AN ANALYSIS OF STUDENTS' ATTITUDE TOWARDS LEARNING MATHEMATICS IN SOME SELECTED JUNIOR SECONDARY SCHOOLS IN MINNA NIGER STATE MUNICIPAL

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF MATHEMATICS NIGER STATE COLLEGE OF EDUCATION, MINNA

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APPROVAL PAGE

This project has been read and approved by the projects supervisor as it satisfy the requirement of mathematics department, Niger State College of Education, Minna.

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DEDICATION

This research work is dedicated to Almighty God the sustainer, the provider that gives us the opportunity and wisdom to complete this project, and the entire lecturer in Mathematics department in Niger State College of Education, Minna.

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ABSTRACT

Student attitude towards mathematics had been a issues of great challenge in a field of study (i.e science) student tend to fail mathematics examination of any type. I thereby motivated by the followings factors; why do students fail mathematics examination. Why students considered mathematics as a hard or difficult subject, and how this issues can be addressed. Questionnaire method was used to carry out research on the above listed factors and percentage method was used to analyze the collected data. The major finding of this research show that students actually have positive attitude toward mathematics but they are affected by some factors such as lack of mathematics laboratory, peer group and advice from some parents this make some students to have week attitude toward mathematics. I thereby recommend that parents needs to be enlightened through the parents teacher association (PTA) about their role to improve their children attitude towards learning mathematics they should encouraged their children by organizing extra morals lesson for them and providing them with every necessary material they need in the school and there should be mathematics laboratory in the schools fully equipped with teachings aids, bulletin boards should be provided where the students will be able to get information about past and presents mathematicians and new discoveries in mathematics.

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CHAPTER ONE

1.0 INTRODUCTION:

Mathematics is the backbone or the core of all the science subjects, the knowledge of mathematics is an essential tool in our daily life to overcome the problem in our society. Mathematics plays a key role in shaping how individuals deal with the various sphere of private, social and civil life (Anthony and Walshaw, 2009).

Mathematics is a subject that affect all aspects of human life at different degrees the social, economic, political, geographical, scientific and technological aspects of human cannot be perform without mathematics. The advancement of humans shows the importance of mathematics in life due to its numerical and symbolic nature, it is more related to the scientific and technological aspect of human's world than any other aspects.

Because mathematics is the major tools for scientist and technologist, mathematics is seen as the language used to describe the problems arising in most branches of sciences and technologist. It is a subject that is related to other school subjects in areas like number and numeration, variation, graphs, fractions, logarithms, indices, algebraic processes, solution of equation, also in area, and volume.

However, the attitude of students toward mathematics has been a great challenge to the society. Adewunmi J. A (1988) and Nwosu (1980), both agreed in their researches, that we live in a world where science and technology have become an integral part of the world culture. Therefore for any nation to have social significance, it must not overlook the importance of mathematics in her educational system.

In a nutshell the attitude of students towards mathematics has been a matter of great challenge to all well-meaning educators. Therefore this study sought to know the attitude of students towards mathematics.

1.1 BACKGROUND OF THE STUDY:

Lack of interest in mathematics education have become part of most Nigerian students, people from different part of the nation are bothered about the poor performances of students in mathematics examination.

In spite the fact that nobody can achieve his/her aim and objective scientifically in his/her discipline without the knowledge of mathematics, most people are still showing lack of interest in the

field of mathematics, that is one of the reason that eighty percent (80%) of students fail mathematics examination.

I wondered why mathematics presents such a horror. In the Nigeria system of education, the (6, 3, 3, 4) education, mathematics is considered as one of the integral subject in secondary education. Obviously this had shown the unique importance attached to mathematics towards scientific and technological advancement. With all emphasis placed on mathematics in the Nigeria system of education, most students are still afraid and discouraged to study mathematics, thinking that it is difficult.

Ogunsolore (1977) in his argument said mathematics is a corner stone of every field of education, "it is an indispensable partner in progress" as a result of this many people have conducted research into the causes of poor performance of students in mathematics examination.

Wilder R.L (1988) observed that apart from low measured intellectual ability which has been frequently associated with poor mathematical attainments, there are also relationship between the attitudes of students towards learning mathematics and their performance in mathematics examinations. But most students often

show low interest in the study of mathematics and the mathematics related subject at all level of education in Nigeria.

