Chapter 18 Teaching and learning through fieldwork

*Nick Foskett*

**THE VALUE AND PURPOSE OF FIELDWORK**

For most geographers fieldwork is a key component of their enthusiasm for the subject and one of the strongest elements of their own personal biography. Read most reflections on school geography, too, and the role of fieldwork emerges as a central theme in curriculum planning. The first national geography curriculum in England and Wales, for example, indicated that ‘fieldwork should not be an optional extra, [for] pupils are entitled to…regular, purposeful and integrated fieldworks’ (DES 1990:85). The revised geography National Curriculum that came into effect in 1995 requires that all pupils ‘undertake fieldwork’ (DFE 1995:2), making it a statutory obligation on all schools in the state sector.

Smith (1987) has considered the aims of fieldwork in the context both of geographical education and of wider outdoor and environmental education, and concludes that ‘field-based outdoor activity, whether residential or not, is a critically important approach to learning’ (Smith 1987:209). Specifically, he identifies the value of fieldwork in terms of three broad categories of experience— outdoor studies, outdoor pursuits, and personal and social development.

‘Outdoor studies’ relates to the intellectual (cognitive) development of the child. Fieldwork provides the opportunity to apply ideas generated in the classroom to the real world, to test hypotheses by empirical methods and to learn new knowledge and concepts from first-hand observation. In particular, though, it enables the development of skills, including subject-specific skills (e.g. field sketching), wider generic skills (e.g. data collection and recording) and intellectual skills (e.g. problem-solving). The importance of addressing development of the affective domain (i.e. that area of thinking that relates to feelings, attitudes and values) is also emphasized. Within a humanistic perspective the importance of personal perceptions of place and the development of personal geographies has been stressed (e.g. Massey and Jess 1995) and is often identified as the development of a ‘sense of place’. Such a concept stresses the necessity of experience and participation in ‘place’, both in familiar and unfamiliar environments.

The second category of experience identified by Smith is the area of ‘outdoor pursuits’. The emphasis on this dimension clearly depends upon the location and nature of the fieldwork, but there will always be, even in the school grounds, some element of personal physical challenge, the development of physical and practical skills, and enhanced awareness of safety issues from experiences outside the classroom. Smith underlines the role of fieldwork, too, in preparation for leisure, in that it increases pupils’ awareness of their own and other environments and the potential role of outdoor activity for personal leisure activities.
Smith’s third category of ‘personal and social development’ is the least tangible of the three areas identified, yet, perhaps, in the long-term education of most children; it is the most important and persistent. This stresses the development of self-awareness and awareness of the needs and skills of others in the context of working co-operatively in new environments.

Geography fieldwork, of course, is not uniquely able to deliver these dimensions of learning. The strength of geography in contributing to these areas, though, lies in the subject’s historically accumulated experience of fieldwork and its ability to take the lead in planning these dimensions of education into the whole curriculum.

**ALTERNATIVE APPROACHES TO FIELDWORK**

Fieldwork may be considered as any activity that takes place outside the confines of the classroom which provides pupils with experiences, knowledge, understanding or skills that are part of the geography curriculum. We might consider these activities in terms of the location of the fieldwork and the teaching and learning strategies that may be used.

*Fieldwork locations*

The early history of fieldwork is rooted in the traditions of exploration and outdoor activity in distant locations (Brunsden 1986), creating an image that fieldwork activity is appropriate only in environments contrasting with those close to home. Early guides for teachers stressed this perception of fieldwork (e.g. Archer and Dalton 1968), and it was not until the late 1970s that writers such as Bailey (1976) and Arnold and Foskett (1979) began to stress the role and value of local environments for field study. Throughout the 1980s the expansion in fieldwork across the age and ability range in geography, combined with financial and pragmatic constraints, led to an increased focus on locally based fieldwork, so that by the mid–1990s Walford has suggested that ‘it has become evident that for many school pupils in the future a fieldwork experience will be a local one’ (Walford 1995:112). By way of contrast, however, recent years have also seen the frontiers of school fieldwork expand so that work in Europe or Africa is now within the range of some school groups (Fenoughty 1992).

