

EFFECTIVE LEARNING OF PROPERTIES, APPLICATIONS AND REACTIONS OF SUBSTANCES IN GRADE NINE CHEMISTRY, USING A SELF STUDY GUIDE

M. Salika Banu

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

Department of chemistry, University of Peradeniya, Peradeniya, Sri Lanka.

Chemistry Education has been identified as one of the major bedrocks for the transformation of our national economy, and hence, must be given adequate attention. The Educationists found more failures in chemistry part of Science subject in G.C.E (O/L) and G.C.E (A/L) in past decades. Chemistry is often regarded as a difficult subject; sometimes it repels learners from continuing studies in Chemistry, which demands student motivation and resource materials.

Availability of Chemistry books in grade nine is rare. Therefore, the teacher should devise a mechanism to provide opportunity for children to think in a novel way, to derive meaning from day to day experiences, to engage in analytical thinking and to use books effectively. Students' study guide enables students to find necessary Information. The modern emphasis of education is on guiding the students to improve knowledge, and thinking rather than teaching.

The present study is based on preparing and implementing a self-study guide for grade nine students. This guide was prepared using information gained from teacher questionnaire, informal interviews, student's prior existing knowledge and their learning difficulties. Grade nine students (total 164) from selected schools (total 4) in Matale and Kandy were pre tested and students' marks of each school were ranked. Odd numbers and even numbers were included for the experimental group and the control group respectively in each school.

Pretest showed no mean differences in prior knowledge of students in both districts (mean marks in Kandy 54.54 and Matale 53.88). Post- test showed significantly ($p \geq 0.05$) higher marks (mean marks in Kandy 65.93 and Matale 64.76) than pre test marks in experimental groups but no significant difference was observed in control groups.

The improved mean marks in experimental group indicates the effectiveness of the study guide which led students to involve in active learning, to pave the way to identify weaknesses and to take necessary corrective actions that ultimately motivated and built confidence in the students. Thus, the study guide is proven to be a useful study tool that enhances quality of learning and improves students' performance.