

Field safety training for staff in geography, earth and environmental sciences in HE: establishing a framework

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Abstract

The need for, and requirements of, staff development opportunities in fieldwork leadership for higher education (HE) staff have been explored by consultation with representatives of subject organizations and the Outdoor community. This article summarises the outcomes of that consultation (a full report is available on request). Currently available opportunities for relevant training are identified, and a 'framework' for considering staff development is proposed. This includes a list of the competencies that it is suggested field leaders should endeavour to develop. This list is intended to be a facilitative tool, for example in assisting self-assessment of development needs. Finally, a number of avenues for further work are recommended in order to provide increased support for higher education staff involved in leading fieldwork.

Introduction

This project was established to enable the higher education (HE) Geography, Earth and Environmental Science (GEES) community to learn from the expertise of the Outdoor (mountaineering / outdoor pursuits) community in relation to issues of fieldwork safety. Fieldwork often takes place in potentially hazardous locations, including rivers, woodlands, coastal/tidal locations, moorland and mountains and urban areas.

HE subject organizations and Outdoor organizations were invited to be involved in a consultation (either through meetings or electronic communication) to investigate the need for, and requirements of, staff development opportunities in the safe management of fieldwork specifically tailored to Higher Education. This article summarises the key findings, with a full report available on request.

Fieldwork has long been recognized as playing a central role in GEES subjects (Kent *et al.*, 1997; Williams *et al.*, 1999; Fuller *et al.*, 2003), often occurring in potentially hazardous locations. A growing literature on fieldwork pedagogy (e.g. Gold *et al.*, 1991; Kent *et al.*, 1997; Warburton *et al.*, 1997; Livingstone *et al.*, 1998; Andrews *et al.*, 2003; Boyle *et al.*, 2003; Fuller *et al.*, 2003; King, 2003) often recognises field safety as being of paramount importance (e.g. Gold *et al.*, 1991). However, discussion tends to be: a) limited, often only making brief reference to risk assessment, and; b) largely focused on methods of encouraging students' awareness of safety (Francis and Wignall, 1997; Gaskarth, 1997; Sutcliffe and Grocott, 1997; Woodcock, 1997) rather than considering the staff experience or competence that such teaching is based on. Fieldwork safety guidance is available in both national (e.g. CHUGD, undated; ESTA, undated; Nichols, 1990; CVCP, 1995; AUCL, 1996) and departmental guidelines (online examples of the latter include those of the Department of Earth Sciences at University College London and the Geography Department at Exeter University). In addition, the Royal Geographical Society is currently developing a Code of Practice for outdoor activities and overseas expeditions. These guidelines are predominantly, if not wholly, recommendations for the establishment of procedural systems designed to ensure the safe execution of fieldwork.

Undoubtedly such systems are essential, but a 'check-list' approach to complying with them would not necessarily ensure effective, safe leadership of fieldwork. In particular, such guidelines are often limited in their consideration of what actually happens in the field, emphasizing pre-field visit procedures and the establishment of precautionary incident management procedures, and post-visit review. Arguably, competent leadership whilst in the field, and the on-going decision-making involved in this (Outdoor Education Advisor's Panel, 2004), "is the most important safety factor of all" (DfES, 1989: 4).

The Outdoor community has considerable expertise in leading groups of all ages and [dis]abilities in much the same environments, and in training others to lead groups in these environments, with participant safety and risk management (rather than simply risk assessment) to the fore. The emphasis here is on a continuous process of risk management and leadership, from pre-visit risk assessment and establishment of necessary protocols, through effective group leadership incorporating continuous assessment of, and adaptation to risk, through to post field visit review. Outdoor leadership literature (e.g. Ogilvie, 1993; Langmuir, 1995; Graham, 1997; Long, 2004) thus considers not just safety procedures and the necessary technical skills, but also the 'soft skills' of group leadership. Outdoor leadership courses – such as the Walking Group Leader and Mountain Leader schemes – are likely to be too in-depth for most GEES subject staff, but the higher education community could clearly learn from the expertise of the Outdoor community.

