

# **Developing Discipline-based Pedagogic Research Capacity: Improving the Educational Effectiveness of Fieldwork in Geography, Earth and Environmental Sciences**

**A bid to the LTSN Learning and Teaching Development Fund for a Subject Based Pedagogic  
Research Project from the LTSN National Subject Centre for Geography, Earth and  
Environmental Sciences**

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## Executive Summary

This project aims to provide support to the geography, earth and environmental science subject communities to build subject-based pedagogic research capacity. In order to provide a focus for such capacity building, LTSN-GEES has identified 'enhancing the educational effectiveness of fieldwork' as a central theme. The funding will be used to support research in this area, to build capacity and to transfer and embed the results of such research in the communities.

Fieldwork is a key aspect within geography, earth and environmental sciences curricula and is advocated as an effective learning environment by virtually all those who are involved in learning and teaching in these disciplines (e.g. QAA Benchmarking Statements in *Geography*, and *Earth Science, Environmental Science & Environmental Studies*; Geological Society Course Accreditation Scheme; Johnston and Cooke, 2001; Malone, 1999). However, the research evidence for such claims is minimal and three-quarters of the literature is focused on geography (Cottingham et al, 2000). In comparison to some of the social sciences, in particular education and psychology, then geography itself has a limited pedagogic research base, both in terms of published output and in terms of staff in the discipline who can conduct this type of research (Jenkins, 1997a; Johnston and Cooke, 2001). In these respects there is not a level playing field vis-à-vis either other LTSN Subject Centres or between the three disciplines.

This project, therefore, arises as a result of five main factors:

- 1 The need to **develop the capacity** of the higher education discipline-based communities to undertake pedagogic research
- 2 The fact that there is significant variation in the degree of scholarly/research based pedagogic activity between and within geography, earth and environmental sciences in the UK; **there is not a level playing field**
- 3 The **central role of fieldwork** to student learning in geography, earth and environmental sciences
- 4 The fact that **fieldwork is as yet little theorised**
- 5 Fieldwork lends itself well to **a range of pedagogic research methodologies**.

To support these needs within the disciplines, the project has the following aims:

1. To build capacity for undertaking discipline-based pedagogic research in the three disciplines
2. To develop a more level playing field of pedagogic research expertise and theoretical pedagogic understanding within and across the three disciplines
3. To undertake research into learning and teaching issues associated with fieldwork across the subject areas
4. To develop the theoretical underpinning of a major learning environment for the three disciplines
5. To disseminate and embed the results of the research in the three disciplines
6. To disseminate the research methodologies to the three disciplines
7. To make appropriate links to cognate fieldwork disciplines/LTSN Subject Centres (e.g. CEBE, Bioscience); and to those disciplines with related experiential pedagogies to fieldwork (e.g. learning abroad in Languages and workplace learning in Business Management).

These aims will be achieved through a series of mini-projects which will all relate to the central theme. A one-day workshop will be held, open to all members of the GEES community, during which the topics for the mini-projects will be discussed and those who wish to be involved will be identified. The details of the selected mini-projects will be subsequently developed and a two-day residential workshop will be held to develop the pedagogic methodologies and to facilitate networking between the projects. A final workshop will be held to disseminate the findings and to reflect on the lessons learnt.

Given the limited pedagogic research capacity in the three disciplines, two pedagogic research advisors (Prof Liz Beaty and Dr Glynis Cousin, CHED, Coventry University) will be appointed to ensure the research carried out is of the highest standard. Additionally, the appointment of these 'generic' advisors will help the project, and, most critically, help those funded to do the research to situate their mini-projects in the wider education literature and communities.

The dissemination of the project findings (including research background and methodologies, bibliographies and research results) will take four main forms:

1. Dedicated web pages on the LTSN-GEES web-site
2. Articles within 'Planet' (the LTSN-GEES bi-annual publication)
3. A book
4. Contribution to discipline-based and generic LTSN conferences.

*“What we need is properly designed and conducted research, which poses answerable questions about what university teachers of geography are doing, why and how successfully. It is time to go beyond assertion and anecdote.”*  
(Johnston and Cooke, 2001, 115)

*“The fundamental educational question to be asked is whether fieldwork achieves any of its stated objectives and, in all honesty, we must recognise that we do not know. The literature on fieldwork ... is largely about assumed benefits, descriptions of particular fieldcourses and specific field techniques. What is missing is evidence on whether or not the effort and expenditure are effective.”*  
(Gold et al., 1991 p. 27)

## **A Rationale and Demand**

The first of the above quotations encapsulates the need for this project. (It is from two of Britain's most eminent geographers, who have been/are departmental chairs and Vice Chancellors; Ron Cooke is also Chair of HEFCE Teaching and Learning Committee and President of the Royal Geographical Society with the Institute of British Geographers). The topic of the project focuses on building discipline pedagogic research capacity to answer questions about the educational effectiveness of fieldwork. Fieldwork is central to the curriculum of the three disciplines within LTSN-GEES, and central to the beliefs of our 'communities of practice' (Wenger, 1998). However, as the second quotation indicates, whilst we have much assertion and anecdote, and craft knowledge about the central value of fieldwork to our disciplines, we have little or no research to guide us as to what is effective practice. Nor in the three communities do we have many people with the experience to undertake the level of pedagogic research to answer the questions that matter.

Specifically this project arises as a result of five main factors:

- 1 The need to **develop the capacity** of the higher education discipline-based communities to undertake pedagogic research
- 2 The fact that there is significant variation in the degree of scholarly / research-based pedagogic activity between and within geography, earth and environmental sciences in the UK; **there is not a level playing field**
- 3 The **central role of fieldwork** to student learning in geography, earth and environmental sciences
- 4 The fact that **fieldwork is as yet little theorised**
- 5 Fieldwork lends itself well to **a range of pedagogic research methodologies**.

### **1 The need to develop the capacity of the higher education discipline-based communities to undertake pedagogic research**

The need for evidence-based practice to underpin developments in learning and teaching in higher education has received a growth in emphasis in the last few years with the publication of the Dearing Report (1997), the founding of the ILT (1999), and the establishment of HEFCE's Teaching Quality Enhancement Fund, including the development of the LTSN (2000). However, it has been recognised that one of the major challenges facing the development of pedagogic research in higher education in the UK is the development of the capacity of staff to engage in this activity (e.g. Beckhradnia, 2000). The strategic importance of developing capacity for pedagogic research in all sectors of education is seen by the establishment of the ESRC Teaching and Learning Research Capacity Building Network (2001). Moreover, the ESRC recently announced (15 February 2001) that the third phase of the Teaching and Learning Research Programme (TLRP), will focus over the next seven years, particularly on developing research capacity in the areas of post-compulsory education and lifelong learning.

This bid sets out to pilot a process for developing the pedagogic research capacity of the geography, earth and environmental sciences communities, which also involves them engaging in substantive research into the learning effectiveness of fieldwork. The results of this research should significantly improve student learning across the three disciplines. The process of developing research capacity should also have significant potential to impact on staff practice and student learning in other disciplines. Moreover the experience gained from the pilot may provide later opportunities for LTSN-GEES to bid for ESRC money.

