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**ACTIVE INSTRUCTION TECHNIQUES FOR TEACHING  
SCIENCE IN  
LOWER SECONDARY CLASSES**

**A PROJECT REPORT PRESENTED BY**

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# ACTIVE INSTRUCTION TECHNIQUES FOR TEACHING SCIENCE IN LOWER SECONDARY CLASSES

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Current environmental problems exceed a level where the planet is not suitable for living beings and researchers in the relevant fields have realized that education is the very suitable tool to seek solutions for these problems. More emphasis has been given to environmental education in the recent past. Even in Sri Lanka, environmental education is introduced in many streams, many subjects under the cross curricular theme, more time is allocated than before and effective teaching methods have been introduced in teacher guides and in textbooks.

In order to assess the present teaching methods and the effectiveness of introduced teaching methods, a questionnaire was prepared for teachers who teach science and technology in grade seven, to know about the teaching method they used and how they demonstrated plant parts in the unit "Similarities and dissimilarities among living beings". The questionnaire was administered among twenty five teachers to include many parts of the country and the data collected were analyzed.

Two sets of students of grade seven from two different schools were selected. Then a null hypothesis and an alternative hypothesis were formulated. The null hypothesis was, "There is no significant difference between the two methods of teaching and learning".

A common pretest was prepared for both sets of students using the units related to environmental studies from grade seven as well as from grade six syllabi to diagnose the prior knowledge of the students. The pretest was conducted with the student on the day prior to the day selected unit was started. From the next day, the selected unit was taught in both classes using two different teaching methodologies. In one school the teacher was allowed to teach using his own methodology and observations were made. In another school activity method was used by the subject teacher using the specially prepared lesson plans by the researcher according to the active teaching techniques. After completing the unit a common posttest was conducted using the selected unit pre and posttest marks of the two sets of students were analyzed. A two tailed t –test for independent sample was done to compare the test marks of two groups statistically and the p value was found to be less than 0.05. Therefore the null hypothesis ( $H_0$ ) was rejected. It was revealed that the activity teaching method positively affected the student performance at the posttest.

Marks scored by the students of Ranabima Royal College and Gampola Muslim Maha Vidyalaya at the year end examination conducted by the provincial education department of Kandy in December 2005 was considered to determine the impact of the activity teaching method on retention of learnt concepts. Questions on the selected unit were used for evaluation. These results too revealed that the activity teaching method positively affected the student performance level as the active teaching techniques facilitated active knowledge construction through various activities which led them to obtain first hand experiences and hence memory enhancement.