In observation it is obvious that in most Nigerian Secondary schools students fail to attend mathematics class thinking that it is not an easy task, and those that attend, a few of them pay full attention in the process of learning. That is the major reasons why majority of students fail mathematics examination.

Most students never learn to practice how to solve problems in mathematics, despite the encouragement given to them by their teachers. If mathematics is an optional subject most students will prefer not to have anything doing with the study of mathematics, the question is "why students have negative attitude towards mathematics?

1.2 STATEMENT OF THE PROBLEM:

Most teachers that teach mathematics in both secondary and primary school, find it difficult to teaches students in a very appropriate manner due to lack of interest.

Nwosu (1980) reporting on the problem facing primary schools, Mathematics in Anambra State said "every important factor which prevents students from learning mathematics is their ignorance of the

fundamentals. Most teachers in primary school and in some secondary schools are not competence to handle the subject.

Turkman BW (1975) said that there are two main limits in human growth and development, there is the real practical limit of one's maximum ability or potential capacity, and there is no less real psychological limits in which each person place upon himself. Most people under estimate their own capabilities and avoid the learning situation by thinking something like "it is too boring". This negative interest often affect student in the learning process.

When a student is afraid of any tasks definitely the student cannot improve in such task. For instance a student that is afraid to attempt solving mathematical problem, such student cannot have any improvement in learning of mathematics and cannot contribute to the solution of mathematics problem in our society.

It is therefore necessary to look critically into the problem with the aim of finding solution to it so that student performance in mathematics can be improved.

1.3 PURPOSE OF THE STUDY:

The purpose of this study is to analyze student's attitude toward mathematics in some selected junior secondary schools in Minna municipal capital of Niger State.

1.4 RESEARCH QUESTION:

The following question guides this study:

1. Why are student's performances poor in mathematics?
2. What are the factors' affecting students' attitudes towards mathematics?
3. In which way can these factors be addressed?

1.5 HYPOTHESIS:

To achieve our aim and objective of these study the following hypothesis have been formulated.

Ho1. There is no Significance difference between the performance of the students who have positive attitude towards mathematics and those who have the negative attitude.

Ho2. There is no Significance difference in the male and female student's attitude towards mathematics.

1.6 SIGNIFICANCE OF THE STUDY:

It is obvious that every one study mathematics in secondary school because it is a core subject in Nigeria secondary schools.

However, the most wonderful part of it is that a few percentages of those who study the subject have interest in it. The few numbers of students that show interest in mathematics is a sign that the country may run out of technology in the nearest future.

It is unfair that the general performance of secondary school students in Senior Secondary School Examination (SSCE) have been discouraging, as a result of mass failure every year in West African Examination Council (WAEC) National Examination Council (NECO) and National Business and Technical Examination Board (NABTEB).

This has also destroyed the hope of many parents and has turned many students into waywardness. It has equally affected the hope of having a number of highly professional or skill personnel such as lawyer, Doctors, Pharmacists, Scientists and Engineers.

In addition a few of the problem is from our parents in the sense that most parents are not concerned about the education of their wards, because some of them did not know the value of education.

1.7 LIMITATION OF THE STUDY:

The study was limited to two hundred students randomly selected with 50 students from each school.

The schools are:

1. Day Junior Secondary School Tunga, Minna.
2. Limawa Junior Secondary School, Minna.
3. Army Day Secondary School, Minna.
4. Day Secondary School Bosso.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION:

This chapter discusses the social significance of the study under the following sub-heading:

1. Students attitude towards mathematics
2. Influence of other peoples attitude on students attitude towards mathematics.
3. Importance of mathematics and application
4. Reasons for attitudinal development in students.

2.2 STUDENTS ATTITUDE TOWARDS MATHEMATICS:

Attitude: An attitude can be defined as a way of thinking or feeling typically reflected in a person's behavior. Attitude is also defined as expression of favor or disfavor towards a person, places, things or events.

Researchers have found that, for example, when people are asked to think about why they feel the way they do, they often construct a new attitude that is based on reasons that are accessible, plausible, and easily verbalize able (Wilson, Dunn, 1989). Drawing on

such findings, Ezikel R.O and Obodo G.C (1991) proposed that attitudes may be best viewed as the current state of activation of a connectionist system, rather than current models of attitudes to take into account attitudinal ambivalence, in which both positive and negative fillings towards a stimulus are activated.

Turkman (1975) defined attitude as system of positive or negative evaluation of emotional feeling and pro or cons actions tendencies with respect to social objects.