The need for staff development opportunities has been apparent throughout discussions during this project, with suggestions that some (particularly new) staff feel unprepared when leading fieldwork. Opportunities for gaining experience may be limited (e.g. 14 days a year or less) and so the chance to learn from 'outdoor professionals' would be welcomed. However, some concerns were expressed, particularly in relation to the establishment of a qualification. If this were then seen as a requirement for staff leading fieldwork, it was suggested that the effect may be to decrease the opportunities for students to participate in fieldwork, rather than enhance provision. It should be noted here that the Government's 'Better Regulation Task Force' takes the view that regulation should be used only as a last resort, stating that "perhaps people don't need to be told what to do if they're given the right information to help them take their own decisions" (Better Regulation Task Force, 2003: 3). Although written within the context of statutory regulatory intervention, this notion is central to this project: that providing individuals in HE with the opportunity to learn more about, and develop their expertise and confidence in, the successful management of fieldwork will be more effective in enhancing provision than would a requirement for staff to 'jump through hoops' in an instrumental manner. In essence, this requires a recognition that risk can never be eliminated, but can be managed – a position clearly stated by the Health & Safety Executive and key to their current 'risk debate' (Health & Safety Executive, 2005a; 2005b).

Currently available opportunities

A range of opportunities for relevant training currently exists (Table 1), many of which are in 'outdoor leadership' rather than 'fieldwork leadership', and not specifically tailored to an HE context. However, such schemes may be of value in providing 'models' of training and assessment that the GEES community may consider adapting, and in providing alternative means of developing and demonstrating relevant competence.

A framework for staff development

It was suggested that the primary function of a framework for staff development should be:

To promote the safe management of field-based experiential learning in the Geography, Earth and Environmental Science disciplines in Higher Education, in order to maximize the learning experience of students.

In this context, 'promote' should be interpreted to mean both; (a) encouraging and enabling individual staff members to develop competence and confidence in managing fieldwork safely; and (b) to 'publicise' the collective competence of the GEES community, thereby encouraging the confidence of HE managers (and health and safety officers) in fieldwork and thus fostering continued support for field-based experiential learning.

It is here suggested that a 'framework for staff development' should consist of:

- i) A statement of the desirable competencies, which field leaders should endeavour to develop;
- ii) A statement of the mechanisms by which such competencies may be recognized.

Such a framework should facilitate staff development at all career stages (including postgraduate), recognize and emphasize the value of continuing experience and development, encourage the dissemination of good practice, and allow recognition of relevant qualifications and experience obtained from outside the HE sector (such as those listed in Table 1).

The framework proposed in Table 2 (overleaf) integrates pedagogy and fieldwork safety, something that those involved in the consultation agreed was essential. Both are dependent on effective group management before, during and after a field visit, and both benefit from a reflective approach. The educational purpose of fieldwork, in both generic and event-specific contexts, is central to the management of any visit and provides the justification for undertaking the activity.

Table 1: Currently available staff development opportunities*

Scheme	Administering organisation	Notes
Mountain Leader	Mountain Leader Training UK	These cover competencies applicable to fieldwork, particularly in remote areas, providing national recognition of such competencies. They go beyond the requirements of most HE staff and require considerable personal commitment.
Walking Group Leader	Mountain Leader Training UK	
Level 2 Basic Expedition Leader Award	Sports Leaders UK	For lowland, rural areas. This award does not cover high hills, moorland or mountainous terrain.
Group Leader Training	Local Education Authorities	For school staff leading minors.
OCR Level 3 Certificate in Off-Site Safety Management	OCR exam board	Targeted at 'adults working with young people'.
Accredited Practitioner of the Institute of Outdoor Learning	Institute of Outdoor Learning	Primarily aimed at leaders working in the outdoor industry, it emphasizes that candidates should have experience in leading a range of client groups.
New Lecturer workshop	HE Academy Subject Centre for Geography, Earth & Environmental Sciences	Includes some consideration of fieldwork.
Health & Safety on Fieldwork	Field Studies Council	
BSES Leadership Training Course, incorporating NVQ Level 3 in Leadership and Management	BSES Expeditions	4-week training course including overseas expedition.
Training in safety issues tailored to departmental requirements	Marlin Training	
Educational Visits Co-ordinator training	RGS Expedition Advisory Centre	For staff in Independent and Foundation Schools

This list may not be exhaustive; the authors would be pleased to hear of other opportunities

Table 2: Framework for staff development**(a) Desirable competencies for field leadership**

The competencies listed below are suggested to be those that it is desirable for field leaders to endeavour to develop. The list is not intended to be prescriptive, and could be used, for example, as an aid to self-reflection and the identification of development needs.

