

A STUDY ON HANDLING LABORATORY EQUIPMENT WITH SPECIAL REFERENCE TO DEVELOPING A PRACTICAL GUIDE FOR SELECTED EQUIPMENT FOR SECONDARY LEVEL

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The crucial role of experiments in school science curriculum is universally accepted. Many of our secondary students and teachers aim at achieving paper qualifications rather than developing their practical skills related to science education. The problem of neglecting of experiments in our schools had been a matter of great concern. This study aims to find out barriers for promoting laboratory work in schools and examine the perception about the subject of Science and Practical work and important initiatives to increase the emphasis on practicals in schools. The new practical guide was introduced for the students in relation to selected equipments. As the target group, 98 students in grade eleven were selected for written test and 30 students were selected for the practical test and questionnaires were distributed among 52 science teachers in the Nikaweratiya Education Zone. The statistical analyses were done by using both Excel and Minitab.

The study revealed that implementation of science practical work and usages of laboratories are not up to the expected standard of course objectives of grade eleven and it proved the fact that procedural and manipulation skills regarding all selected equipments were not satisfactory. Most students had the ability of identify laboratory equipments and knew what functions they perform. Achievement levels of male students were little higher than the female students and there was a significant difference between schools. Students' performances were depended on the type of laboratory equipments. Students had great interest in learning science subjects with practicals. There were reciprocal ideas among teachers and students when considering the implementation of practicals in the classroom. The presumption that teachers were competent enough to teach practical work was found to be incorrect for Nikaweratiya Education Zone. Both teachers and students revealed more problems they encountered when doing practical work.