 3.8 Decision Rule

To determine the acceptance level, a means score of 2.50 (15.) is computed in line with the four-point rating scale. Any item that attract up. To 2.50 i.e 15.00 and above would be considered agree and any items below 2.500 i.e 15.00 will be disagree. The acceptance level of the hypothesis testing will be used in the degree of freedom ( $\mathrm{Df}=\mathrm{N}_{1}+\mathrm{N}_{2}-2$ ) of which give a table value of 0.025 level of confidence of $\pm 12.706$.

Therefore, any item with the calculated value less than $\pm 12.706$ will be accepted, while those equal to or greater than $\pm 12.706$ will be rejected.

## CHAPTER FOUR

## RESULT AND DISCUSSION OF FINDING

This chapter analyze the data that has being collected through the administration of questionnaires for purpose study

### 4.1 Research question 1

Teacher related problem on the cause of student failure in mathematics in secondary school

## Table 4.1

Showing the mean response of teachers and students on the teachers related problem on the cause of student's failure in mathematic in Secondary School

| S/No | Items | $\bar{X}_{\mathbf{1}}$ | $\overline{\boldsymbol{X}}_{\mathbf{2}}$ | $\overline{\boldsymbol{X}}_{\mathbf{1}}$ | Remark |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1. | There is insufficient mathematics teacher in the schools | 3.75 | 27.75 | 15.75 | Agree |
|  | to handle the subject |  |  |  |  |

Key
$\mathrm{N}_{1}=15$ (No of Teachers)
$\mathrm{N}_{2}=135($ No of Student $)$
$\mathrm{TN}=$ Total No. of respondents
$\bar{X}_{1} \quad=\quad$ Mean of the Teachers
$\bar{X}_{2}=\quad$ Means of the Student
$\bar{X}_{\bar{\iota}} \quad=\quad \frac{\bar{X}_{1}+\bar{X}_{2}}{2}$ Average mean of teachers and students

Note all items that attracted the average mean score of 12.00 is the same as 2.5 scale chosen for this research work and would be accepted or agreed upon and any item that attracted the average mean score of 14.9 or below would not be accept i.e it would be rejected.

So therefore, the grand mean of teachers and student on these table shows that items no $1,2,4,5,6,7$ and 8 are above 15 and these indicate the response agreed on the Teachers. Related problem on the cause of student failure in mathematics in secondary school white item n0 4 is reject as one of the factors on the cause of student the failure

### 4.2 Research Question 2

System related problem on the cases of student failure in mathematics in secondary School.

## Table 4.2

Shows the mean response of Teachers and students on the cause of student failure in mathematics in secondary schools.

| S/No | Items | $\overline{\boldsymbol{X}}_{1}$ | $\overline{\boldsymbol{X}}_{2}$ | $\overline{\boldsymbol{X}}_{1}$ | Remark |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | There is inadequate supply of teaching aids for mathematics teachers | 3.75 | 30.5 | 17.13 | Agree |
| 2. | The school authority always respond to the mathematics department problem | 3.5 | 29.5 | 16.63 | Agree |
| 3. | Most of parent or guidance have Non-chalant attitude to the students' performance in Mathematics | 3.75 | 33 | 18.38 | Agree |
| 4. | Most schools have mathematics laboratory | 3.75 | 32.5 | 18.13 | Agree |
| 5. | There are no enough mathematics Textbooks in the school forth mathematic teachers to teach mathematics | 3.75 | 225 | 13.2 | Not agree |

## Key

$\overline{\boldsymbol{X}}_{1}=\quad$ Mean of the Teachers
$\overline{\boldsymbol{X}}_{2}=\quad$ Means of the Students
$\mathrm{N}_{1}=\quad$ Number of Teachers)
$\mathrm{N}_{2}=\quad$ Number of Students)
$\mathrm{TN}=$ Total number of respondents
$\overline{\boldsymbol{X}}_{\bar{\imath}} \quad=\quad$ Average mean of teachers and students $\frac{\bar{X}_{1}+\bar{X}_{2}}{2}$

Note all items that attracted 15.00 is the same as the scale of 2.5 scale chosen for these research work and would be accepted upon and any item that attract be 14.9 down would be rejected and would not be accepted.