Table 18.1 on the next page shows a location spectrum for geography fieldwork, and indicates some of the salient characteristics of each location in terms of the flexibility, costs and planning horizons that need to be considered. The limitations on organizing fieldwork increase with the locational scale involved, yet it might be suggested that the educational benefits to children increase substantially as the locational scale increases—and the promotional benefits to a school of offering distant and challenging fieldwork locations may be significant!
Table 18.1 A Spectrum of Fieldwork locations for Geography (British Context)

<table>
<thead>
<tr>
<th>Location</th>
<th>Example</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Grounds</td>
<td>Litter survey</td>
<td>Within lesson; single task/focus; no/low cost; possibly ‘spontaneous’</td>
</tr>
<tr>
<td></td>
<td>Soil Sampling</td>
<td></td>
</tr>
<tr>
<td>School Environ</td>
<td>Local Shopping Centre Survey</td>
<td>Within lesson or part day; Single task/focus; no/low cost</td>
</tr>
<tr>
<td></td>
<td>Local Stream hydrology</td>
<td></td>
</tr>
<tr>
<td>Local Region</td>
<td>Local Town Centre</td>
<td>Part day or whole day; single/multi task focus; transportation costs arise</td>
</tr>
<tr>
<td></td>
<td>Local Country Park</td>
<td></td>
</tr>
<tr>
<td>Wider Region</td>
<td>Regional City</td>
<td>Whole day; single/multi task focus; transportation costs significant; contrasting environment/locality</td>
</tr>
<tr>
<td></td>
<td>Nearest coast</td>
<td></td>
</tr>
<tr>
<td>Distant Locality</td>
<td>Upland Britain</td>
<td>Residential (few days/week); multi task focus; transport and residential costs substantial; long planning period contrasting environment/locality</td>
</tr>
<tr>
<td></td>
<td>London</td>
<td></td>
</tr>
<tr>
<td>Overseas (Europe)</td>
<td>Alps</td>
<td>Residential (week); multi task focus; transport and residential costs high; long planning period contrasting environment/locality</td>
</tr>
<tr>
<td></td>
<td>Netherland</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Iceland</td>
<td></td>
</tr>
<tr>
<td>Overseas (Distant)</td>
<td>North Africa</td>
<td>Residential (week); multi task focus; high cost; very long planning period; major risk assessment necessary; contrasting environment/locality</td>
</tr>
<tr>
<td></td>
<td>West Africa</td>
<td></td>
</tr>
<tr>
<td></td>
<td>India</td>
<td></td>
</tr>
</tbody>
</table>

**Teaching and learning strategies**

Most teaching and learning approaches that are appropriate within the classroom translate quite readily to the field environment, and working with children in the field opens up additional perspectives. We may identify a number of phases in the historical development of fieldwork which reflect differing perspectives on teaching and learning strategies. Prior to the quantitative revolution of the 1960s, two approaches dominated fieldwork. The expedition approach was based in the traditions of the adventure organizations such as the Scouts and Girl Guides, with fieldwork linked to outdoor activities, focused on walking, camping and mountaineering. The challenge lay in the physical demand of the activity and only in small part in the intellectual processes of geographical analysis. It was concerned with a descriptive, teacher-led study of landscape on a grand scale. The second tradition emerged during the 1950s and 1960s, based on improved transport availability, with pupils visiting and viewing geographical features considered in the classroom—what has been described as a Cook’s tour approach. Its value lay in its concern for landscape and the integrating perspective that can be obtained by a wide-ranging but perhaps superficial visit. Such an approach, in providing an initial overview of an unfamiliar environment, still has value as a preface to other forms of fieldwork (e.g. Martinez and Patterson 1988).

In 1965, stimulated by the growing development of a quantitative and normative approach to geography, a joint conference of The Geographical Association, Royal Geographical Society and the Field Studies Council considered the purpose and methods of fieldwork. The conference was a bench-mark in the development of fieldwork, for its principal outcome was to stimulate an approach focused on active field investigation. The importance of skills development emerged strongly through this tradition in the 1970s, with a focus on data collection and hypothesis testing. This active engagement of pupils in their own learning was regarded as a positive step forward, yet the focus on data collection (e.g. land-use mapping) too frequently emphasized the mechanics of measurement and recording and excluded adequate analysis and interpretation.
skills. Most geographers will question, for example, the value of the many hours they spent measuring pebble axes standing in rivers!

The main curriculum developments in geography in the late 1970s and 1980s (e.g. the Avery Hill Project) stimulated further development in fieldwork strategies. Their emphasis on enquiry-based learning focusing on people—environment issues stimulated an enquiry-based approach to fieldwork. Typical were the ‘framework fieldwork’ approach (Hart and Thomas 1986), and the ‘fieldwork as process’ model (Hawkins 1987) which saw fieldwork as field enquiry. The starting-point for such an approach would be the identification of management issues and problems in relation to the interaction of people and their environment in a specific locality (for example, the impact of a new motorway development in an Area of Outstanding Natural Beauty). From this a strategy for identifying causes, processes and consequences would be established by negotiation between pupils and teachers (for example, simple environmental impact assessment, and interviews with interested parties), leading to appropriate data collection, data analysis and presentation and the identification of possible management strategies/solutions (perhaps through a mock public enquiry). Such an approach integrates concepts into a focus on environmental issues and engages intellectual, practical and affective skills (e.g. Bamber and Ranger 1990). It emphasized, too, the process of geographical enquiry, and provided an approach to fieldwork which supported pupils in individual work, an essential requirement where GCSE and A level syllabuses included individual fieldwork-based studies.