### **2 The fact that there is significant variation in the degree of scholarly / research-based activity between and within the disciplines of geography, earth and environmental sciences in the UK; there is not a level playing field**

Geography is perceived to have a stronger evidence base of scholarly publications and to an extent pedagogic research to guide practice than is the case for the earth and environmental sciences. For example, geography has had its own journal since 1977 specifically for studying pedagogy in higher education – *Journal of Geography in Higher Education*. However, in comparison with some of the social sciences, in particular education and psychology, geography itself has a limited pedagogic research base, both in terms of published output and in terms of staff in the discipline who can

conduct this type of research (Jenkins, 1997a; Johnston and Cooke, 2001). In these respects there is not a level playing field vis-à-vis either other LTSN Subject Centres or between the three disciplines.

Further evidence of the lack of a level playing field comes from the fact that several recent workshops on pedagogic research have been held within the geography community (Healey and Jenkins, 1999, 2001; HESG, 1999), but the earth and environmental sciences communities have not yet benefited to the same extent from similar discussions. A recently published bibliography on fieldwork in the three disciplines (Cottingham, *et al.*, 2000) found that approximately three-quarters of the literature referred to geography.

Within the three disciplines, there is also a range in the quality of provision between different institutions and departments in terms of educational practice that is soundly based on what educational theory tells us makes for effective student learning. Practice ranges from departments where fieldwork is effectively integrated through course design and assessment tasks, to departments where students are not achieving the quality of learning that should be achieved in what is a central espoused aim for virtually all the degree courses in these three disciplines. Though firm evidence of students' learning experience in the field is lacking, in part because the assessment panels rarely went on field courses per se, the Teaching Quality Assessment (TQA) reports affirm the variable quality of fieldwork provision. Thus the Environmental Studies Subject Overview Report comment that a "minority of subject providers have given insufficient attention to the timing and content of fieldwork" (HEFCE, 1995a, para 21), while in geography, assessors commented on "deficiencies relating to safety" in laboratory and fieldwork teaching (HEFCE, 1994-5, para 39). Both these reports and the one for Earth Sciences (HEFCE, 1995c) are critical about the overall assessment of the curricula in many departments. For example, the Geography Overview Report comments that in several departments there is not a good "match between assessment approaches and teaching and learning objectives." Fieldwork is one of the more important and yet, in some ways, one of the most difficult areas to ensure that assessment practice aligns with course aims; partly because much of field based learning is in less staff-controlled contexts and often involves the challenge of effectively assessing group based projects (HEFCE, 1995b, para 39).

The variations in the nature and quality of provision (i.e. the lack of a level playing field) are also strengths of this bid. For while there are differences between the disciplines and between departments, in their experience and awareness of pedagogic research and of particular issues regarding fieldwork, these can be seen as a way of enabling effective learning across the three communities. Thus geographers and environmental scientists have much to learn from geologists in terms of students individually undertaking quite long (six weeks or so) fieldwork projects. Geologists have much to contribute on how to address safety concerns in fieldwork design (HEFCE, 1995c). Geologists and geographers have much to learn from environmental scientists in enabling students to undertake inter- or multi-disciplinary fieldwork projects, using a range of research methodologies and often in a problem solving pedagogic context. This project will show within and between the three disciplines and contrasting institutions, that there can be effective research projects around common fieldwork concerns. The project will make an important contribution to creating a culture within and between institutions of collaborative working across the three disciplines, thus helping to develop 'a common playing field' and helping to build a common community of pedagogic research practice addressing disciplinary concerns.

### **3 The central role of fieldwork to student learning in GEES**

One of the most effective ways to build pedagogic research capacity in a discipline is to build that capacity around an issue that is central to the culture, beliefs and practices of that discipline. For on such an issue there is likely to be both intellectual curiosity, a greater willingness to learn from each others' practices, and a concern to act on the results of that research. Hence the focus is on building pedagogic research capacity through a range of projects directly related to fieldwork undertaken within a common framework.

Fieldwork is any structured experience that takes students to learn outside the classroom where what is studied (e.g. town centre layout or a geological formation) is also where they study. For all three disciplines fieldwork is central to their cultures and pedagogy (Jenkins, 1997b). Thus fieldwork plays a pivotal role in the Quality Assurance Agency's (QAA) Subject Benchmarking Statements for *Earth Sciences*, *Environmental Sciences and Environmental Studies*, and for *Geography*. The former states: "The experience of fieldwork is central to the study of geology, and most providers make this a priority in resource allocation despite the growth in student numbers" (QAA, 2000a Summary). It also notes that, "The Panel believes that it is impossible for students to develop a satisfactory understanding ... without a significant exposure to field based teaching, and the related assessment" (QAA, 2000a, para 4.3). This view is reinforced by the Geography Benchmarking Panel, who states that: "an education in Geography involves an active engagement with the external world. Fieldwork constitutes an essential element of this engagement and thus has a variety of roles," including developing employment-related skills of teamwork and so on (QAA, 2000b, para 5.8).

It is also important to add that fieldwork is a very costly element of departmental budgets. It is estimated that a typical field-course programme in Geography costs at least £1,000 per student excluding staff salaries. Approximately 2,500

geographers graduate annually at a system-wide cost of the order of £2.5m. Clearly much staff and student time is devoted to fieldwork, both in the field itself and in preparation and follow-up work. With students paying an increasing proportion of fieldwork costs, the pressures increase to ensure that quality learning is delivered and the claimed employability elements of these programmes are met.

#### **4 The fact that fieldwork is as yet little theorised**

*"It has long been recognised by Geoscience educators that field based education provides some of the most valuable and enjoyable educational experiences that our students encounter....but vague beliefs in the value of field-based education are not enough....There are too few [papers] that analyze the educational rationale behind [field]course design and practice, and fewer still with empirical data."* (Winchester-Seeto and Hart, 2000)

Despite its central and costly role, to shape effective practice there is a lack of firmly grounded general principles on fieldwork pedagogy that are soundly derived from research investigations. What was written about geography in 1991 in the second quotation at the beginning of this proposal, is sadly still true of these three disciplines in 2001. This reinforces the general observations by Johnston and Cooke (2001: geography) and Suiter (2000: geoscience) about the state of discipline-based pedagogic research and the need to build that capacity around issues of disciplinary concern.

There is a stronger tradition of research into fieldwork at school level, which this project will draw on and contribute towards (e.g. Gerber and Chuan, 2000).

#### **5 Fieldwork lends itself well to a range of pedagogic research methodologies**

In developing research capacity in the three disciplines, it is important to choose an area that requires and develops capacity in a range of research methodologies. Fieldwork lends itself to both qualitative methodologies (e.g. focus groups of students, in depth interviews with individual staff and naturalistic observation methods) and quantitative analyses (e.g. questionnaires, motivation self reports, the use of web counts to analyse the use of Virtual Field Course elements) (e.g. Cottingham and Healey, 2001). Staff expertise developed during these research projects could then be applied later to other areas of the curriculum.