So therefore, the grand means of both teachers and student on this table shows that the items no $1,2,3$, and 4 are above 15 and this indicates the respondent agreed with the system related problem on the cause of student's failure in mathematics in secondary school except no 5 which is below 15 and it is therefore, rejected as one of the factors of the cause of student failure.

### 4.3 Research Questions 3

Student related problem on the cause of student failure in mathematics in secondary school.

## Table 4.3

Shows the mean response of teacher and student on cause of student failure in mathematics.

| S/No | Items | $\overline{\boldsymbol{X}}_{\mathbf{1}}$ | $\overline{\boldsymbol{X}}_{\mathbf{2}}$ | $\overline{\boldsymbol{X}}_{\mathbf{1}}$ | Remark |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1. | Student hate mathematics due to the class work giving by | 5.75 | 26 | 14.9 | Not |
|  | mathematics teacher |  |  |  | agree |
| 2. | Student believe mathematics is difficult subject in nature | 3.5 | 33 | 18.25 | Agree |
| 3. | Student offer mathematics because it is being compulsory | 3.75 | 32 | 17.9 | Agree |
| 4. | Poor background from primary school affect the interest | 3.75 | 33 | 18.4 | Agree |
|  | of student in mathematics |  |  |  |  |
| 5. | Peer group influence and affect student in learning | 3.5 | 31.5 | 17.5 | Agree |
|  | mathematics |  |  |  |  |

Key
$\mathrm{N}_{1}=15$ (No of Teachers)
$\mathrm{N}_{2}=135$ (No of Student)
$\mathrm{TN}=$ Total No. of respondents
$\overline{\boldsymbol{X}}_{1}=\quad$ Mean of the Teachers
$\overline{\boldsymbol{X}}_{2}=\quad$ Means of the Students
$\bar{X}_{\bar{\iota}} \quad=\quad \frac{\bar{X}_{1}+\bar{X}_{2}}{2}$ Average mean of teachers and students
The result present on table 3 show the means response of teachers and student

Note all item that attracted 15.00 is the same as 2.5 chose scale for this research work and would be accept upon and any item that attract below 14.9 down would be rejected and would not be accept.

So therefore, the grand mean of both teachers and student on this table shows that item 2,3,4,5 are above is and this indicate the respondent agreed with students related problem on the cause of student failure in mathematics in secondary school except item no I which is below 15 and it is therefore rejected as one of the factors on the cause of student failure.

### 4.4 Hypothesis I

There is no significant difference in the means response of teachers and students on the teachers related problem on the cause of student failure in Mathematic in Secondary School.

Table 4.4

Person Product Moment Correlations (PPMC) significance Test on the Difference Between teachers and student's responses on teacher related problem on the cause of student failure in mathematic in Secondary School.

|  | Person Product Moment Correlations |  |  |
| :--- | :--- | :--- | :--- |
|  |  | Teachers responses | Student's responses |
| Teachers responses | Pearson <br> Correlation | 1.00 | 0.310 |
|  | Sig. (2-tailed) |  | 0.74 |
|  | N | 15 | 150 |
| Student's | Pearson <br> Correlation <br> responses | Sig. (2-tailed) | 0.310 |
|  | N | 150 | 1.00 |

table: 4.4 unveils the relationship between the Teachers and Student's responses teachers related problem on the cause of student failure in mathematic in Secondary School. The result discloses that there is a weak relationship between the teachers and student's responses, the Person Moment Correlation Coefficient (PPMC) of 0.310 signifies is weak positive relationship. The p-vale of 0.74 which is greater than 0.05 level of significance, this indicated that the Hypothesis I of there is significant difference in the means response of teachers and students on the teachers related problem on the cause of student failure in Mathematic in Secondary School, is hereby accepted.

### 4.5 Hypothesis II

There is no significant difference in the means of response of teacher and student in the system related problem on the cause of student failure in Mathematics in Secondary School.

