

Difficulties experience by science foundation students on basic mendelian genetics topic: a preliminary study

Abstract

This paper aims to report and identify the difficulties experienced by Science Foundation students in understanding basic Mendelian Genetics based on their ability to solve three types of basic Mendelian Genetics problems. The problems given are; a monohybrid cross and two dihybrid cross cases. Result shown that 52.6% students were able to solve all the given problems while another 47.4 % had difficulties to solve at least one of the given problems. Among the students that had difficulties to solve the given problems, 4.4% students had difficulties to solve Type 1 problem, 13.3% students had difficulties to solve Type 2 problem, 15.6% students had difficulties to solve Type 3 problem, 8.9% students that had difficulties to solve both Type 1 and 3 problems, 40% students had difficulties to solve both dihybrid cross Type 2 and 3 problems, and 17.8% students were unable to solve all the given problems. $E(X)$ or number of questions that the Science Foundation students had difficulties to solve is 0.874. The standard deviation for number of questions that the Science Foundation students had difficulties to solve is 1.842. In solving basic Mendelian Genetics problems, we expected students were able to solve the problems given and also can clarify the techniques used in term of genetic context. The initial finding reported in this study may be used to have a better understanding on students' ability and problem solving skills in learning genetics.