### **B Aims**

This project has seven main aims:

1. To build capacity for undertaking discipline-based pedagogic research in the three disciplines
2. To develop a more level playing field of pedagogic research expertise and theoretical pedagogic understanding within and across the three disciplines
3. To undertake research into learning and teaching issues associated with fieldwork across the subject areas
4. To develop the theoretical underpinning of a major learning environment for the three disciplines
5. To disseminate and embed the results of the research in the three disciplines
6. To disseminate the research methodologies to the three disciplines
7. To make appropriate links to cognate fieldwork disciplines/LTSN Subject Centres (e.g. CEBE, Bioscience); and to those disciplines with related experiential pedagogies to fieldwork (e.g. learning abroad in Languages and workplace learning in Business Management).

### **C Link to Subject Centre Strategy**

Pedagogic research is considered to be an integral part of the work of LTSN-GEES, both to support the enhancement of the understanding of learning and teaching in the disciplines, and to support an evidence-based approach for use in activities such as national conferences, departmental workshops and other staff development resources.

As expressed in LTSN-GEES' mid-year report, the Strategic Plan (see Annexe 4) is currently being enhanced to specify measurable outcomes that will link the high level, strategic aims to the operational level activities. This is an ongoing process and will be completed well in time for the end of year report and next operational year's planning. This project strongly supports the achievement of the following Strategic Aims:

- A6 To foster a positive approach to the three disciplines working constructively together, whilst recognising and catering for their distinctive attributes and requirements
- A9 To review and encourage discipline-based research on learning and teaching

The importance of pedagogic research to both LTSN-GEES and the communities it serves is also highlighted in the Strategic Plan in the section 'Activities to Enhance Learning and Teaching':

*"The Subject Centre is committed to the promotion and advancement of pedagogic research in the three disciplines and to a scholarly and evidence-based research" (para 3I.1)*

This commitment to pedagogic research was highlighted in LTSN-GEES' response to the HEFCE 's Review of Research (00/37) and is being taken forward through the development of a specific Pedagogic Research Strategy (Annexe 5):

*"Discipline-based pedagogic research is at a very early stage in its development and if it is to be encouraged and nurtured not only should it be valued, but steps also need to be taken, we believe, to raise the capacity of staff in the disciplines to undertake high quality research. This might be achieved by a variety of mechanisms, including opportunities for staff: to obtain pedagogic research training; to work with, and be mentored by, experienced pedagogic researchers; and to gain experience of undertaking small research projects" (LTSN National Subject Centre for Geography, Earth and Environmental Sciences, 2000, para 4).*

## **D Project Plan**

The project plan defines a common meta-research theme concerned with improving the educational effectiveness of fieldwork to which all the mini-projects will relate. To obtain ownership of the overall project a one-day workshop will be held on June 5th, which will discuss the conceptual framework to be used in the project, based on Biggs' (1999) theory of constructive alignment, discuss the topics for the mini-projects and identify who wish to be involved. There will be an open invitation to members of the three communities to participate in the workshop. The cost of this one-day workshop will be met by the Subject Centre and will be advertised in March. (If the remainder of the project is not funded by the LTSN, the workshop will still go ahead with the revised aim of helping colleagues identify appropriate pedagogic research projects and teams, which will form the basis of future bids to grant-awarding bodies and the Subject Centre in line with its pedagogic research strategy). Should the overall bid be funded, the details of the chosen mini-projects will be developed subsequent to the one-day workshop. Clear criteria for the choice of topics and selection of mini projects have been established. A two-day residential workshop will be on September 13-14<sup>th</sup> to develop pedagogic methodologies and facilitate networking between the mini-projects. A final workshop will be held to disseminate the findings and reflect on the lessons learnt. The projects' pedagogic research advisors will facilitate all the workshops. A dedicated section of the Subject Centre Web site and a list serve will be developed to maintain contact between members of the project team and to keep the communities informed about the development of the project.

### **1 Defining the common meta-research theme**

The general meta-theme of improving the educational effectiveness of fieldwork has been identified through considering the current literature on fieldwork, including the TQA overview reports and the QAA Benchmark statements; and through the discussions with the GEES Disciplinary Advisors and with members of the Steering Group (Meeting on February 20, 2001). These have also enabled the identification of a set of linked issues and questions to guide the overall project. These are:

1. What do the GEES communities see as the central educational goals of fieldwork?
2. To what extent do the communities see these goals as common across the three disciplines; and to what extent are these seen as distinct concerns?
3. What does the available literature already indicate about the educational effectiveness of fieldwork?
4. What are the key concerns about the practice of fieldwork and the student learning that occurs, which concerns the three communities (and other interested parties, e.g. key employers) about the educational effectiveness of fieldwork? To what extent do cognate disciplines share these concerns?
5. What are the key researchable questions about the effectiveness of fieldwork to these disciplines?

In addition to the pedagogic centrality of fieldwork to the three disciplines and the wide range of research methodologies it can foster, the general theme of the educational effectiveness of fieldwork has other benefits. First it means that the funded projects may support each other better, both informally and formally, during the research. In addition dissemination will be more effective as the project findings will add up to a greater whole than could be achieved through a series of unrelated projects. Furthermore, the results of the research will be valuable to other LTSN Subject Centres. Fieldwork is central to Bioscience, Anthropology, the Built Environment disciplines, Area Studies, Archaeology, Art History, and Leisure and Tourism. Fieldwork shares certain common pedagogic characteristics with the learning abroad elements of foreign languages and the experiential learning of work place learning that is important to a range of Subject Centres, including Business Management and Accountancy and Hospitality, Leisure, Sport and Tourism. Thus the research methodologies, findings and pedagogic practices developed through the project can have a significant impact on staff knowledge, research expertise and student learning.

## 2 Identifying an overall theoretical research framework

In developing research capacity in the three disciplines it is important that there be a theoretical framework that:

1. Is based around a sufficient corpus of theoretical and empirical research to provide a robust platform for capacity building
2. Provides those with little or no experience of pedagogic research with a well-developed literature/ knowledge base to inform their particular disciplinary practices and concerns.
3. Is applicable to a range of linked mini-projects regarding fieldwork and with the potential to later apply to other learning environments
4. Has the potential to significantly improve the quality of the student learning.

The **theory of constructive alignment** meets these criteria (Biggs, 1999). This approach examines the 'goodness of fit' between the aims of the course, its assessment procedures, the nature of the learning environment, student cultures and motivations and learning styles and approaches. Drawing together a range of the key research frameworks in higher education it gives the project a strong theoretical framework that can then be applied to a range of issues on which the three disciplines need theory to guide practice. A common framework will support newcomers to educational research to achieve the necessary capacity to carry out the research and will ensure effective dissemination (cf Gibbs, 1992).