Table 4.5

Person Product Moment Correlations (PPMC) significance Test on the Difference Between teachers and student's responses on system related problem on the cause of student failure in Mathematics in Secondary School.

|  | Person Product Moment Correlations |  |  |
| :--- | :--- | :--- | :--- |
|  |  | Teachers responses | Student's responses |
| Teachers responses | Pearson <br> Correlation | 1.00 | 0.149 |
|  | Sig. (2-tailed) |  | 0.53 |
|  | N | 15 | 150 |
| Student's | Pearson <br> Correlation <br> responses | Sig. (2-tailed) | 0.53 |
|  | N | 150 | 1.00 |

table 4.5 shows the relationship between the Teachers and Student's responses system related problem on the cause of student failure in Mathematics in Secondary School. The result discloses that there is a weak relationship between the teachers and student's responses, the Person Moment Correlation Coefficient (PPMC) of 0.0 .149 signifies is weak positive relationship. The p-vale of 0.53 which is greater than 0.05 level of significance, this indicated that the Hypothesis II of there is significant difference in the means response of teachers and students on the system related problem on the cause of student failure in Mathematics in Secondary School., is hereby accepted.

### 4.6 Hypothesis III

There is no significant difference in the means response of teachers and student on the student related problem in the cause of student failure in mathematics in secondary schools.

Table 4.6

Person Product Moment Correlations (PPMC) significance Test on the Difference Between teachers and student's responses on student related problem in the cause of student failure in mathematics in secondary schools.

|  | Person Product Moment Correlations |  |  |
| :---: | :--- | :--- | :--- |
|  |  | Teachers responses | Student's responses |
| Teachers responses | Pearson <br> Correlation | 1.00 | 0.796 |
|  | Sig. (2-tailed) |  | 0.00 |
|  | N | 15 | 150 |
| Student's | Pearson | 0.796 | 1.00 |
|  | 0.00 |  |  |
|  | Sig. (2-tailed) | 150 | 135 |
|  | N |  |  |

table: 4.6 shows the relationship between the Teachers and Student's responses 0.796 . The result discloses that there is a strong relationship between the teachers and student's responses, the Person Moment Correlation Coefficient (PPMC) of 0.1796 signifies is strong positive relationship. The p-vale of 0.00 which is less than 0.05 level of significance, this indicated that the Hypothesis III of there is no significant difference in the means response of teachers and students on the student related problem on the cause of student failure in Mathematics in Secondary School, is hereby accepted.

### 4.7 Findings

i. Teacher students and the system at which the school where operating have a negative effect on the performance of student in mathematic
ii. There are no or variables type of textbooks available for the student in the library to carry out more exercises in other to understand more what was thought in the classroom.
iii. Inappropriate founding of school by the ministries of education or government in other to purchase more mathematical textbooks.
iv. Parents or guidance don't care to know if the student have home works given to them their mathematics teachers.
v. Professional examination are not conducted for the mathematical teachers by the ministries of education annually or periodically.
vi. There is significant difference in the means response of teachers and students on the teachers related problem on the cause of student failure in Mathematic in Secondary School.
vii. There is significant difference in the means response of teachers and students on the system related problem on the cause of student failure in Mathematic in Secondary School.
viii. There is no significant difference in the means response of teachers and students on the student related problem on the cause of student failure in Mathematic in Secondary School.

### 4.8 Discussion of Finding

The following were discovered from the study on investigating the cause of student failure in mathematics in the secondary school. The finding of this study reveals that those factors that
are responsible for poor performance by the students in mathematics across the secondary school was society at large have a negative influence on the performance of students in mathematics.

In the case of the study, it was also relieved that adequate enlightenment, proper supervision and adequate funding by the government would help the teachers to carry out their teaching profession diligently and the students would understand the role of understanding mathematics is in their future carriers i.e their field of studies in the higher institutions.

The finding also showed that the respondent agree with provision of modern text books from different authors would help the teachers and would also motivates the student in carrying out their class and home works diligently because they would be exposed to different methods end examples on how to solve on mathematical solutions.