1. Pre-fieldwork planning

Staff should be familiar with the planning responsibilities of the field course leader, and capable of thorough preparation of the event.

1.1 Field trip planning. Staff should:

- a. be clear about the pedagogical aims of, and reasons for, the field visit, ensuring they are appropriate to the student cohort
- b. ensure that the field visit is organised in accordance with the guidelines and requirements of the department or institution
- c. complete detailed preparations; plan the venue, negotiate access, obtain relevant weather and tide forecasts arrange transport; in some cases, concern about health and political stability may be further considerations
- d. ensure the students involved are thoroughly briefed; students should understand the purpose of the activity, what to expect of the visit, and what is expected of them

1.2 Risk assessment prior to fieldwork. Staff should:

- a. understand the difference between generic risk assessment, event-specific risk assessment, and on-going risk assessment and management
- b. aim to promote a culture of risk awareness, risk assessment and risk management among students, involving students in risk assessment whenever possible
- c. be aware of hazards specific to the environment in which the visit is to take place
- d. be aware (as far as available evidence allows) of the most hazardous aspects of fieldwork

2. On-site aspects of field leadership

Fieldwork should be a safe and enjoyable educational experience for students. Staff should endeavour to:

- a. manage the group effectively by setting realistic targets, reviewing and revising them if necessary, performing ongoing risk assessments, and maintaining effective communication with students as appropriate to the form of fieldwork being undertaken
- b. develop a reflective, flexible approach to leadership
- c. develop effective group management and supervision skills
- d. have in place clear guidelines for remote working of students where appropriate

3. Incident management

The department and institution providing fieldwork opportunities should have established procedures for dealing with incidents. Staff involved in fieldwork should:

- a. be thoroughly conversant with these procedures in order to implement them in stressful circumstances if necessary
- b. ensure that students working remotely are conversant with relevant procedures
- c. hold a current first aid qualification

4. Post-fieldwork review

Post-event review should be an integral part of fieldwork, and should:

- a. include a review of the pedagogical effectiveness of the activity
- b. include a review of the management of the group and event in relation to both pedagogy and the safety of participants
- c. lead to enhancements of practice

5. Throughout all of the above, staff involved in fieldwork:

- a. should endeavour to develop an awareness of their own competence/limitations
- b. would benefit from familiarity with the legal responsibilities of field staff towards individual students and the group as a whole, including in 'down-time' on residential fieldwork
- c. should be mindful of the responsibilities of field staff towards each other, land/property owners and managers, the general public, the environment, and the HE community
- d. should be aware of current best practice in managing adult groups, particularly in 'down-time' on residential fieldwork

Table 2: Framework for staff development (cont'd.)
(b) Mechanisms by which such competencies may be demonstrated

The Health & Safety Executive recognize four mechanisms for the demonstration of competence:

(i) Holding a national qualification	At present there is no national, fieldwork-related qualification tailored to a higher education context.
(ii) Holding an equivalent qualification	Equivalent qualifications, ideally nationally recognized (or equivalent overseas qualifications), such as those listed in Table 1 may provide evidence of competence in some (perhaps all) of the areas listed above.
(iii) Undertaking suitable in-house training	In-house training offered by institutions may provide evidence of competence in some (perhaps all) of the areas listed above.
(iv) Demonstrating competence developed through experience	Staff should be encouraged to maintain a reflective log of their fieldwork/field leadership experience, as evidence of competence developed through accumulated experience.

It was also felt that a reflective approach to leading fieldwork should be encouraged. This will help to facilitate the development of self-awareness of staff competence in managing and leading fieldwork, increasing the likelihood that individuals will recognize their responsibilities and limitations, and work within them.

Practicalities of provision

A number of options for the delivery of staff development opportunities could be considered. For example:

- i) A single, nationally recognized training course specific to leading students in HE fieldwork;
- ii) An agreed curriculum, that could be delivered in multiple locations;
- iii) A variety of courses tailored to, for example, different levels of experience or different environments;
- iv) Recommended use of already existing training (such as those identified in Table 1);
- v) A package of 'good practice' guidance that staff are recommended to follow.