A further significant benefit of using this overall methodology is that it gives the project a 'head start'. 'Constructive alignment' is central to the ESRC TLRP funded 'Enhancing Teaching Learning Environments in Undergraduate Courses Project (ETL)' led by Noel Entwistle and Dai Hounsell (<http://www.ed.ac.uk/etl/project.html>). Thus, this project can use the resources, including web-based materials and the developing expertise of this ESRC project. This 4-year project started in November 2000. Liz Beaty, Head of Centre for Higher Education Development (CHED) at Coventry University, who is Associate Director of ETL, has agreed, along with her colleague Glynis Cousins from CHED, to be our Pedagogic Research Advisors (see Section 3). Thus, this proposed project will benefit from the resources and expertise of ETL, and in turn will extend the Edinburgh-based project, by moving it into discipline-based and field-based learning environments.

## 3 The role of the generic pedagogic research advisors

Appointing pedagogic research advisors, will help ensure that the research carried out is of a high standard. Given the limited pedagogic research capacity in the three disciplines, the advisors need to be from outside the three disciplines. However, there are clear advantages in appointing people with specialist expertise in higher education. For not only will they have the requisite background in research methodology; they will help the project, and most critically those funded to do the research to situate their projects in the wider higher education literature and communities (Beaty, 1999; Cousins, 2000; McGill and Beaty 1997). Developing discipline based pedagogic research capacity is not only about knowing and using the relevant pedagogic research methodologies; it is also about discipline based pedagogic communities recognising and using the wider and generic literature regarding learning in (higher) education (Weimer, 1997). Ensuring this project is firmly based in this wider literature will also assist later transference to other LTSNs.

The role of the Coventry Advisors will be to:

1. Advise on the overall project design
2. Take the central role in running the 4 days of workshops that are designed to build a research community (see Section D4)
3. Advise the funded mini-projects on the application of Biggs' theoretical framework and the choice of appropriate research methodologies and relevant literature.
4. Give limited support to the mini-projects, while they are carrying out their research
5. Contribute to the dissemination of the findings, including conferences and publications.
6. Advise the project team on disseminating their results into other disciplines/Subject Centres.

Liz Beaty already has experience of working with the GEES community. She contributed to the HESG (1999) conference on 'Exploring pedagogic research and the teaching and learning of geography' and is currently co-supervising, with Mick Healey, a research degree student (Claire Cottingham), who is studying "The learning experience of students on undergraduate geography fieldcourses."

## 4 Workshops

The rationale for the workshops is to build a research community through a collaborative programme of enquiry into the pedagogy of fieldwork.

### Day 1 (5 June 2001) Generating the research community and focus

This workshop event will bring together interested academics from the subject areas to form research projects within the general focus of investigating the pedagogy of fieldwork.

*Aims:*

1. To explore pedagogic models with particular reference to constructive alignment

2. To discuss existing research findings in relation to field work
3. Refining research questions for local projects
4. Outline drafts for local projects in relation to the different subject areas.

The day will involve pre-reading, presentations, workshop activities and discussion. By the end of the day it is anticipated that participants will have identified projects and roles within the research programme. Following this day projects plans will be submitted for inclusion in the programme.

#### **Days 2/3 (13-14 September 2001) Developing the research capacity**

This two-day workshop is intended to introduce pedagogic research approaches and methods for use within the programme. *Aims:*

1. to generate a common approach by which local projects will contribute to the wider programme
2. to generate an appropriate method for the individual projects.

#### **Day 4 (September 2002) Bringing the findings together**

This one-day workshop will bring together participants from the first workshop (regardless of whether they have been involved in the mini-projects) for presentation and discussion of the research. *Aims:*

1. To present findings from the local projects
2. To explore learning from the research experience
3. To develop ways of sustaining and expanding the research community.

### **5 Identifying topics for mini-projects**

Possible topics for the mini-projects have been identified which address research questions that:

1. Matter to people in the disciplines in the UK
2. Are likely to lead to results that can inform and improve practice
3. Will employ a range of quantitative and qualitative research methodologies
4. Contribute to our theoretical understanding of learning environments.

These might include *researching experience to determine what is effective practice and policy* in:

1. Aligning departmental assessment strategies for fieldwork with the overall course learning objectives
2. Aligning fieldwork pedagogy and assessment strategies with the national benchmark requirements
3. Determining effective fieldwork pedagogic practices
4. Effectively linking fieldwork into other areas of the curriculum (e.g. conventional classroom-based courses, laboratory work, work-based learning)
5. Determining effective practice in using C&IT (including virtual fieldwork learning environments)
6. Determining and meeting student concerns and motivations re fieldwork
7. Ensuring an inclusive fieldwork curriculum: aligning the fieldwork curriculum to meet the needs of part-time/mature/'disabled'/low income students
8. Aligning fieldwork with key skills, employability and professional requirements
9. Designing inter-disciplinary (across the three disciplines) fieldwork experiences.

The specific topics will be selected at the one-day workshop in June. By linking the topics together in a common framework the overall outcomes will be significantly greater than the sum of the parts and will help to overcome the weakness of much pedagogic research that it is isolated and non-cumulative (York, 2000).

### **6 Selection of mini-projects**

Up to five mini-projects will be funded. The first workshop will encourage mini-projects to be established from both institutional and inter-institutional teams. Preference will be given to mini-projects which:

1. Address one or more of the research issues listed above
2. Are outward looking and have potential outputs which will benefit the quality of student learning and are of interest and value to the wider geography, earth and environmental science communities
3. Include staff who have little experience of undertaking pedagogic research working with staff who have a track record in the kind of project proposed
4. Involve fieldwork in more than one of the three disciplines covered by the Subject Centre
5. Include fieldwork in earth and/or environmental science (to address the level playing field issue)
6. Provide value for money, including contributions from the home institution(s)
7. Provide evidence of support from department(s) and access to 'local' pedagogic research expertise to complement the project-wide support
8. Show a willingness to contribute to meeting the aims of the wider project, including dissemination of the project findings, and to collaborate with other mini-projects.

## 7 Web Site and List Serve

A specialist section of the GEES web site will be established to support and disseminate the project. This will:

1. Summarise the aims and structure of the project
2. Provide links to sites which outline key pedagogic research methodologies
3. Summarise and link to existing sources on the educational effectiveness of fieldwork, including extending the annotated bibliography on fieldwork and keeping it up to date (Cottingham *et al.*, 2001)
4. Links to other LTSN and ESRC projects.

As the project develops interim reports on the meta and mini-projects will be posted. While this web support will be vital during project funding, the GEES Subject Centre sees it as a rich form of support for the communities it serves, which it will maintain and develop after project funding ceases. A specialist list serve will also be established for the project to facilitate communication between the staff running the meta- and mini-projects.

## E Outputs and Dissemination

Dissemination of the project findings will take four main forms:

1. Dedicated Web pages on GEES Web site
2. Articles within *Planet* (LTSN-GEES Publication) relating to the overall project and mini-projects
3. Book
4. Contribution to Discipline conferences and to LTSN event (e.g. Annual conference to disseminate findings to other Subject Centres and the Generic Centre).

