

A CASE STUDY ON THE CONCEPTUAL UNDERSTANDING OF ELECTRICITY AND ELECTROSTATICS CONCEPTS OF GRADE ELEVEN TAMIL MEDIUM STUDENTS

A. Raveendran

Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka

The main objective of teaching science in the school curriculum is to enable the students to comprehend basic concepts of science in order to empower them to resolve the problems they encounter in their daily life successfully. Practical experiences by teachers of science, the real classroom situations clearly indicate that in reaching the above objective, accuracy and clarity in Conceptual understanding by the learner is a must.

The purpose of this research is to investigate the level of Conceptual understanding of Physics by the students studying science in Grade 11 classes of selected four schools in the Kandy district. This study further attempts to address the issue of Conceptual understanding of scientific concepts in actual Sri Lankan classroom situations through the Methodology of Conceptual Development. Under this methodology the learner follows a route of three learning stages, namely, Exploration, Concept Development and Application.

By the application of modern educational classroom techniques such as Physics Educational Technology(PHET), Simulation Technology, Video Clips and group and pair work, this study has attempted to give the learner a realistic experience in the application of Physics concepts learnt in the classroom. Instead of using traditional educational resources this study has used the technique of PHET simulation, which is interactive, dynamic and constructive, by employing real equipments, reading resources, or chalk-Talk lectures appropriately.

The results of the research prove the fact that, when compared with the traditional Chalk and Talk methodology of teaching which is still widely practiced in many schools in Sri Lanka, which failed to bring about desired results, the Conceptual Development Method works well in any classroom situation to the satisfaction of not only the students and teachers but also the other interested parties as well.