**Background to the research**

This is a research group called Diagnostic and Remedial Mathematics Group formed in September 08, 2012 with the primary task of

1. identifying the difficulties encountered by students, and then to
2. use this information to develop remedial procedures to overcome these difficulties.

This is followed strictly by data analysis/

The research at first considered various methods of diagnosing difficulties. For instance,

1. they considered interview techniques, such as getting the students to think aloud

with students being asked to verbalize every thought that comes to their mind in the course of solving a mathematics problem.

1. the clinical interview

This differs from “thinking aloud” in that the teacher may follow the thoughts of his students by asking questions here and there, during the course of solving the particular problem.

RESEARCH QUESTION 1: WHAT ARE THE MAIN CAUSES OF POOR PERFORMANCE IN MATHEMATICS AMONG PUBLIC SENIOR SECONDARY SCHOOL STUDENTS IN OUR ERA?

*THE CAUSES OF POOR PERFORMANCE IN MATHEMATICS AMONG PUBLIC SENIOR SECONDARY SCHOOL STUDENTS IN GHANA*

|  |  |  |  |
| --- | --- | --- | --- |
| S/No | Problems | RESPONSES | |
| Agreed % | Disagreed % |
| 1 | Students’ negative attitude toward mathematics cause poor performance in the subject among public Senior High School Students |  |  |
| 2 | Anxiety and fear toward mathematics cause poor performance in the subject among public Senior High School Students |  |  |
| 3 | Inadequate teachers of mathematics cause poor performance in the subject among public Senior High School Students |  |  |
| 4 | Using inappropriate or poor teaching materials by teachers cause poor performance in the subject among public Senior High School Students |  |  |
| 5 | Inadequate teaching materials of maths cause poor performance in the subject among public Senior High School Students |  |  |
| 6 | Overcrowded or large class cause poor performance in the subject among public Senior High School Students |  |  |
| 7 | Inadequate facilities such as libraries and mathematics laboratories cause poor performance in the subject among public Senior High School Students |  |  |
| 8 | Lack of frequent supervision and inspection by both school administration and ministry of education cause poor performance in the subject among public Senior High School Students |  |  |
| 9 | Lack of parental involvement in the education cause poor performance in the subject among public Senior High School Students |  |  |
| 10 | Unfavorable school environment cause poor performance in the subject among public Senior High School Students |  |  |
| 11 | Number of study period allotted for delivery of lesson cause poor performance in the subject among public Senior High School Students |  |  |
| 12 | Lesser years of completion of school also cause poor performance in the subject among public Senior High School Students |  |  |
| 13 | Threat from society such as land litigation create fear and panic in students leading to academic destruction |  |  |
| 14 | Financial insecurity cause poor performance in the subject among public Senior High School Students |  |  |

**Research Question 2:** What are the ways of improving performance in mathematics among public senior secondary school students in our Era?

|  |  |  |  |
| --- | --- | --- | --- |
| S/No. | **SOLUTION** | **Responses** | |
| **Agreed %** | **Disagreed %** |
| 1. | Developing positive attitude towards mathematics can improve the performance of public senior secondary school |  |  |
| 2. | Provision of adequate qualified and trained mathematics teachers can improve the performance of public senior secondary students |  |  |
| 3. | Using appropriate methods of teaching mathematics (child-centered approaches) can improve the performance of public senior secondary school students in the subject |  |  |
| 4. | Provision of adequate and relevant mathematics materials can improve the performance of public senior secondary school students in the subject |  |  |
| 5. | Provision *of* physical facilities like additional classrooms and furniture can improve the performance of public senior secondary school students in the subject. |  |  |
| 6. | Provision of additional facilities like libraries and mathematics laboratories can assist in improving the performance of public senior secondary school students |  |  |
| 7. | Proper supervision and inspection by the school administrations and other appropriate organs can assist in improving the performance in mathematics of both the teachers and students of public senior secondary schools. |  |  |
| 8. | Good school-community participation as well as active parental involvement in the education of children can help in improving the performance of public senior secondary school |  |  |
| 9. | Adopting and using of computer assisted (CAT) by our present day mathematics teachers can help in improving the performance of public senior secondary school students |  |  |
| 10. | Motivation as well as proper guidance towards mathematics can improve the performance of public senior secondary school students |  |  |
| 11. | Increase parental involvement in the education will cause improved performance in the subject among public Senior High School Students |  |  |
| 12. | INCREASE IN NUMBER OF YEARS of completion of school shall boost performance in the subject among public Senior High School Students |  |  |
| 13. | Threat free environment from society such as land litigation will prevent fear and panic in students leading to academic progression. |  |  |
| 14. | Financial security will cause proper performance in the subject among public Senior High School Students |  |  |

COMMENTS/RECOMENDATIONS

**REPORT ON 3RD MATHEMATICS CLINIC FOR SCHOOLS (SHS) HELD AT ANLOGA E.P. MISSION FROM 2ND AUGUST, TO 2ND SEPTEMBER, 2016.**

**By:**HAMMAH - TETTEY SEL

(*COORDINATOR*)

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In our quest to arrest the cancer of math problem among the pupils of today, S-mas College (INST. OF MATHS) has organized a clinical project for the school pupils to assess and take them through some challenging topics in the subject as well as provide remedies to help the pupils.

This math teaching clinic gave the students another chance to understand the methods and steps which might have well escaped them or otherwise confuse them.

Since there is no better way to foster the growth in a child than to foster their self confidence in their ability to learn, The Math Teaching Clinic service strives not only to remediate a student's math skills but to build the confidence, self-esteem, and the expectation in them to achieve a lot.

YOUR WARD

Your ward has taken part in this 2016 clinical project. She was worked with and put forth a commendable behavior. However we have found these paramount issues from others to be a stamping block for her math performance.

1. Procept (CONCEPT AND PROCESS) of/on topics was a challenge.
2. Lack of habit for studying worked examples.(BEFOR HER OWN ATTEMPT TO QUESTIONS)
3. General fear for specific/ challenging topics

**LESSONS**

Treated topics were reviewed and practiced and the above was rectified.  Active student engagement through extensive guided problem solving practice was central to each lesson. Students received instruction on a specific concept and then practice to master the concept with straightforward problem sets.  The students then solve a set of SAT (Self Assisted Test) style problems with guidance and discussion on the same concepts to understand the difference in solving them

**GENERAL PROBLEMS IDENTIFIED FOR MATH**

The following were discovered to be affecting the pupil’s study of math which cut across.

1. Pupils not well organized before class
2. Lack of confidence in a child
3. Large class
4. Lack of motivation from people around him/her
5. Disruptive class environment
6. Discouragement from past experiences
7. Inefficient & improper study skills
8. Insufficient (Very little time) time to spend on the study of math
9. Busy school schedules with extra-curriculum eg. sports, and games etc
10. Absenteeism (due to illness, truancy etc)

RECOMENDATIONS

Having worked on her, we recommend the following:

1. Continue to assist her
2. CONSTANT PRACTICE. We admit, she is a slow type at Math, so, at least an hour math study a day is highly called for.
3. Get her the necessary books and materials she may have needed in math.
4. Get her a personal/ home teacher to keep her interest up.
5. Let her write private exam (NOV/DEC) in math before her final WASCE exam as a mock
6. Encourage her

FINAL RECOMENDATION

We however recommend that so long as we shall continue our normal meetings with students on Saturdays, it will be appropriate if She enroll in our Saturday school – S-mas College, to help with HERSELF.

Courtesy: ***MOTHERS’ HERITAGE, S-MAS COLLEGE, YOUG MATHEMATICIANS FOUNDATION***