Maximum flexibility is desirable, and a combination of options (for example, options iii, iv and v above) may be the most effective. In particular, any courses that are offered should be available in multiple locations across the UK to ensure accessibility to all HE institutions. The consultation group was of the opinion that training opportunities should incorporate practical elements (e.g. simulation), and that a reflective log would be a useful staff development tool, in encouraging continued development and enabling experience to be recognized.

Ideally, staff development opportunities should be available to cover all aspects of fieldwork in all environments. Discussion revealed that students' free time in residential field visits is a particular area of concern, as is the transport of students to and from sites (specifically the issue of staff driving minibuses). Such concerns clearly need to be addressed, and it is likely that further investigation of these issues will be required in order to provide a solid evidence base from which to address them (see below). It should also be recognized that fieldwork is undertaken in a wide range of environments, from remote mountainous areas to urban locations. Both the commonalities (for example, students working in unfamiliar locations) and the differences (such as remote fieldwork compared to city locations) between work in these environments should be catered for.

A package of good practice guidelines could be the first step towards the provision of staff development opportunities. The experience of the Outdoor industry is that any legal proceedings arising from accidents are judged against good practice, and clarity regarding what the HE GEES community considers to be good practice in fieldwork would thus be of benefit.

The consultation group is clear that the provision of staff development opportunities is a priority, and whilst there is some support for providing the option of associated assessment, this is of secondary importance at this stage. However, if assessment were to occur, this should be an assessment of competence undertaken by someone more experienced than the candidate being assessed. The mechanism of such assessment would be crucial to the credibility and success of the scheme. It is thus recommended that any assessment or qualification should take into account the four mechanisms of demonstrating competence that are recognized by the Health and Safety Executive (and outlined in Table 2).

Further research required

A strengthening of the 'evidence base' on which decisions about fieldwork are made would be of value, both in managing fieldwork and in addressing the concerns of individuals and institutions responsible for fieldwork provision. Aspects for further research include:

1. Identification and dissemination of good practice, in both individual and departmental/institutional practice.
2. Identification of the 'most dangerous' aspects of fieldwork, where most accidents and/or near-misses occur, in order to focus concerns more effectively.
3. Identification of restrictions or limitations on fieldwork, and the reasons for these.

The GEES community could learn from the wealth of individual experience that exists by pooling resources, sharing examples of good practice but also recording and sharing the 'near-misses'. Concerns regarding fear of reprisal (either personal, or restrictions to future fieldwork) would need to be addressed in order to facilitate this, but an anonymous web-based repository may be one way of encouraging the necessary cultural shift.

Finally, building on the work suggested above, sound information, advice and examples of good practice should be available for departments and institutions to encourage the continued provision of experiential learning opportunities. The



risks of fieldwork need to be realistically assessed, encouraging recognition that 'accidents do happen' (risk can be managed but never eliminated) and that staff need support and protection in such circumstances, but that the occurrence of accidents is rare. Clear information regarding the legal responsibilities of staff towards students during fieldwork is required, to provide reassurance for individuals, departments and institutions that they are meeting their obligations. Recommendations should include the retention of high staff:student ratios on fieldwork in spite of cost implications. A high staff-student ratio allows new staff to benefit from accompanying more experienced personnel, and thus facilitates 'mentoring' in the development of field leaders. Most importantly, it is essential to encourage recognition that providing opportunities for field-based experiential learning in HE is in itself good practice. A body of literature supporting this already exists (Boyle et al., 2003).

This combination of developing a sound body of 'evidence' of fieldwork practicalities, and providing clear, reliable information based on this evidence, should go some way towards addressing the many concerns associated with fieldwork and hence contribute to ensuring that students continue to have opportunities for field-based experiential learning.

Conclusions

Arguably, dialogue about, reflection on, and awareness of fieldwork safety issues should be encouraged. This requires the development of an evidence base, good practice recommendations established from this, and a facility for the dissemination and discussion of both good practice and near misses.

Publicizing the desirable staff competencies for field leaders as recommended here should assist staff in assessing their own development needs. Any professional development opportunities made available specifically for GEES staff should be focused around these competencies. If, or when, some assessment of competence is deemed necessary, this competence should be demonstrated through any of the four mechanisms recognized by the Health & Safety Executive (Table 2b).

Finally, the evidence base referred to above should be used to increase awareness among HE managers, health and safety officers, and any other relevant parties, of the professional competence of GEES staff in leading fieldwork, thus helping to maintain the central role of fieldwork in the student experience in GEES disciplines.

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