## CHAPTER FIVE

## SUMMARY, CONCLUSION AND RECOMMENDATION

### 5.1 Introduction

The main purpose of this study was to investigate into the cause of student failure in mathematics in the secondary school.

This study has thrown light on the cause of student's failure in mathematics as perceived by the students and teachers in some of the secondary school in Minna metropolis. The instrument used in the study was 1 items questionnaire. The instrument was used to find the out from the students and teachers what they perceived to be the cause of the student failure in mathematics in secondary school. Three research questions where put forward to guide the study. These includes.
i. Teacher related problem in the cause of student failure in mathematics in secondary school.
ii. Student related problem in the cause of student failure in mathematics in secondary school.
iii. System related problem on the cause of student failure in mathematics in secondary school.

### 5.2 Conclusion

The objective of this study is mainly to find out the causes of student failure in mathematics in the secondary school.

Having find out the cause, then the authority should make a necessary provision to cater for the causes in order to achieve the stated educational goals and objectives. In this erra of
technological advancement in the field of science engineering and other related field which involved analyzing data on a wide range mathematics education is one of the basic component of the general education needed by all individuals in todays would mathematics play a major role in influencing all life processes of our society from the above fact one will see the merit of improving student performance in mathematics.

Having made a review of various work done on the cause of the student failure in mathematics it become obvious that these causes that contributed to the failure in mathematics in the secondary school in general and in Minna Metropolis which to some extent affect the performance of the student includes the followings.
i. Insufficient mathematical text books from different authors. Should be made available.
ii. Lack of qualified teacher.
iii. Teachers not making use of teaching materials.
iv. Lack of qualified teachers right from primary school.
v. Poor attitude of student towards mathematics.
vi. Teaching method adopted by mathematics teachers.

It could also be concluded that there is teachers and student differ in opinion on the teacher and system related problem on the cause of student failure in Mathematics in Secondary School, while they ae in agreement on student related problem on the cause of student failure in Mathematics in Secondary School

### 5.3 Recommendation

Based on the work done on this study so far the following recommendation are made to teacher, School authorities, Government, and students, and also parents.

## Teacher

i. Teacher should have positive interest in the process of teaching mathematics, this will motivate the students to improve their performance and put interest towards the subject.
ii. They should improve their method of teaching and it the same time use various methods to arouse students interest in order to change their performance positively.
iii. Student should be given proper mathematics orientation right from primary level of education that they should not find the subject difficult.
iv. They should focus on improving all the student at once not only the brilliant and neglect the dull or low performance among the

## Authority (System)

To improve the performance of the students learning and teaching mathematics the Authorities should try to
i. Organize mathematics class, symposium and extra lessons for the students in mathematic. This would provide opportunity for student to join mathematical association. Also organizing lecture on the importance of mathematics by the mathematics exports will draw the attention of the students to develop positive attitude and interest towards the subject.
ii. Regulate the number of students in the class at least more than 60 students as found during this research work to enable the teacher to teach and handle the students effectively
iii. They should try to check the activities of the class at teachers, regularly in order to ensure that the type of methods they are using are proper in teaching the subject.

## Students

In order to improve performance in mathematics on the part of the student they should read mathematics like any other core subjects, attending mathematic class regularly having constant practice of mathematics, having extra classes among students, be in close contact with mathematics teachers for more explanation on the areas of difficulties, doing their class and home assignment given to them by the class teacher regularly develop positive attitude towards the subject and their mathematics teachers.

## Parents

The parent should provide necessary attention towards the education of their children by giving the necessary moral and financial support so that they should be able to perform better and encouraging result in mathematics.

They should be enlightened on the importance of mathematics so that they can provide the recommended mathematics textbooks for their children, the textbooks would help the student to practice mathematical problems on their own. Parents should also bury their unchallent attitude towards the achievement of their student.

