

**A STUDY ON NUMERICAL PROBLEM SOLVING ABILITY
OF G.C.E. (A /L) STUDENTS OFFERING CHEMISTRY**

A PROJECT REPORT PRESENTED BY

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In Sri Lanka the G.C.E. (A /L) examination serves not only as a certificating exam, but also as a university admission test. This latter aspect has started dominating the education process in Sri Lanka. As a result of the above situation teachers have been compelled to train the students to perform well at this examination. Imparting knowledge has been the sole educational objective with little attempt being made to reach the higher level of educational achievement. Quality general education must be relevant to life and will have applications in every day living. It will contribute to enhance the quality of life. Problem solving skill plays a significant role in day today life. Unfortunately, many students lack this very important skill.

In the present project the objective was to investigate the problem solving skills of students offering chemistry as a subject for the G.C.E. (A /L) examination with a view to find the reasons for the perceived weakness of students in solving numerical problems. This investigation was carried out by means of a purpose designed test instrument. The test instrument was designed in the area of stoichiometry, as this section deals with many simple calculations. These calculations are relevant in almost all the other areas of the chemistry curriculum where problem solving is an important aspect of the learning process. Sample of 241 students was selected for this study. The test was administered and the data was collected. Then the responses were analyzed and the data were coded and categorized. Analysis of variance was used to find out the significant differences among gender, class, stream, group and their interactions. Duncan's New Multiple Range Test was used for mean comparisons.

From the findings of this project it can be concluded that students have the necessary mathematical ability to solve problems encountered in the A/L chemistry curriculum. They also appear to have the necessary knowledge to solve simple problems. However there is a general weakness in the application of this knowledge to solve problems. Most students appear to memorize equations without really comprehending them. Also it was found that they do not have sufficient knowledge about the correct strategies used for solving numerical problems.