Table 18.2 A Continuum of teaching and learning strategies for fieldwork

<table>
<thead>
<tr>
<th>Teacher Activities</th>
<th>Exposition</th>
<th>Provides tight enquiry structure</th>
<th>Provides guidance on enquiry structure</th>
<th>Provides support/encouragement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Activities</td>
<td>Reception/recording information</td>
<td>Follows instructions for individual work</td>
<td>Negotiation on methods/hypotheses to test</td>
<td>Develops own enquiry approach independently</td>
</tr>
<tr>
<td>Fieldwork Approaches</td>
<td>Expedition approach</td>
<td>Cook’s tour approach</td>
<td>Data collection/hypothesis testing</td>
<td>Field enquiry</td>
</tr>
<tr>
<td>Example</td>
<td>Teacher exposition on corrie formation and field sketch on Cader Iris</td>
<td>Teacher-provided worksheet to be completed during teacher and farmer-led farm visit</td>
<td>Teacher leads students in developing hypotheses on urban land-use; data collection method developed individually by small groups</td>
<td>Student enquiry on individual topic-designs own fieldwork strategy (teacher acts as consultant)</td>
</tr>
</tbody>
</table>

We may demonstrate this range of strategies in relation to Bartlett and Cox’s (1982) continuum of teaching and learning (Table 18.2). It is important to stress that no single strategy is in itself the ‘right’ approach, for the selection of strategy depends upon a wide range of factors relating to content, educational objectives, the teaching environment and available resources, and the nature
of the class being taught. Each strategy has a place in the practice of fieldwork, and a coherent fieldwork program for a school will contain elements of each. The emphasis on enquiry, for example, which is found both in the National Curriculum and most GCSE and A level syllabuses, does not exclude the value of exposition as a teaching approach, which may provide an excellent introduction to a highly individualized enquiry task, or explain a particular field technique or landscape feature.

**PLANNING FIELDWORK**

Comprehensive planning is essential for safe and effective fieldwork. The importance of planning in ensuring that the quality of teaching, the quality of learning and the standards of achievement of pupils is optimized in the classroom is widely stressed (e.g. Capel et al. 1996), but in the field the increased risk makes this process sine qua non. Planning is essential at a variety of scales, too, ranging from the individual activity or lesson, to the place of fieldwork in a short scheme of work, to its development within a Key Stage and within the child’s whole educational experience within the school. Planning a fieldwork task Planning an individual fieldwork task requires attention both to the issues of teaching and learning and the organizational aspects of the activity. In curriculum terms the principles of good lesson planning apply, with the need for clarity about aims, objectives and intended learning outcomes, the selection of appropriate methods (either for or with the children), the use of suitable resources and equipment, and careful attention to issues such as timing and sequencing of activities. An important emphasis is that fieldwork should always be integrated with classroom activities. It must be integrated with the scheme of work, with the key questions for investigation in the field emerging from previous tasks and the results and findings in the field being used to inform and direct subsequent work. Differentiation must also be considered carefully. Fieldwork offers good opportunities for differentiation by outcome, but the use of small groups working on similar or different tasks in the field enables differentiated tasks to be incorporated.

The range of fieldwork activities and tasks that may be used is very extensive, and a substantial literature exists which provides detail on specific skills and methods. The present paper does not allow space to deal in detail with these approaches, and the reader is encouraged to examine the appropriate literature on fieldwork techniques (e.g. Lenon and Cleves 1984).