Kalejaiye H.O (1979) defined attitude as an acquired tendency to react whether covertly or overtly in a manner which is expressive of a certain degree of positively or negatively in relation to certain object, persons, ideas or situations in our environment.

It has shown in their result that there was high positive relationship between students attitude towards mathematics and students achievement in the subject. Most students are afraid of anything that is informed of numbers or symbol, most especially in Nigerian government school.

Lewis R. (1973) stated that for students to do well in problem solving area it is necessary that they develop the right attitude and interest in mathematics.

But from the observation made most students have negative attitude towards mathematics, to the extent that they refuse to attend mathematics class and those that attend fail to understand. That is why eighty percent (80%) of Nigerian student fail mathematics examination.

To develop positive attitude towards mathematics one must start the process at early stage of life. This was the conclusion reached by Kalejaiye H. O (1979). The investigation disclosed that if one is to succeed in modifying attitude one most begin at very early age otherwise there would be deterioration especially in girls attitude towards subject.

From that fact educators have been concerned about how students could develop positive attitude toward mathematics and the correlation between attitude, scores and attainment.

In general poor attitude towards mathematics is the main factor that made the students to be afraid of work involving numbers which also stand as an obstacle to their progress in mathematics and poor performance.

Watson A. (2002) confirmed that the negative attitude of students toward this "pillar of science" i.e. mathematics were the

responsibilities of teachers. They made known that the teachers also contribute to the causes of students' negative attitude toward mathematics.

Watson A. (2002) furthered that attitude is fundamental to the dynamic of behavior and they are determining factors of what the students learn.

He further stated that if a students' develops a positive attitude towards mathematics he/she gains tremendously in other fields of studies.

Minato S. and Yamasa S. (1984) gave the opinion that the teacher attitudes and behavior have effect on the attitude of students towards mathematics.

2.3 INFLUENCE OF OTHER PEOPLE'S ATTITUDE IN STUDENTS ATTITUDE TOWARDS MATHEMATICS

Other people include teacher, peers and parents:

I. Negative Attitude by Mathematics Teachers:

Obviously teachers influence the attitude of students towards subjects. It is observed that the behavior of most mathematics Teacher deviate

from the normal expected behavior of the teachers. They tend to exhibit very queer characteristics which scare many students away from studying mathematics. Teachers' attitude and beliefs play a very significant role in shaping classroom practices (Bolhuis & Voeten, 2004).

Like all other kind of attitude, a teachers' attitude towards mathematics can be measured by the emotional response towards mathematics (affective), believe about mathematics (cognitive) as well as behavior, Clarke, Thomos and Vidakovic(2009) postulates that attitude and practice of different mathematics are complexly affected by believe emotions, social contexts and contents knowledge. Yara (2009) stipulates that students positive attitude towards mathematics is enhance by the following teachers related factors: teachers enthusiasm, teachers resourcefulness and helpful behaviours and teachers true knowledge of the subject matter and there making mathematics quite interesting. Some mathematics Teachers create the impression to students that mathematics is difficult and not meant for everybody to study except for those with exceptional endowment like themselves who teach the subject. In fact some of them behave in such a way that the students will be scare to be present in mathematics

class. Some students consider mathematics teacher as temporarily mad people due to their mode of dressing. Some mathematics teacher even fined it difficult to comb their hair.

Some mathematics teacher do not have the patient or time to work out problems in different ways or methods, as a good mathematics teacher you should use more than one method in solving a problem when necessary so that the students can adapt to the method that seems simple to them.

Furthermore good mathematics teachers should be friendly to the students and should be able to encourage students, so that they will feel happy and eager to ask questions that will improve them in their studies.

Sperling (1982) buttressed the fact by indicating that the credibility of the communicator (i.e. the teacher) to change the attitude of another person is important. The teachers' prestige is likely to influence whether or not the student accepts his communication or teaching.

In a nutshell the teacher's expertness should be well considered and well managed. This is however to state that the right attitude

exhibited by the teacher influence students attitude in the study of mathematics.

ii. **Negative attitude of students peers**:

The term peer may be defined as a group of people with equivalent abilities and are of the same age. This definition is functional and chronological. The functional aspect of peers as a group of people is that they are able to play, read, dance, discuss and work together. This means that each member of the peer group is of equal rank, merit or equality. The chronological aspect of definition refers to peers as a group of people who fall within the same age limit. In this case functional peer group are most considered.

