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**LEARNING DIFFICULTIES IN *GRADE* 10 SCIENCE
STUDENTS AND POSSIBLE SOLUTIONS THROUGH
DEMONSTRATION EXPERIMENTS**

A PROJECT REPORT PRESENTED BY

S. PAKIRATHAN

To the Board of Study in Science Education of the
POSTGRADUATE INSTITUTE OF SCIENCE

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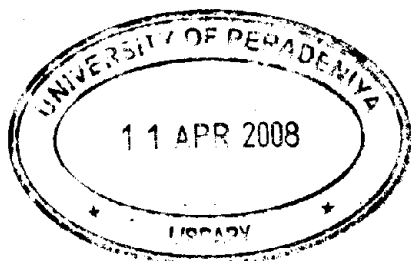
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Abstract

Understanding certain concepts in physics is necessary for the study of the subject. The objective of this study is to find out the level of understanding of these concepts among students in Grade 10. This particular grade was selected for study because the researcher is of the opinion that while students are failure or successful in the G.C.E (O/L) science, they struggle when they follow science in the advance level classes. Hence, a class that is considered a feeder to the ordinary and advance level classes was found suitable for this study.

The instruments used in the study were a diagnostic test for the students and a questionnaire for the science teachers. The sample group consisted of 397 students from four 1 AB schools in the Matale District. 47 questions based on five physics topics were included in the diagnostic test administered to the selected students. Analyses of the result of the diagnostic test revealed that the students' achievement level in certain topics was low, although the concepts selected for the test were very simple.

Fifty students* from school No: 1 were selected at random for remedial teaching mostly through the practical experimentation method. 11 practical activities based on the topics found difficult for the students by the results analysis along with worksheet were given to them.

In order to assess the effectiveness of the practical teaching method followed by the researcher, a post test was administered to the students selected for remedial teaching. The post test, conducted after a lapse of three weeks, contained questions different from those of the pre-test based on the topics found difficult for the students. The achievements in the pre-test and post-test were compared to assess the effectiveness. The researcher observed that there was considerable improvement in the response of the students in the post-test.

On the basis of the questionnaire administered to the teachers, their preferred method of teaching and the difficulties they faced were identified. On being informed that the performance of the students had improved as a result of the practical classes, the researcher was informed of the difficulties faced by the teachers which include the insufficient time factor and the lack of facilities.

The researcher is of the opinion that a wider application of the practical activity method will improve and increase the knowledge of students provided that the required facilities are supplied to the schools from the quality input allocation for each school. Further, the teachers should be provided with opportunities to update their knowledge through periodical seminars and workshops to achieve the goal of science education.