

## Improving The Teaching And Learning Of Mathematics In Second Circle Institutions In Ghana: Paper II

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**ABSTRACT:** Mathematics subject had seriously become problematic and is posing limitations to our children/wards in seeking admission into the tertiary institution of learning. The paper II is a follow up to paper I and continues the ways of improving the teaching and learning of mathematics in second circle institutions in Ghana. [New York Science Journal. 2009;2(5):9-11]. (ISSN: 1554-0200).

**Keywords:** Mathematics, Second Cycle Institutions, SSCE, Teaching and Learning, Mathematics Association of Ghana (MAG), Ghana Mathematical Society (GMS), National Mathematics Institute (NMI).

### INTRODUCTION

“The old slogan of fail in Mathematics, fail in all other subjects” is back on the stage because no applicant can gain admission to higher/tertiary institutions without a credit pass in mathematics. It has now been the awareness that “mathematics” is the key to all subjects be it the Sciences, Technology Accounting and Social Sciences or even law. Not only these, the overall national development of any nation and building of a healthy happy and prosperous society or nation can not be successfully achieved without mathematics. The pursuit of mathematics is therefore, vital and imperative for any society, or community or nation in order to maintain its independence and ensure increased prosperity and keep its place amongst the civilized nations (society) of the world in this era of technology. The rich and more advanced country of the world have attained their affluence through advanced which they made in mathematics which links sciences and technology. This implies that mathematics education is a very important input in the scientific and technological development of any society. It is now obvious that mathematics subject is a tool for science and technology.

Mathematics has now entered into the field of studies which were thought to be non-mathematics in the past. Mathematics is now been seen as the pivot on which all other subjects revolve. As a result, the poor performance of students in the subject cannot be allowed to go unattended to. Right from childhood, in nursery classes, mathematics is one of the basic skills impressed. This shows how mathematics forms the foundation of any solid education. In the paper I, we looked into the probable causes of student’s poor performance in the subject with recipes to the problems, the paper II, is an extension of paper I.

There is awareness of Our students’ poor performance in Mathematics as evidenced by the results of trends in International Mathematics and Science Study (TIMSS), which was conducted in 2003, when the results were ranked from the highest to the lowest in performance, Ghana occupied the 44<sup>th</sup> position out of the 45 participating Countries. The results are very painful to those of us who brag about the Ghanaian’s academic prowess. Brooding over the results is of no use though; rather concrete steps must be taken to stop the downward trend of performance in Mathematics, stabilize the situation and then gradually move the whole Nation towards understanding and appreciating the beauty and utility of Mathematics in today’s World (1 and 3)

### METHODS OF IMPROVING THE TEACHING AND LEARNING OF MATHEMATICS

It is worthy to mention that government of Ghana alone count shoulder the enormous responsibility to better and improve the quality as well as standard of education at all levels. It is therefore imperative that other agencies, organization of private individual, NGOs etc. should assist in improving the standard of education in the country; this can be done by organizing workshop so as to positively support the efforts of government.

Train-the-trainers workshop: this is another method of improving the teaching and learning of mathematics. By train-the trainers we means, a situation where by we have two teachers, i.e. one from junior and another from senior schools need to be selected to train each others. They will be expected to impact knowledge to each other and to other teachers on their return to schools after the workshop when a teacher has adequate knowledge of what is expected of him/her, imparting the knowledge in such field will not be a problem and our students will not end by being drop outs after failing their terminal examination.

- Our Association (MAG) Mathematical Association Ghana, Ghana Mathematical Society (GMS) and National Mathematics Institute (NMI) should be powering mathematics workshop to every schools within some jurisdictions, this may led to improvement in the teaching and learning of mathematics
- Provision of mathematical laboratory to the second circle institutions. If our second circle students can see some of what they are being taught in laboratory, that means we move from abstract to reality, this can bring out improvement in the teaching and learning of mathematics.
- Provision of mathematics models, film strips will also help in improving the teaching and learning of mathematics in our second circle institutions.
- The Mathematical Association of Ghana (MAG), Ghana Mathematical Society (GMS) and National Mathematics Institute (NMI) should be organizing mathematics competition between/among the second circle institution with in a jurisdiction and any school came first should be rewarded specifically. If this is done, there will be improvement in the teaching and learning of mathematics.
- The member of the Mathematical Association of Ghana should be going round the second circle institution in Ghana, to give Maths funfair, lectures or symposia etc. this will also aid in the teaching and learning of Mathematics.
- Mathematics Teachers' through Mathematical Association of Ghana (MAG) need to be supported to attend International Conferences this will bring in exposure to what Mathematics is everyday. MAG, GMS, NMI needs to be organizing International Conferences for its members by inviting other international mathematics association.
- MAG should expand its membership to include those who are not classroom teachers of mathematics. MAG members can gain valuable knowledge by interacting with such people and this can bring about improvement in the teaching and learning of mathematics.
- MAG and GMS leadership need to open up to new ideas that will make MAG and GMS a truly professional body that will spearhead mathematics education in Ghana and it could bring about improvement in teaching and learning of mathematics.
- Mathematics teachers' should encourage their students and however change the wrong notion developed by our Society over many years which some of the teachers have transferred to Children and Pupils that Mathematics is difficult.
- Mathematics teachers should try to do their best to create a friendly classroom atmosphere where teaching is easier and learning is easy and even enjoyable; not a place of war where criticism is rampant and teaching and learning is difficult. So teachers should use to praise instead of threats to get students to learn.
- Teacher should plan carefully their work and spend part of their holidays for planning on how to cover their syllabus before the school reopens. The problem of teaching and learning mathematics is as a result of the fact that some of the basic topics/foundation topics were untaught and that has created "holes" in the minds of our students or pupils. Teacher should remedy it and not add to the problem by skipping some topics.

- Teachers of Mathematics subjects should always use concrete objects to teach children because children learn from concrete to abstract.
- Teachers of Mathematics subjects should be endeavour to the use of continuous assessment to assess the work and progress of their pupil, this could bring improvement to the teaching and learning of Mathematics.
- Teachers of Mathematics should stop attempting to “pour” knowledge into the “empty” heads of students rather than providing them the opportunity to study and understand Mathematics.

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