Students as a peer groups they have effect on each other. This effect could be positive or negative it could be good or bad. From my experience, a critical observation was made during my teaching practice period. It was obvious that students imitate themselves in the sense that if one student dislike mathematics or he/she have negative attitude toward mathematics in one way or the other the effect will reflect or his/her bosom friends, and in the same manner if a student is very good in mathematics and have exceptional positive attitude

toward mathematics definitely his/her friends will benefit from their friend's knowledge.

There is an adage that states that "show me your friend I will tell you whom you are". Therefore students are advice to select friends wisely and parents or guardians are advice as well to encourage their children in selecting peers wisely.

iii. **Negative Attitude of Parents/Guardians**:

Parents have their own role to play before their children can achieve their aim and objective in field of studies. Some parents feel unconcerned with their children's performance either good or bad. Parent attitude towards mathematics affect their children directly or indirectly. For instance, if parents are mathematicians and still having positive attitude toward mathematics certainly there children would be exceptional good in the field of mathematics probably better than his/her parent. But in a case whereby parent are ignorant and still they have not discover that they are ignorant and still having negative attitude toward education such parent will produce ignorant children that is not ready to learn.

Some parents had discouraged their children that mathematics is not useful to them in respect of the course they wish to study. This

may be because they dislike mathematics during their own days and thus develop that negative attitude in their children.

Consequently their children dislike mathematics and arrive at the school with such already negative state of mind toward mathematics.

The initial experience provided by parents modifies children value, emotion, interest and attitude. Sex discrimination over another by some parent also contribute to the problem, in the sense that some parent will encourage their male child because they have more interest in male child than female, while some will encourage their female child to perform better thinking that female child will yield better than the male child at last, this is unfair as a good parent or guardian adequate provision should be provided for both sex and adequate encouragement should be giving to them so that both sex will have equal privileges to yield good product. There are many who hold the view that boys do better in Mathematics than girls. This belief tends to affect the attitude of girls towards Mathematics. Farooq and Shah (2008) in a study of secondary school students in Pakistan found that there was no significant difference in confidence of male and female students towards Mathematics at secondary school level. They rather

found that students' success in mathematics depend on attitude towards the subject.

In a nutshell parents/guardians are advice to encourage their children positively and equally so that they can be useful to themselves and their parents and as well to the society at large

2.4 IMPORTANCE OF MATHEMATICS AND APPLICATION:

Bell (1978) said "mathematics is a peculiar way of thinking" mathematics is an important subject because it has various applications in many disciplines, ranging from daily life situation to science and technologies of values are application of mathematics which relates the subject to other school subject and life situation.

Turkman BW. (1975) said "we read mapping geography or plan; we use measurement and make intuitive judgment about shortest distance with the help of mathematics. When given direction we refer to Parallel Street.

In addition, the important of mathematics is so numerous to mention because mathematics is applicable to all our daily activities like market place, school, and office and so on.

For example statistics in mathematics help us to schedule our program in a reasonable order. Nowadays all well know companies; schools, organization and industry make use of statistics for better performance.

Furthermore variation plays an important role in our daily activities, because it is used to determine distance, speed and volume of an event or substance. Arrangement of furniture in houses, classes, depends largely in our intuition about shapes and relationship between them and on our ability to visualize the effect of moving shapes. Also the proper arrangement of weaving tools to produce different pattern of clothes is also a result of mathematics knowledge.

The major work of civil engineers pertaining to construction stability draw on their intuition of mathematics, they must be able to visualize and draw the model of their project. Important and application of mathematics could be seen in other school subjects like physics, economics, chemistry and biology. Under vector analysis in physics parallelograms are used to find resultant vector or force.

The co-ordinate system is used in drawing graph of relationship e.g. velocity time graph, both straight and quadratic graphs are used for data analysis, under chemistry, biology and economics. It is

through the mathematical ideas that the two types of measurement (discrete and continuity) can be clearly demonstrated to the comprehension of the students.

Mathematics provides both model form in which discreteness can be distinguished from continuity according to Schenkel, B. (2009).

In a nutshell the important of mathematics cannot be overemphasis because without mathematics we would have been in a total darkness.

2.5 REASONS FOR ATTITUDINAL DEVELOPMENT IN STUDENTS:

Students probable to fail mathematics because of poor or weak back group, lack of encouragement or motivates from their parents or guardians. Also the uses of unfamiliar symbols like Pie, Beta and so on are contributing factors to students' failure. Lewis R. (1973) emphasis the reason why student like or dislike arithmetic's (business mathematics) in three hundred and forty-six secondary students, found that the most frequent or rampant reasons for students hatred for

mathematics were numerous and range from working problems, too many theorems and formula.

