

**EFFECT OF GUIDED INQUIRY-BASED LABORATORY EXPERIMENTS ON
ATTITUDES OF STUDENTS TOWARDS SCIENCE LEARNING**

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Positive attitudes towards science is important for the enhancement of science learning. Most of the school students consider science as a difficult subject, having a fear towards science learning and also they do not demonstrate accepted levels of achievement in applying knowledge. The main objective of the study was to find the effect of guided inquiry-based laboratory experiments on the attitudes of students towards science learning. Quasi experimental research design was implemented under quantitative approach. Pre-test and post-test control groups with experimental group design were used. The sample consisted of Grade nine students of a purposively selected Type 1C school in Matale Education Zone. Quantitative data were collected through an attitude test, and the qualitative data were collected through structured interviews and observations. A questionnaire with Likert scale questions, interview schedule and an observational schedule were used in data collection. Hypothesis testing was performed to analyze quantitative data. An independent sample *t*-test (Pooled *t*-test) was conducted to test the difference between the attitudes of male and female students towards science learning, and the paired *t*-test was conducted to find the effect of guided inquiry-based laboratory experiments on the attitudes of students towards science learning using SPSS-22 statistical software. Qualitative data were analyzed descriptively under three themes. Findings revealed that Grade nine students had positive attitudes towards science learning ($77.64 \pm 6.56\%$). Both observation and interview results also revealed that students have positive attitudes towards science. Findings further showed that there was no significant difference between male and female students ($p = 0.869$). Analysis of qualitative data also showed that both male and female students have positive attitudes towards science learning. The guided inquiry-based laboratory experiments also showed a significant impact on improving attitudes of students towards science learning ($p = 0.000$). This was supported by the results of observation and interviews. Therefore, Grade 9 students of selected schools have positive attitudes towards science learning, and there is no significant difference between the attitudes of male and female students towards science learning. Also, there is a positive effect of guided inquiry based laboratory experiments on students' attitudes towards science learning. Since this information is from one single school, the study can be further expanded to arrive at a stronger conclusion.

Key words: Attitudes, Inquiry-based learning, Science learning