A commercial publisher will be sought for the **book** (e.g. Kogan Page, ILT, otherwise LTSN-GEES will publish it), which will have two main parts. Part A will assess the application of Bigg's theory of constructive alignment to developing research capacity and to shaping effective practice and policy in fieldwork in Geography, Earth and Environmental Sciences. It will include a review of the literature on fieldwork in the three disciplines. It will also evaluate the process of developing research capacity used in the project. This part will be the responsibility of the Project Leaders and the Pedagogic Research Advisors. Part B will present the findings from the mini-projects.

In addition to the outputs listed above a critical outcome will be an expansion of the capacity of the GEES community, particularly among the earth and environmental scientists, to undertake pedagogic research. The common research framework adopted will help build a community of discipline-based pedagogic researchers, which, when project funding ceases, will support each other formally and informally, and introduce 'newcomers' to this developing discipline-based pedagogic research community.

## F Timetable and Critical Milestones

March 2001	Announce bid and dates of first two workshops to GEES Subject Communities.
5 June 2001	One-day workshop to discuss application of theoretical framework and decide on mini-project topics and possible teams. This workshop will still take place if the bid is not funded, though in this case it will have a slightly different focus
June - Aug 2001	Develop plans for mini-projects and finalise mini-project teams
13-14 Sept 2001	Two-day residential workshop to develop mini-project methodologies and to ensure networking between mini-projects
Sept 2001 - Aug 2002	Undertake mini-projects
Sept 2002	One-day workshop to present findings; reflect on experience and develop ways of sustaining and expanding the research community; preparation for book
January 2003	Book chapters written; presentations at discipline and LTSN conferences planned or given

## G Integration Strategy

As noted above, pedagogic research is considered to be an integral part of the work of LTSN-GEES, With the current resources our work in this area can only be limited and would only involve those with previous experience and expertise. However, as well as building on existing expertise, we are committed to "identifying and encouraging fresh talent" (Dissemination Projects – Invitation to Bid, LTSN-GEES, 2000) in learning and teaching. This additional funding will allow us to harness this new talent and, hence, to provide the disciplines with an increased capacity for pedagogic research.

As well as supporting the work of LTSN-GEES, this project will, more importantly, support those departments / institutions in which project staff are based, for example in demonstrating a commitment to learning and teaching for

Academic Review, in demonstrating evidence-based teaching and in improving the efficiency and efficacy of their learning and teaching methodologies in an increasingly resource-constrained environment.

Conducting and supporting pedagogic research, though high on the LTSN-GEES agenda is only one of many activities with which we are engaged. Development of future Strategic and Operational Plans, therefore, will not be able to continue to support pedagogic research at the same level as this project (although support activities, such as development of the web-site will continue). Hence, further sources of funding will be sought, for example, the successful demonstration of the enhancement of pedagogic research capacity through this pilot project could be used as the basis of a bid to the ESRC TLRP Phase 3 Fund.

## H Project Staff

<i>Project Management Team:</i>	Prof Brian Chalkley (Chair); GEES Senior Advisors and Prof Alan Jenkins
<i>Project Leaders:</i>	Professor Mick Healey and Professor Alan Jenkins
<i>Pedagogic Research Advisors:</i>	Professor Liz Beaty and Dr Glynis Cousins
<i>Project Mentors:</i>	GEES Senior Advisors (excluding Mick Healey)
<i>Mini-Project Staff:</i>	Research staff in funded departments
<i>Project Manager:</i>	Dr Helen King

## I Evaluation

Both formative and summative evaluation of the targets and deliverables will be undertaken with the emphasis on the former so that lessons can be learnt and action taken on the outcomes of the processes. The evaluation will be undertaken by several different stakeholders, including members of the Project Team, the Project Mentors, the Programme Leader(s), the Pedagogic Research Advisor, the LTSN-GEES Management, Steering Group and External Evaluator, LTSN Advisors and participants at events and activities held in connection with the project.

## J Budget

Income: LTSN project funding	£50,000
from LTSN-GEES budget*	£12,000

Expenditure:

### Staff

Pedagogic Research Advisors	8,000
Planning & Running 4 days of workshops	
Support to Project Leaders	
6 days of consultancy to mini-projects	
Contribute to publications	

Project Leaders	8,000
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### Mini-projects

5-7 projects will be funded @£5-8K each	40,000
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### Travel and Subsistence

Workshops; Team meetings	5,000
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### Running Costs

	1,000
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**TOTAL £62,000**

\* LTSN-GEES will support this project from its own budget through the provision of administrative, management and other support activities from the staff team based at the University of Plymouth. In addition, LTSN-GEES will support the development of this project from its Operational Year 2 budget to the sum of £12,000. This support has originated as follows:

£5,000	Small-scale projects under-spend from Operational Year 1.
£4,000	From Operational Year 2 GEES-project funding (total funding for GEES projects = £49,000 of which £4,000 is available to support pedagogic research)
£3,000	Operational Year 2 Contingency (the contingency for the start-up period and Year 1 has not been spent – therefore, this can be carried over to support Year 2)

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- Yorke, M (2000) A cloistered virtue? Pedagogical research and policy in UK Higher Education, *Higher Education Quarterly*, 54 (2), 106-126

## Annexe2 CVs for Project Leaders and Pedagogic Research Advisors

**NAME:** Alan Jenkins

### ACADEMIC AND PROFESSIONAL QUALIFICATIONS:

BA Hons (2.1) (Geography) University College, London; PGCE, Institute of Education, London, 1963; MSc (Geography) University of Wisconsin, Madison

### MAIN PROFESSIONAL EXPERIENCE:

1975 - 90 Senior/Principal Lecturer in Geography at Oxford Polytechnic  
1992 - 5 Enterprise co-ordinator, Oxford Brookes  
1990 - Educational Developer, Oxford Brookes and educational consultant for the Oxford Centre for Staff Development, Oxford Brookes University  
1999 University wide Professorial Role re stimulating and supporting pedagogic research

### RESEARCH CONSULTANCY AND PROJECT EXPERTISE:

**Professor Alan Jenkins** is an educational developer with an expertise in developing discipline-based pedagogy; knowledge of the generic and discipline based research literature on teaching and research; and with experience (and now a University wide role) at stimulating pedagogic research at institutional level. He has long been involved nationally and internationally working to improve geography teaching, including being a founding editor of the *Journal of Geography in Higher Education* and the Geography Discipline Network FDTL Project and the JISC/JTAP Virtual Field course project. He was also a member of the PCFC Teaching More Students Project. He is currently a member of the DfEE funded Supporting Disabled Students Undertaking Fieldwork Project. In addition within Brookes he has designed and managed an institutional £40,000 competitively funded pedagogic research project and mini-projects and has introduced a required discipline based pedagogic research project for the SEDA/ILT accredited course for new staff for which he is Course Director.