They also submitted that a greater proportion of the students were of the opinion and view that mathematics should be made optional available whenever possible and that mathematics is not used in everyday life and involve too much time and energy.

From our observation we discover that students tend to fail mathematics involving word problem as well, because most students prefer comfort and satisfaction derived from other less theoretical work.

Hence they get scared of anything involving calculation and concrete reasoning like mathematics. Therefore the teacher and parents are advice to encourage and motivates their students and children respectively so that they can be useful to themselves and to the society at large.

Obviously student's belief that mathematics is difficult hence they put in little or no effort into studying it. Some students misbehave in the process of studying mathematics due to the information pass to them by their elders who have no or little interest in mathematics, this contribute to the reason why students are afraid

of mathematics as a subject. Students achieve greatly when external forces within the environment effectively motivate them, these external forces may include the school, the parents, peer group, the community at large the mass media, the climate, nature of the environment and so on as stated by Adewunmi J. A (1988)

CHAPTER THREE

3.0 METHOD AND PROCEDURE:

The following methods and procedure were considered to guide this study.

i. Population and Sampling.

ii. Instrumentation.

iii. Research Design.

iv. Validation.

v. Method of data analysis.

i. Population and Sampling:

Students of Junior Secondary Schools constitute the population of this study. The sample of this study was two hundred students (200 students). Fifty (50) students were randomly selected from Day Junior Secondary School Tunga, Fifty (50) students were randomly selected from Limawa Junior secondary school Minna, Fifty (50) students were randomly selected from Army Day Secondary school, and Fifty (50) students were randomly selected from Day secondary School Bosso.

CHAPTER FOUR

4.0 DATA ANALYSIS

The researchers proceed to analyze the study as follow:

Table 1 consists of names of the Schools, Number of the question administered to the school, number of question collected and student's age.

While the table 2 shows the analysis of the questionnaire that were collected by the researchers.

TABLE ONE: TOTAL NUMBER OF QUESTIONNAIRE DISTRIBUTED AND COLLECTED

Name of the School	No. of Questionnaire Distributed	No. of Questionnaire Collected	Age of Studen
Day Junior Secondary School Tunga, Minna.	50	50	12 - 14
Day secondary school Bosso	50	50	12 - 15
Limawa Junior Secondary School, Minna.	50	50	12 – 15
Army Day secondary school Minna	50	50	12 - 15
Total	**200**	**200**	

Two hundred copies of the questionnaires were distributed in the schools listed in the above table, and two hundred copies of the questionnaire were returned for further study. But out of the two hundreds (200) copies that were returned, two result was council as a result of double ticking on a question. Therefore one hundred and Ninety Eight (198) copies of the questionnaire was used for further study.

ANALYSIS OF THE QUESTION AND ANSWER

Item	Question	Yes	%	No	%	Remark
1	Do you have a mathematics laboratory?	49	24.7	149	75.3	No
2	Is mathematics a difficult subject?	115	58.0	83	42.0	Yes
3	Do you like your mathematics teacher?	188	94.9	10	5.0	Yes
4	Is mathematics a boring subject?	101	51.0	97	49.0	Yes
5	Did you do your mathematics assignment regularly?	185	93.4	13	6.5	Yes
6	Does mathematics relate to other school subjects?	103	52.0	95	47.9	Yes
7	Does your teachers' method motivate you in learning mathematics?	112	56.5	86	43.4	Yes
8	Does your teachers' appearance motivate you in learning?	103	52.0	95	47.9	Yes
9	Did you attend extra-moral lesson at home?	72	36.3	126	63.6	No
10	Are you afraid of mathematics as a subject?	101	51.0	97	48.9	Yes
11	Do your friends influence you in study of mathematics?	84	42.4	114	57.5	No
12	Do your parents motivate you to study mathematics?	103	52.0	95	47.9	Yes
13	Do you involve yourself in constant practice of mathematics?	119	60.1	79	39.8	Yes

DISCUSSION

In view of the table above it has shown that item one, nine and eleven in which the response was no at 75% 64% and 56% respectively students tend to perform poorly when external factor does not motivate them, this is in agreement with the statement of Adewunmi J.A (1988) that students achieve greatly when external forces within the environment effectively motivate them, these external forces may include the school, the parents, the peer group the community at large the mass media, the climate nature of the environment and so on.

