

Exploring the Impact of Enquiry-Based Instructional Strategies on Students' Attitudes towards Biology

Abstract

Teaching methods dominated by teacher demonstration, chalk and talk, have been attributed as the main source of negative attitudes towards biology. This study aimed to explore the impact of enquiry-based learning on students' attitudes towards biology. The study comprised 228 students purposely selected from six secondary schools. Focus-group discussions were used to collect qualitative data with a phenomenological design. Six groups were probed with interview questions, three on the side of the experimental group and three on the side of the group subjected to conventional teaching methods. The data were analysed by using NVIVO software, and later, content analysis was employed descriptively. The study's findings revealed an extensive impact of enquiry-based learning on enhancing students' attitudes towards biology. Moreover, a remarkable commitment was identified on the side of the experimental group, while exploring biological concepts in their groups. Difficulties, such as insufficient laboratory activities, lack of planning for practical laboratory skills, and the inability to grasp the scientific names of micro-organisms were identified. Learners proposed ways of improving teaching and learning biology, such as providing learning resources, extra time to explore the biological content, more laboratory practical work, access to ICT tools, field studies, and the need for active learning methods. More support in active learning was requested on the side of the control group. The students subjected to enquiry instructions improved their attitude towards biology. Further studies can adopt in-depth interviews, in order to gain more information.

Authors:

Henriette Manishimwe, William Aino Shivoga, Venuste Nsengimana