The individual fieldwork task itself fits into a broader organizational framework, which will be very demanding of time in planning. First, following initial discussions with the head teacher and head of department (or curriculum co-coordinator) in school, the fieldwork location and task must be pre-visited and tested to assess the practical aspects of the task, safety, and organizational arrangements. Second, the financial and logistical dimensions of the work, including the organization of transport and domestic arrangements (accommodation, meals etc.), and the arrangement of access to locations, must be planned in the context of a full budget analysis. Third, a range of legal, bureaucratic, communication and pastoral care issues must be considered, which includes such tasks as providing details of the arrangements to parents and seeking both their permission and their financial contribution for pupil participation, checking the school’s/LEA’s insurance cover in relation to off-site activities, checking LEA and school policy on pupil-teacher ratios and teacher qualifications and experience, and checking health-related issues in relation to individual pupils. Finally, the in-school arrangements for covering
Fieldwork and outdoor activities in school have attracted substantial media attention in the light of recent accidents involving field parties. As a consequence, teachers must be aware of a number of legal dimensions in relation to fieldwork, and of their own responsibilities. Some of these relate to statutory limitations and responsibilities, for example in relation to charging pupils for participation in fieldwork (DES Circular 2/89), where no charge can be made for any activities which take place in school time, although voluntary contributions from parents can be invited. Others relate to policy frameworks for schools and LEAs where policies in relation to the experience and training of leaders, pupil-teacher ratios, and insurance must be in place. Details of these requirements are included in the government booklet Safety in Outdoor Education (DES 1989), and adherence to the guidelines in that publication should be regarded as a legal obligation upon teachers organizing fieldwork. In particular, the emphasis on safety must be paramount in field work and the importance of appropriate leadership training for staff and of vigilance, risk avoidance and conservative decision making in the field must be stressed. As a result of recent legislation (the Activities Centers (Young Persons) Safety Act, 1995, and the Adventure Activities Licensing Regulations, 1996), Activity Centers offering fieldwork under certain specified circumstances must be licensed. This does not apply to teachers or schools leading fieldwork, or to Centers offering accommodation only, but teachers organizing fieldwork should check whether any Centre they use falls within the scope of this legislation, and, if so, whether it is licensed. Failure to check this might be regarded as a breach of a teacher’s statutory ‘duty of care’.

Planning a fieldwork program

The planning of a Key Stage scheme of work or the coverage of a GCSE or A level syllabus includes a consideration of progression and the logical sequencing of work for pupils. Fieldwork within a geography department should demonstrate a similar pattern of structure and development. While the integration of fieldwork into individual schemes of work should ensure that progression in fieldwork parallels that in the rest of the curriculum, an overt broad plan in terms of fieldwork progression may be helpful. We might envisage that progression will involve the following changes:

- an increase in distance from the school, with early experiences within the school grounds and the local environs, and later experiences involving fieldwork elsewhere in the region or in more distant locations;
- an increase in duration, from early experiences of fieldwork in single lessons to half days whole days, and short or long residential experiences;
- an increase in complexity of the fieldwork, from simple descriptive and observational tasks, to issue-based enquiries;
- an increase in the demand of fieldwork skills themselves, where older pupils, for example, will be able to use more sophisticated analytical techniques, including statistical tests and computer-based databases or spreadsheets;
• an increase in pupil autonomy in the design and practice of fieldwork, with the intention of developing by year 11 or year 12/13 the skills to undertake an individual fieldwork task.

FIELDWORK AND INFORMATION TECHNOLOGY (IT)

The importance of information technology within the geography curriculum and the contribution that geography makes to the development of IT skills has been emphasized many times (e.g. Kent 1992). Two dimensions of the use of information technology emerge strongly through fieldwork, and provide a number of important opportunities for developing IT skills (Lucas 1993). First, the generation of data creates opportunities for the use of databases and spreadsheets for data analysis and for the use of word processing and drawing software in the preparation of reports and displays. This will normally need to be undertaken in the context of classroom-based follow-up, but the availability of laptop computers makes field-based data input possible. Second, the use of data loggers and environmental sensors makes the measurement of many environmental factors simple (e.g. river pH, temperature), and collects data in a form that enables them to be loaded directly into databases in classroom-based computers. It is clear that the value of IT in fieldwork lies in the scope it provides for rapid handling of data, which enables the focus of the fieldwork to be on the enquiry process, the infield skills and the interpretation and application of findings, and not on mechanical data processing.

CONCLUSION

Fieldwork in the geography curriculum has been under external threat during the last decade as issues of safety, cost and the internal managerial and curriculum pressures in schools militate against it. There is increasing pressure to use local fieldwork that is accessible within walking distance and, preferably, within single or double geography lessons. However, the value of fieldwork is still clearly recognized by most geographers, and its position, albeit at a potentially nominal level, within the curriculum is assured. With effective planning and management and a commitment to the educational and personal benefits to pupils of fieldwork, geography teachers can ensure that it remains as one of the most significant learning experiences that pupils have during their school career.

REFERENCES


Department of Education and Science (1990) Geography for Ages 5 to 16, London: HMSO.


Williams, Michael. Teaching and Learning Geography.