

Short Communication

Encouraging Use of Community-Based Resources by Bioscience Students

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Date received: 28/06/2010

Date accepted: 23/07/2010

Abstract

This communication reports how bioscience students are encouraged to benefit from city and regional community-based resources through use of a guidebook and student-managed learning. Positive outcomes of the module are that bioscience students take their learning experience beyond the classroom, they engage with wider community resources, and they introduce educational, ethical, economic and political dimensions to their studies.

Keywords: Bioscience students, community-based resources

Introduction

UK cities and regions have many community-based resources that are potentially valuable to bioscience students, but in our experience are underused by them. We gave a list of 16 community resources (three collections of living plants; three live-animal collections; four nature reserves; a herbarium; a museum collection related to whaling; and four conservation/wildlife study groups) to bioscience undergraduates who had been studying for at least 2 years in Hull, north-east England and asked how many of them they had visited or used. All of 13 respondents had visited The Deep, a marine aquarium in Hull of national significance, but this was because they had been taken there as part of first-year induction. Otherwise the mean number of resources encountered per student was only 0.8 (range 0–3); nine of the respondents had visited only The Deep. The students expressed the opinion that an appropriate guidebook would have encouraged their use of such resources.

The Approach

To prepare a guide we collated information about diverse community resources in and around Hull (Table 1); they are largely accessible to the public, are safe, and are reachable by public transport. The guide (Scott and Goulder, 2008) was printed in-house for students and is available online. Each entry is a double A4 spread and includes: descriptive text and illustrations; suggestions for study themes; a list of the students' modules that are potentially linked to the resource; references; how to get there by public transport.

To encourage use of the guide, and the resources introduced therein, it was made integral to a second-year BSc module People, Biology and Environment which was introduced in 2007–2008. The module includes a student-managed learning (SML) component over 12 weeks (notionally 60 hours input per student). Students work in self-selected groups of 3 or 4; each group visits 2 or 3 of the resources listed in the guide (costs are met by the University of Hull), chooses one of them and develops a theme for in-depth study which is progressed through further visits to the chosen resource, meetings with associated professional staff, and literature review. Potential themes for in-depth study are included in the guide, but students frequently arrive at themes independently. Tutorials to review the students' progress are held fortnightly.

Table 1 Community-based resources included in the guide

Site/location	Nature of resource
The Deep, Hull (Grid Ref. TA 103 280)	Marine aquarium
Sealife Centre, Scarborough (TA 035 897)	Marine aquarium and seal rescue centre
Sewerby Hall Bridlington (TA 205 689)	Small zoo and aviary; gardens
East Park, Hull (TA 120 315)	Aviary, some animals (deer, wallabies)
Pearson Park, Hull (TA 076 290)	Conservatory with birds, reptiles and fish
Beverley Westwood (TA 020 390)	200 ha of common land
Filey Brigg Ornithological Group	Volunteer naturalist group
Hull Maritime Museum (TA 097 288)	Whaling collection
Mires Beck Nursery (SE 889 316)	Wild flower nursery providing training for people with disability
Newlands Allotments, Hull (TA 078 315)	Urban allotments
North Cave Wetlands (SE 883 331)	Wildlife reserve; 40 ha of former mineral workings
University Herbarium (TA 078 316)	An extensive herbarium largely of British plants
The Plants of Hull: a Millennium Atlas	Plant distribution maps; on-line (www.hull.ac.uk/hullflora)
University Botanic Garden (TA 053 328)	Gardens and plant collections

In-depth studies on resources listed in the guide have included the following examples.

- The educational value of the animal collection at Sewerby Hall, Bridlington. The students diversified beyond the zoological collection to include associated gardens and the Grade 1 listed early eighteenth century house. Contributions made by the zoo were identified as: educational packs aimed at Key Stage 1 primary school children; guided tours and talks for schools; an adopt-an-animal scheme aimed at families; informative signage; work and study placements for FE students. The gardens were acknowledged as possessing aesthetic appeal but the students' emphasis was on a scheme funded by the local authority to allow people with learning difficulties to gain horticultural and life skills. Outreach by the Hall to the wider community, through concerts and exhibitions by local artists, was seen as a positive feature.
- Public use of 200 ha of common land, Beverley Westwood; the students evaluated interdependence and conflicts between economic usage (grazing; race meetings), leisure activity (golf, children's play, picnicking, model-aircraft flying) and wildlife conservation (12 ha of ancient woodland that is an SSSI).
- The whaling collection at Hull Maritime Museum led to study of the economic importance of whaling in the development of Hull and showed how visitors to the museum appreciate information about the city's whaling history. The students considered, however, that the museum might also address the ethics and politics of commercial whaling.

The student groups are assessed at a half-day end-of-module conference; each group contributes a 20 minute oral presentation, an A1 size poster and a pleat-folded A4 illustrated colour flyer. Content is determined by the students, but must be inspired by, and clearly linked to, the visited resource and must demonstrate relevance to the interaction between people, biology and the environment. The contributions are peer marked and marked by the tutors.

Conclusions

We noted a tendency for student groups to focus on the educational value of the resources. Education is an appropriate theme but may be favoured because it is an area within which students are comfortable because of their pre-existing personal experience of education.

The whaling collection at Hull Maritime Museum has been a popular resource; successfully countering an internationally-perceived reluctance by bioscience students to engage with museum collections (Cordero, 2009). There has, however, been little engagement with plants and their inter-relations with people, although several plant-based resources are included in the guide. A study of the gardens at Sewerby Hall focused on their use as a learning resource for people with learning difficulties, but not on plants *per se*. The tendency of students to prefer animals to plants (Strgar, 2007) and the under use of botanic gardens (Sanders, 2007) were not overcome.

A questionnaire-based evaluation showed that most students agreed that participation in the module led to greater awareness of community resources, they were more likely to visit or use them, and were more likely to visit similar resources in the areas where they will live after graduation (Table 2). There was, however, a general opinion that the resources would not be used to support learning in the final year of study nor would they be related to postgraduate employment. This might suggest that students compartmentalise modules because as tutors we could see links between the resources and the students' future modules.

Table 2 Results of a post-module questionnaire on students' awareness of community-based resources (1=strong agreement to 5=strong disagreement, n=12)

Statement	Score count					Mean
	1	2	3	4	5	
As a result of the module I am more aware of community resources related to people, biology and environment	6	4	1	0	1	1.8
I am more likely to visit or use such resources in the Hull region	2	6	3	0	1	2.3
I am more likely to visit or use such resources in the area in which I will live after graduation	2	5	2	2	1	2.6
I am likely to use local resources to support my learning in my final year of undergraduate study	0	0	2	7	3	4.1
I should potentially like to use community resources in connection with my employment following graduation	0	1	5	2	4	3.8

Positive outcomes of the module are that bioscience students take their learning experience beyond the classroom, they engage with wider community resources, and they introduce educational, ethical, economic and political dimensions to their studies. Working links with professional staff beyond the bounds of the university are established and team-working and communication skills are fostered. We suggest that this exercise offers many of the diverse benefits to students more usually associated with formal field-work; i.e. both generic and subject-specific skills (e.g. Stokes and Boyle, 2009). Furthermore, the guide (Scott and Goulder, 2008) is an online resource for students and teachers in FE and schools in the Hull region and to general readers who wish to discover more about their community resources.

Acknowledgements

We thank: staff of East Yorkshire County Council, Hull City Council, and others who provided information and interacted with students; the participating students; Valerie Fairhurst for technical assistance. We were supported by a grant from the University of Hull Innovations in Student Learning Fund

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