Similarly, since the response in item two, four and ten was yes at 58%, 51% and 51% respectively. This is in agreement with Lewi's R. (1973) that state as follow, students probable to fail mathematics because of poor or weak background, lack of encourage or motive from their guardians. Also the use of unfamiliar words like pie, beta and so on are contributing factor to students failure. Moreover item six is in agreement with Bell (1978) since the response was yes at 52%, Bell (1978) state that mathematics is a peculiar way of thinking, mathematics is an important subject because it has various application in many discipline ranging from daily life situation to

science and technologies of value and application of mathematics which relate the subjects to other school subjects and life situation.

In addition item three, seven and eight in which the response was yes at 95%, 57% and 52% respectively is in agreement with Yara (2009) stipulate that students positive attitude towards mathematics is enhance by the followings; teachers resourcefulness and helpful behaviors and teachers true knowledge of the subjects matter.

Finally, items five, twelve and thirteen in which the response was yes at 93%, 52% and 60% respectively is in agreements with kalejaiye H.0 (1979) state that if one is to succeed in modifying attitude one musts to begin at very early stage age otherwise there would be deterioration especially in girls attitude towards mathematics.

CHAPTER FIVE

5.0 Introduction

This chapter discusses the following sub-headings summary, discussion, conclusion and recommendation.

5.2 Summary

This research work examines the attitude of students towards learning mathematics in some selected junior secondary school in Minna.

The research questionnaire that was formed incorporate thirteen (13) questions and it was validated by the research supervisor.

The researchers distributed two hundred (200) questionnaires to the respective schools, fifty (50) questionnaire for each school to be answered by the students. But two out the questsion was cancel due to double ticking by the students, therefore one hundred and ninety eight (198) questionnaires was considered.

Percentage method was used to analyze the data that was collected from the questionnaire. Therefore the study disclosed the attitude of students towards leaning mathematics.

CONCLUSION

In conclusion of this research, it has shown that there is no significant different in the male and female students, but there is a significant difference between the performance of the student who have positive attitude towards mathematics and those who have the negative attitude.

Moreover it is obvious that the attitude of parents, peer groups and the teachers is indispensable in a state of proper readiness to enhance positively the attitude of students towards mathematics. Thus parents, peer groups and teachers are strongly exhort to persuade their students, children or colleagues as the case may be to achieve positive result in students attitude towards mathematics.

RECOMMENDATION

The following recommendations were stated by the researchers:

1. Parents needs to be enlightened through the parent teachers association (PTA) meeting about their roles to improve their children attitude towards learning mathematics, they should encourage their children by organizing extra moral lesson for them and providing them with every necessary materials they need in the school.
2. There should be mathematics laboratory in the school fully equipped with teaching aids, bulletin boards should be provided where the student will be able to get information about past and present mathematicians and new discoveries in mathematics.
3. The student should be given orientation on the importance of mathematics from the primary level.
4. Students should be aware of the relationship between their attitude and their performance in mathematics.
5. Students should be obedient to their parents and teachers.

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QUESTIONNAIRE

ANSWER THE FOLLOWING QUESTIONS BY TICKING YES OR NO. FOR EXAMPLE "KNOWLEDGE IS POWER" YES [✓] NO [ ]

1. Do you have a mathematics laboratory?

   Yes [ ] No [ ]

2. Is mathematics a difficult subject?

   Yes [ ] No [ ]

3. Do you like your mathematics teacher?

   Yes [ ] No [ ]

4. Is mathematics a boring subject?

   Yes [ ] No [ ]

5. Did you do your mathematics assignment regularly?

   Yes [ ] No [ ]

6. Does mathematics relate to other school subjects?

   Yes [ ] No [ ]

7. Does your teachers' method motivate you in learning mathematics?

   Yes [ ] No [ ]

8. Does your teachers' appearance motivate you in learning?

   Yes [ ] No [ ]

9. Did you attend extra-moral lesson at home?

Yes ☐ No ☐

10. Are you afraid of mathematics as a subject?

Yes ☐ No ☐

11. Does your friends influence you in study of mathematics?

Yes ☐ No ☐

12. Do your parents motivate you to study mathematics?

Yes ☐ No ☐

13. Do you involve yourself in constant practice of mathematics?

Yes ☐ No ☐