

Improving Pre-University Students' Understanding of Basic Plant Tissue Culture Topic through Laboratory Teaching: A Case Study of UMS

ABSTRACT

Laboratory work is an important component in biology-based courses. In Malaysia, biology courses were offered to students from the upper secondary level to pre-university level. However, practical work and experimentation still not being fully emphasized in teaching and learning session. The objective of this paper is to demonstrate the effectiveness of laboratory teaching for basic plant tissue culture topic at Foundation Science, University Malaysia Sabah. Two hundred fifty-six pre-university science students had participated in this study. Test comprises of two sections (theory and practical) was given to the students before and after lab session. The data was analysed using R statistical software. Paired t-test and Pearson's correlation coefficient were utilized to make statistical interpretation of the Pre-lab and Post-lab test. The results showed that the average mean value for the Post-lab test was higher, with an increased to four questions answered correctly as compared to Pre-lab test. The results of the paired t-test also significant and there was a high correlation between Pre-lab test and Post-lab test. These findings prove that laboratory teaching did significantly improve the students' level of understanding after participating in the laboratory session.