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**MAKING G.C.E. ADVANCED LEVEL (A/L) PHYSICS MORE
ATTRACTIVE THROUGH IMPROVED TEACHING AT
PRE-G.C.E (A/L) CLASSES**

A PROJECT REPORT PRESENTED BY

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ABSTRACT

There were several educational reforms to improve science education in Sri Lanka. In 1997 education reforms for junior secondary and senior secondary were introduced to improve the student centred learning. However still most teachers use teacher centred method to explain science concepts. If teachers could engage children in learning activities through appropriate demonstrations and hands-on experiments it would greatly improve learning. Unfortunately, this is not always possible due to lack of guidance and student centered teaching material available to teachers. Even the few suggested activities in textbooks are described incompletely, omitting details of how to set up the apparatus and carry out the experiments. Setting up experiments described in the textbook without a guidebook for teachers is not an easy task. This demands a greater effort by the teachers and as a consequence, there will not be enough time available to cover the syllabus.

Very often, in our classrooms teaching of science is teacher oriented and the pupils behave as passive listeners. Teachers fail to identify child's understanding by oral questioning. The textbooks give no clue to the teacher as to what questions s/he must ask the child during the class. The children often rely on memorising the lesson material.

As a supplementary material to teach science at pre-advanced level, forty five activities were proposed in the topics of measurement, mechanics, heat, sound, light, magnetism and electricity. This project does not cover the entire range of topics in school science, which would require a group effort and a longer time to complete. However, the report is presented as an example of how activities should be written in teacher's guides to accompany the concepts presented in school science textbooks. Most of these experiments are "hands-on" type, to be carried out by the students and are prepared relating to many topics suitable for an introductory Physics course. Topics that would generate interest and curiosity among students in pre advanced level classes or ones that teachers find difficult to perform are selected in this study.

Activities do not involve any costly (>Rs.50) equipment. The materials needed and the questions to be asked are written down. Space is left for the answers so children can perform the activity and answer the questions from their observations. The activities are meant to get the children to participate, think, predict, reason out, compare, check and verify what they are meant to learn from the activity. This will lead the teachers to experiment with confidence and the pupils will enjoy learning science. Building up scientific attitudes like curiosity, skepticism, open mindedness and positive approach to difficult situations from their early ages should prepare them for success in a progressive society. These children with scientific thinking skills will be an asset to society and contribute to the growth of science, development of technology and provide the needed economic growth for our country.