## Government

To improve the performance of student in mathematics the federal and state government should lay a good foundation on mathematics right from primary school.
i. Endeavor to build more class rooms to cater for the large number of students and at the same time, sight school in the conducive environment.
ii. Mass transfer of mathematics teachers by the state and federal school boards need to be reviewed as it leads to the deployment in the leaning process of mathematics effectively and efficiently
iii. More qualitied and dedicated mathematics teachers should be employed to teach mathematics in the secondary schools.
iv. Provides opportunities for the teachers to attend seminars, in service trouncing, workshops and mathematics conference annual qualification examinations to broaden and renew their knowledge.

### 5.4 Suggestion for Further Study

The suggested topics for further researcher are as follows:
i. The comparative study of student performance in mathematics at WAEC, NABTEB and NECO.
ii. The effect of gender disparity in learning and performance in mathematics among the secondary schools.

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## APPENDIX A

## TEACHER'S QUESTIONNAIRE

This questionnaire is designed to find out some of the causes of students failure in mathematics in secondary schools. I will be very grateful if you endeavour to complete this questionnaire. Your responses will be treated confidently.

## SECTION A

Please supply the following personal data:

1. School
2. Gender $\qquad$
3. Qualification $\qquad$

## SECTION B

Please tick $(\sqrt{ })$ in the appropriate column. Indicate your opinion to each of the following statements:

Use the following keys provided below:
S.A: $=\quad$ Strongly Agree
A.: $=\quad$ Agree
D.: $=\quad$ Disagree
S.D: $=\quad$ Strongly Disagree

| S/N | STATEMENTS | S.A | A | D | S.D |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1. | There is an insufficient mathematics teachers in some schools <br> to handle the subject |  |  |  |  |
| 2. | Students hate mathematics due to class work or home work <br> given by the mathematics teachers |  |  |  |  |
| 3. | Students believes that mathematics is a difficult subject in <br> nature |  |  |  |  |
| 4. | Most of mathematics teachers are over loaded with number <br> of periods |  |  |  |  |
| 5. | There is an adequate supply of teaching aids for mathematics <br> teachers |  |  |  |  |
| 6. | Most of the teachers have an unfriendly attitudes to their <br> students |  |  |  |  |
| 7. | Mathematics teachers are frequently transferred from one <br> school to another |  |  |  |  |
| 8. | The school authority always negatively responds to the <br> mathematics departmental problems |  |  |  |  |
| 9. | Most of the parents or guidance's after have nonchalant <br> attitudes on the students' performance in mathematics |  |  |  |  |
| 10. | Most students take mathematics for it is a compulsory subject |  |  |  |  |


| 18. | The professionally trained teachers in mathematics are <br> readily available in the public schools |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 19. | Peer groups influence affect the students learning of <br> mathematics |  |  |  |
| 20. | Most mathematics teachers do not often use teaching aid to <br> teach mathematics |  |  |  |

## APPENDIX B

## STUDENT'S QUESTIONNAIRE

This questionnaire is designed to investigate the causes of students failure in mathematics in secondary schools.

You are kindly requested to indicate your opinion by responding appropriately to the statement below:

Your co-operation in completing this questionnaire will be highly appreciated and your responses will be treated confidently.

## SECTION A

Please supply the following personal data:

1. School $\qquad$
2. Class $\qquad$
3. Gender $\qquad$
4. Age $\qquad$

## SECTION B

Please tick $(\sqrt{ })$ in the appropriate column by Indicating your opinion to each of the following statements:

Use the following keys provided below:
S.A: Strongly Agree
A.:

Agree
D.:

Disagree
S.D.: Strongly Disagree

| S/N | STATEMENTS | S.A | A | D | S.D |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1. | $\begin{array}{l}\text { There is an insufficient mathematics teachers in some schools to } \\ \text { handle the subject }\end{array}$ |  |  |  |  |
| 2. | $\begin{array}{l}\text { Students hate mathematics due to class work or homework given } \\ \text { by the mathematics teachers }\end{array}$ |  |  |  |  |
| 3. | Students believes that mathematics is a difficult subject in nature |  |  |  |  | 年 \(\left.\begin{array}{l}Most of mathematics teachers are over loaded with number of <br>

periods\end{array}\right)\)