### KEY PUBLICATIONS:

Healey M., Roberts, C., **Jenkins A.** and Leach J. (forthcoming) *Issues in Providing Learning Support for Disabled Students Undertaking Fieldwork* (GDN, Cheltenham)  
Healey, M. and **Jenkins, A.** (2000) Developing theoretical perspectives in geographic education: the application of Kolb's experiential learning model in higher education, *Journal of Geography*, 99, 185-195  
**Jenkins A.** (1998) *Curriculum Design in Geography* (GDN, Cheltenham)  
**Jenkins, A.** (1997) *Teaching More Students: Fieldwork with more students* (Oxford Centre for Staff Development, Oxford Brookes, Oxford)  
**Jenkins A.** (1996) Discipline-based Educational Development, *International Journal for Academic Development*, 1(1), 50-62  
Gold J. R., **Jenkins A., et al.** (1991) *Teaching Geography in Higher Education* (Blackwells, Oxford)

**NAME:** Mick Healey

#### **ACADEMIC AND PROFESSIONAL QUALIFICATIONS:**

PhD Geography, University of Sheffield, 1980  
BA (Hons) Geography, University of Sheffield, 1971  
Fellow of the Royal Geographical Society with the Institute of British Geographers  
Member of the Institute for Learning and Teaching in Higher Education  
Awarded National Teaching Fellowship, 2000

#### **RESEARCH AND CONSULTANCY EXPERTISE:**

**Professor Mick Healey** is an economic geographer with specialist expertise in local economic development, and learning and teaching geography and related disciplines in higher education.

He has an extensive track record of consultancy and research and in the last twenty years has brought in over £1.3 m of research and consultancy income. He used to be Deputy Director of the Centre for Local Economic Development at Coventry University.

He is the Director of the Geography Discipline Network (GDN), a national consortium of a dozen universities and colleges. He has directed or co-directed major projects for HEFCE, including *Computer Assisted Learning in Geography* (£495,000); *Dissemination of Good Practice in Teaching, Learning and Assessment in Geography* (£285,000); *Learning Support for Disabled Students Undertaking Fieldwork and Related Activities* (£51,500) and the Department for Education and Employment (*Key Skills in Geography in Higher Education* - £100,000). He is co-chair of the International Network for Learning and Teaching Geography in Higher Education. He has also co-edited 17 good practice guides and is currently editing six guides on *Providing Learning Support for Disabled Students undertaking Fieldwork for the Web*.

#### **PROFESSIONAL EXPERIENCE:**

**1994** - Cheltenham and Gloucester College of Higher Education – Head of Department of Geography and Geology (1994-97); Professor of Geography (1995-

**1974-94** - Coventry University, Lecturer/Senior Lecturer/Principal Lecturer in Geography

#### **KEY PUBLICATIONS:**

Hall, T., **Healey, M.** and Harrison, M. (submitted) *Disabled Students and Fieldwork: From Exclusion to Inclusion*  
*Transactions of the Institute of British Geographers*

**Healey, M.**, Roberts, C., Jenkins, A. and Leach, J. (forthcoming) *Issues in Providing Learning Support for Disabled Students undertaking Fieldwork* (GDN, Cheltenham)

Cottingham, C. and **Healey, M.** (2001) *Undergraduate geography fieldcourses: exploring the learning experiences of students*, poster presented at International Network for the Learning and Teaching of Geography in Higher Education Symposium, Plymouth, 4 January

Cottingham, C., **Healey, M.** and Gravestock, P. (2000) *Fieldwork in the Geography, Earth and Environmental Sciences Higher Education Curriculum: An Annotated Bibliography* (GDN, Cheltenham). Available at:

<http://www.chelt.ac.uk/gdn/disabil/fieldwk.htm>

**Healey, M.** (2000) Developing the scholarship of teaching through the disciplines, *Higher Education Research and Development* 19 (2), 169-189

**Healey, M.** and Jenkins, A. (2000) Developing theoretical perspectives in geographic education: the application of Kolb's experiential learning model in higher education, *Journal of Geography*, 99, 185-195

**Healey, M.** (1998) *Resource-Based Learning in Geography* (GDN, Cheltenham)

**NAME: Professor Liz Beaty PhD, FSEDA**

### **Current Position**

Director of the Centre for Higher Education Development  
Coventry University

### **Previous Employment**

Head of Learning Development, Coventry University	Sept. 97 – Aug 99
Head of Learning and Teaching Unit, University of Brighton	Sept. 95 – Aug 97
PL Management Development University of Brighton	Sept. 87 – Aug. 95
SL Educational Development Newcastle Polytechnic.	Feb. 85– Aug.87
Research Fellow, IET. Open University	Sept. 79 – Feb 85

### **Qualifications**

BA Sociology 2.i hons. University of Essex	1976
PhD Educational Technology, University of Surrey	1983
Fellow of the Staff and Educational Development Association	1995

### **Current Areas of Responsibility**

As Director of the new Centre for Higher Education Development I am responsible for 11 academic and support staff. The Centre is charged with enhancing learning in Coventry University through the promotion of excellence in teaching and assessment practice. The four broad areas of responsibility are:

- Policy development in relation to teaching, learning and assessment.
- Learning technology development including support for the on-line learning environment.
- Provision of staff development workshops and courses including a postgraduate programme and PhD supervision.
- Educational development and research projects including Task Force secondments

### **Current Appointments**

Co-Chair of the Staff and Educational Development Association  
Member of HEFCE Learning and Teaching Committee  
Member of Institute for Learning and Teaching Accreditation Committee.  
Advisory Board Member for National Teaching Fellowships, UK.  
External Assessor for Teaching Fellowships at De Montfort University.  
External Examiner for Teaching Programme for staff at Colombo University, Sri Lanka.

### **Areas of Expertise and Research Interests**

Research on Learning  
Educational Development  
Professional Teaching & Teacher Accreditation  
Management of Change in Higher Education.

### **Recent Research Grants**

ESRC Seminar Series Networked Learning December 99 – Leader Dr V.Hodgeson, Lancaster University  
ESRC funded year project on Enhancing Teaching and Learning Environments within the Teaching and Learning Research Programme. Directed by Professors Noel Entwistle and Dai Hounsell, Edinburgh University.

### **Research Degrees Experience**

2 PhD. Completions as supervisor  
1 PhD. external examiner  
1 MPhil. external examiner  
Currently supervising 4 (part time) PhD students  
Research Degree Committee member Coventry University 1998 -

### **Recent Publications**

#### **Book**

**McGill, Ian., & Beaty, Liz,** (2001) revised 2<sup>nd</sup> edition. Action Learning: a guide for professional, management and educational development. Kogan Page

#### **Journal Papers**

**Beaty, Liz** (1998) 'The Professional Development of Teachers in Higher Education: Structures, methods and responsibilities'. *Innovations in Education and Training International*, Vol. 35.No.2.

**Beaty, E. France, L. & Gardiner, P.** (1997) Consultancy Style Action Research: A constructive triangle. *International Journal of Educational Development*, Vol.2 No.2.

