Undergraduate Expeditions as a vehicle for final year projects

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Background and Rationale

The honours degree programmes we offer are in Zoology, or Marine & Freshwater Biology, but the scheme we describe could suit programmes in Ecology, Conservation Biology, etc.

Many students in these areas are interested in field-based projects and are particularly attracted to the idea of doing fieldwork abroad, in areas of high biodiversity. However, there are several difficulties associated with overseas fieldwork: a) cost, b) safety and supervision, c) timing i.e. it is not feasible to do the fieldwork for an overseas project at the same time as studying core modules at the home university.

Different universities no doubt find different solutions to these problems. For example, some may have rather short projects which can be tacked on to the end of an overseas field-course; some have a rigid separation in final year between a taught-module term or semester and a period entirely devoted to the project. It is also possible to devolve projects to organisations such as Operation Wallacea (www.opwall.com/), who provide excellent opportunities, but are rather costly to students.

At Glasgow, our pattern for laboratory-based projects is that they stretch over most of two semesters, concurrently with taught modules, and that they occupy about one third of a student's time over up to 20 weeks (including writing-up). This is a substantial time commitment, and field based projects are expected to be broadly equivalent.

Our scheme allows students to do the field-based part of the project (in the UK, or abroad, but this case history concentrates on projects abroad) during the summer vacation between the Junior Honours and Final years (3rd and 4th years of a Scottish degree). Overseas projects are linked to Undergraduate Expeditions.

How to do it

Our expeditions are jointly organised by staff and students, and must have a member of staff involved if they are to receive University approval and support. Expedition members can be undergraduates from first to final year, and postgraduates as well as staff. The general educational aims of an expedition are a) to give students experience of challenging fieldwork abroad that can generate worthwhile results; b) to give students the opportunity to be involved co-operatively in the logistical challenges of organising an overseas expedition. Our expeditions are not organised for the purpose of providing project opportunities for final year students, but it is generally possible to devise projects as part of the overall programme of work done on the expedition.

There are considerable advantages in this approach:

- Overseas fieldwork is costly, but we cover it through the fundraising effort needed to run the expedition. This develops the valuable generic skills of organising fundraising events and writing grant applications. Because students understand the considerable value to their personal development of participating in an expedition, they are very willing to spend considerable time on fund-raising.
- Since only a proportion of students on an expedition are working on final year projects, the others can act as helpers when they are not busy with other work. This has several benefits: it provides field safety; it helps with data collection; and junior students learn some of the skills involved in a fieldwork project before they need to work on their own project i.e. there is an element of peer-assisted learning.
- On the spot supervision, helps quality assure the process as far as the University and funders are concerned, and may be able to do some of his/her own research with the assistance of expedition members.
- It is common for our expeditions to be located in places where members of staff have one-off or long-term research interests. This means that the research-teaching link is strong for the student projects.

Troubleshooting

Three problems we have faced are:

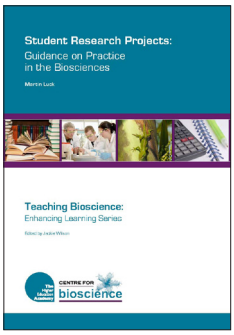
- **Equity** How to equate the project opportunities of students who have been able to work on their project abroad over the summer, compared to term-time projects at home? Our pragmatic solution has been to require summer project students to submit their reports just after the Christmas vacation, whereas term-time projects are submitted at Easter. We have not attempted to put limits on the amount of time a summer project student can devote to fieldwork. We have been pleasantly surprised that students have rarely complained that summer project students have an unfair time advantage over term-time project students. We suspect this is because students realise that projects are very diverse, and that the time any student chooses to devote to a project is a personal decision: and that these factors make summer/term-time difference insignificant, especially given that students fully recognise the value of allowing summer projects.
- **Staffing** Not everyone wants to spend a substantial part of the summer vacation in the company of undergraduates! However, we can run staffing as a rota; and by linking expeditions to staff research interests, we reduce this problem.
- **Health & Safety** Over the years, we have become more professional on risk assessments and safety precautions. Again, this is all excellent training and experience for students. The availability in many overseas locations of modern communication methods such as mobile phones has become a great help. However, accidents can happen and students can catch serious diseases, despite operating to the best available advice and practice. Since such events are likely to be more alarming overseas, it is vital to have effective procedures in place to cope with such problems, including communicating with parents etc. at home.

Does it work?

A growing number of our final year projects have been carried out overseas, since we began this practice in 1993. In 2008, we are running nine overseas expeditions, and over 10 students will do their projects under this scheme. Projects on expeditions have been of high quality, with many leading to publications in refereed journals, usually the first such publication for the students involved. Many graduates who have participated in expeditions have proceeded to fieldwork based research careers, and often comment that the opportunity to do a fieldwork project abroad was the best part of their undergraduate experience and influential in starting them on their career path.

The variety of projects undertaken has been very diverse. Most have been basic biology, ecology, or conservation related. We have also had human-based projects, using interview and questionnaire-based data.

Accompanying materials



This case study was included in the Teaching Bioscience: Enhancing Learning guide entitled *Student Research Projects: Guidance on Practice in the Biosciences*, written by Martin Luck and published by the Centre for Bioscience. The associated website (www.bioscience.heacademy.ac.uk/resources/TeachingGuides/) contains a downloadable version of this case study

The Exploration Society provides support to expeditions of various kinds: maintains a funding-source database; organises first aid training; organises briefings on field safety and safety assessment; ensures that reports of previous expeditions are available (hard copy in the University Library; increasingly also available on the web). The Exploration Society website is under development and will eventually provide a more comprehensive package of resources. In the meantime, please contact the first author for further details.

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