

Natural history dioramas for teaching biodiversity on an ecosystem level: pre-service biology teacher education programme

Abstract

Natural history dioramas are life size representations of the natural world, classically containing taxidermically prepared animals in a reconstruction of their habitat. In the present research dioramas from the Slovenian Museum of Natural History in Ljubljana were used. In the museum are six dioramas representing typical ecosystems in Slovenia: forest, Alpine, carst cave, marsh and two coastal sea dioramas. The museum is the most important institution for authority for acquiring, conserving and exhibiting natural history collections and non-formal educational institution for promoting natural heritage in the country. A programme for pre-service biology teachers, studying at the University of Ljubljana Faculty of Education, was developed in collaboration with the museum to teach pre-service biology teachers how to implement dioramas for teaching biodiversity on an ecosystem level and to raise their awareness of roles the museum could have for biology education. The programme based on a pre-service biology teachers' project work was named 'Dioramas for biodiversity education' and included planning, preparation, implementation and evaluation of the lessons using dioramas. The purpose of the present study was to evaluate the programme from the perspective of pre-service biology teachers and their gains. Secondly, we evaluated the programme from the content perspective; possibilities of using six dioramas for teaching biodiversity on an ecosystem level recognized by pre-service biology teachers. Analysis of the lessons showed that pre-service teachers mainly recognized usability of dioramas for teaching pre-service biology teachers about interspecies relations, food chains and webs, abiotic environmental factors, and animal adaptations. The majority of pre-service teachers reported that experience of the programme is going to help them better implement dioramas as well as non-formal educational institutions, such as Slovenian Museum of Natural History, in their future work in school.