**Beaty E.M., Bourner, T., O'Hara, S. & Lawson, J.** (1996-7) Action Learning comes of age. The limits of action learning, In four parts. *Education and Training*. Vol 38, Nos 7,8,9,10.

#### **Chapters in Edited Books**

**Beaty, Liz**, (1999) 'Supporting Experiential Learning' in Fry, Ketteridge and Marshall (eds) *A Handbook for Teaching and Learning in Higher Education*, Kogan Page

**Beaty, Liz** (1999) 'Consultation through action learning in Knapper, C. and Puccinin, S.' (eds) *Using Consultation to Improve University Teaching*. San Francisco. Jossey Bass.

**Beaty, E., Dall'Alba, G. ; & Marton F.** (1997) The Personal Experience of Learning in Higher Education: Changing views and enduring perspectives. In Sutherland, P. (Ed) *Adult Learning: a reader*. London, Kogan Page

**France, L. & Beaty E.** (1997) Layers of Motivation: Individual orientations and contextual influences. in *Motivating Students*, Kogan Page

**Beaty, E. Morgan A. and Gibbs, G.** (1997) Orientation and Study Contracts. In Marton, F., Entwistle, N. & Hounsell, D. *The Experience of Learning* 2nd edition, Scottish Academic Press.

**Morgan, A. & Beaty, E.** (1997) The World of the Learner. In Marton et al (eds) *The Experience of Learning* 2nd Edition. Scottish Academic Press

**Beaty E.** (1995) Staff Development across the Hierarchy. In Brew A., (Ed) *Approaches to Staff Development in Higher Education*. Buckingham, Open University Press

#### **Staff development Packages**

**Beaty, E.** (1997) "Developing your Teaching through Reflective Practice." SEDA Special No. 5. Staff and Educational Development Association.

**Beaty, L. & McGill, I** (1995) "Developing Reflective Practice: using peer observation of teaching". Video training package, University of Brighton.

#### **NAME: Glynis Cousins**

Glynis Cousin has taught and researched in a number of education sectors (community, adult, further and higher education). She is Currently Senior Research fellow at the Centre for Higher Education Development, Coventry University and Research Associate for an ESRC Project on Enhancing Teaching and Learning in Higher Education which is managed at Edinburgh University.

#### **Recent Publications**

Cousin G (1996) 'Racism in Britain' *Educazione Comparata*, 24, 7 July-Sept, Edeos, Rome

Cousin G (with Davidson A) (1999) Learning Styles and the Affective Domain, Proceedings of the 4th Annual Conference of the European Learning Styles Information, Network, June, 163-172

Cousin G (with Gatward R) (1999) A Software Engineering Approach to developing Computer based educational material, Conference Proceedings, SAER-99, Bulgaria, 213-218

Cousin G (2000) 'Strengthening Action-Research for Educational Development' *Educational Developments* 5-7, SEDA, 1.3 August

Cousin G (with Jenkins D and Bhanot R) (2000) 'The Literal and the Metaphorical: some recent factual and figural accounts of Educational Development Units in British Universities', *Educational Developments*, 1.4 (December 2000)

Cousin G (2001) 'Counting Diversity' (forthcoming) *Journal of Further and Higher Education*, No.1 Vol.24

Cousin G (forthcoming) 'Its the way they tell it...the RAE in the light of Rhetorical Criticism', *The Future Business of Higher Education* Rodolphi

### **Annexe 3 List of Acronyms**

CEBE	[LTSN] Centre for Education in the Built Environment
CHED	Centre for Higher Education Development
DfEE	Department for Education and Employment
ESRC	Economic and Social Research Council
FDTL	Fund for the Development of Teaching and Learning
GEES	Geography, Earth and Environmental Sciences
HEFCE	Higher Education Funding Council for England
HESG	Higher Education Study Group (of The Royal Geography Society with the Institute of British Geographers)
ILT	Institute for Learning and Teaching
JISC	Joint Information Systems Committee
JTAP	JISC Technology Applications Programme
LTSN	Learning and Teaching Support Network
PCFC	Polytechnics and Colleges Funding Council
QAA	Quality Assurance Agency
SEDA	Staff and Educational Development Association
TLRP	Teaching and Learning Research Programme
TQA	Teaching Quality Assessment

## **Annexe 4 LTSN-GEES Strategic Plan 2000 - 2003**

### **Key Strategic Aims**

The purpose of the Subject Centre is to promote and support high quality learning and teaching across the disciplines of Geography, Earth Science and Environmental Science at tertiary level. This will be achieved by prioritising the following key strategic aims:

- A1. To identify the changing learning and teaching needs of the three disciplines and to provide strategies for meeting them effectively and efficiently.
- A2. To provide opportunities for the professional development of teaching and support staff.
- A3. To identify, collate and disseminate information on good practice, relevant educational resources and sources of expertise.
- A4. To support curriculum developments which will enrich the quality of the students' learning experience, promote their key skills and employability and the foundations for life-long learning.
- A5. To promote the awareness and adoption of new approaches to learning and teaching, including the use of C & IT, and to be responsive to increasing student diversity.
- A6. To foster a positive approach to the three disciplines working constructively together, whilst recognising and catering for their distinctive attributes and requirements.
- A7. To be proactive in linking with national and international subject-based and generic agencies and networks so as to maximise the opportunities for the sharing of knowledge on learning and teaching innovations.
- A8. To develop into a major national and international hub for the exchange of ideas on learning and teaching within and across the three disciplines.
- A9. To review and encourage discipline-based research on learning and teaching.
- A10. To ensure the efficient and accountable development and evaluation of the Subject Centre's work as the basis for the achievement of its strategic aims.

## SECTION 1: BACKGROUND AND CONTEXT

1.1 The National Subject Centre for Geography, Earth and Environmental Sciences is one of a network of 24 Subject Centres each of which is focused on disseminating good practice in a particular discipline or set of cognate disciplines. This network, known as the Learning and Teaching Support Network (LTSN), is funded by the Higher Education Funding Councils, for whom it represents a major new initiative. The successful bid for the Subject Centre for Geography, Earth and Environmental Sciences was submitted by the University of Plymouth in collaboration with the relevant professional bodies and committees of Heads of Departments. This unified bid was prepared by senior academics drawn from across the three disciplines and involved careful consultation with the discipline-based communities. Interdisciplinary collaboration was a central feature of the bid's preparation and will be a continuing hallmark of the Centre's work and approach.

1.2 These three disciplines have a particularly distinguished record in learning and teaching developments in Higher Education and the new Centre will build on this platform of achievement and seek to develop further and embed more widely this existing good practice. The Centre will also pioneer new initiatives in C & IT and other fields of learning and teaching. It will, in addition, promote wide collaboration in order to both enrich and learn from the experiences of other disciplines.

### Staffing and Organisation

1.3 The Centre has a team of five staff based at Plymouth:

Director:	Prof. Brian Chalkley (0.5 post)
Centre Manager:	Dr. Helen King
IT Manager:	Mr. Lawrie Phipps
Dissemination Co-ordinator:	Dr. Stephen Gaskin
Administrative Assistant:	Ms. Judith Gill (0.5 post)

1.4 The Centre also benefits from four Senior Advisors (0.2 posts) who are based in their own institutions and represent the three disciplines and the field of C & IT. The Advisors will support the Centre in connecting with existing discipline-based and C & IT networks, and will link with staff who are already leading educational initiatives and pioneering learning and teaching innovations. The Advisors are:

C & IT:	Mr. Geoff Robinson (University of Leicester)
Environmental Sciences:	Mrs Jenny Blumhof (University of Hertfordshire)
Geography:	Prof. Mick Healey (Cheltenham & Gloucester College of HE)
Earth Sciences:	Dr. Neil Thomas (Kingston University)

1.5 The direction and development of the Centre is overseen by a Steering Group which offers strategic advice and guidance. This Group is chaired by Dr. Rita Gardner who is the Director of the Royal Geographical Society (with The Institute of British Geographers) (RGS/IBG), with vice-chairs drawn from the Earth Science (Dr Gordon Walkden, University of Aberdeen) and Environmental Science (Prof Dave Eastwood, University of Ulster) Steering Group members. The Centres' external evaluator is Professor Harold Silver.

## SECTION 2: IDENTIFICATION OF RESOURCES AND NETWORKS

**This section gives particular expression to the strategic aims A1 & A3.**

- 2.1 A key role of the Subject Centre will be to identify and obtain relevant information and educational materials from a variety of sources, including discipline-based and other networks. This incoming information will take two main forms: 1) examples of innovations, initiatives and good practice from both the discipline-based and the wider HE communities, and 2) requests for support, advice and guidance. Both sets of incoming information will be used to inform the specific nature of the Subject Centre's principal activities (workshops, conferences, publications etc.).
- 2.2 The sources through which the Subject Centre will actively identify and obtain information and materials include:
- Needs analyses (formal and informal)
  - Advice from the discipline-based Senior Advisors & from the C & IT Advisor
  - Networks and contacts:
    - Discipline-specific and generic learning and teaching projects (e.g. initiatives funded by FDTL, TLTP, DfEE and other new initiatives that may develop)
    - Departmental contact persons
    - Heads of Department and their national committees
    - Discipline-specific professional bodies
    - The Learning and Teaching Support Network (LTSN)
    - Generic professional bodies and associations (e.g. ILT, SEDA, ALT)
    - International contacts and professional associations
  - Media: academic journals, Web-sites, newspapers
  - Conferences and meetings (external and internal to the Subject Centre)
  - Email, phone, fax and personal communications
- 2.3 Although the whole Subject Centre team will look for all types of information and educational materials, each staff member will have their own areas of expertise for which they will take particular responsibility.
- 2.4 The Subject Centre will remain aware of and responsive to the continuing needs of the communities through, for example, formative needs analyses, the development of an advisory service and discussions at conferences and workshops.
- 2.5 Appropriate information and learning resources will be held at the Subject Centre's offices at the University of Plymouth. These will be overseen and managed by the Centre's Dissemination Co-ordinator and IT Manager and will include:
- Contact and activity databases
  - Register of Expertise / Interest
  - Automated Assessment Question Bank
  - Library / resource catalogue
  - Journal, book and article holdings (hard copy and / or electronic)

## SECTION 3: ACTIVITIES TO ENHANCE LEARNING AND TEACHING

**This section gives particular expression to the strategic aims A2, A3, A4, A5, A6, A7, A8 & A9**

3.1 The information and resources assembled and collated (as described in Section 1) will be disseminated to the UK Geography, Earth and Environmental Sciences communities through the Subject Centre's principal activities. These will be:

### **3A Conferences and Workshops**

3A.1 **National conferences / symposia** will be provided on a variety of themes identified from the formal and informal needs analyses. The conferences will provide opportunities for discipline-based and interdisciplinary professional development for practitioners across the UK. These events will normally utilise several speakers and / or facilitators selected from the Subject Centre's staff team, the Senior Advisors and other appropriate colleagues drawn from the Centre's Register of Expertise. Where appropriate, conferences will also have an international dimension and involve contributions from leading overseas academics.

3A.2 **Smaller-scale workshops** will be tailored to specific departments or regions and based on a selected range of themes identified from the formal and informal needs analyses. When they take place within individual departments, particular emphasis will be given to embedding good practice in the local curriculum. These workshops will be followed up a few months later to assess their value to and impact on the host department.

3A.3 The Subject Centre will provide **an annual residential workshop for new and recently appointed lecturers** in the three disciplines. This event will build on the successful pilot held at the University of Birmingham in May 2000. It will provide a discipline-based forum for new staff which will complement the generic learning and teaching courses provided in their home institutions. This workshop (and indeed all Subject Centre conferences and workshops) will be subject to careful evaluation.

3A.4 The possibility of providing an accredited **discipline-based professional development programme** will be explored in discussion with SEDA and the ILT and in consultation with the relevant discipline-based professional bodies. Such a programme would be designed to work alongside and complement generic 'Continuing Professional Development' activities within institutions.

3A.5 As well as providing its own events, the Subject Centre will ensure a voice in the national and international arena by supporting and contributing to relevant conferences and workshops convened by other Subject Centres, and national and international bodies. In particular, it will also (through the Senior Advisors) support events organised by existing groups and networks operating in the three disciplines.

### **3B Publications**

3B.1 A **quarterly newsletter** will be provided on the Centre's Web-site as a printable / downloadable pdf file. The newsletter will contain a variety of information on issues such as the Subject Centre's activities, notes on national issues, initiatives and events and details of other Subject Centre's activities where appropriate. Additionally, if

necessary, 'news flashes' will be sent to the communities via email discussion lists and a fuller summary of the information will be made available on the Web-site with the full details downloadable as Word and / or pdf files.

3B.2 A **journal** will be published twice per annum. It will contain peer reviewed articles on examples of good practice (including C & IT), pedagogic research in the disciplines, and relevant national and international issues.

3B.3 A Web-based **database of good practice** in the three disciplines will be maintained, developed and updated to complement the Subject Centre's advisory service / register of expertise. The database, which builds on the work of the FDTL-funded Geography Discipline Network, will contain short outlines of innovations or effective practice in learning and teaching together with the contact details of the authors and dates of publication. The database will be regularly updated to ensure its relevance and currency.

3B.4 **The Web-site**, at <http://www.gees.ac.uk>, is seen as the communities' window on the Subject Centre. To ensure full accessibility, the site has been developed and will be maintained in line with good practice guidelines established by the WC3 organisation. The Web-site will be monitored and developed on a regular basis in response to the fluid and dynamic nature of the Internet and to the changing needs of the users.

### **3C Dissemination Projects**

3C.1 The Centre will annually support a small number of special dissemination projects which will be awarded by open competition. The projects will harness expertise from within the three discipline communities, create interest, widen participation in the Centre's work, offer opportunities for staff development and give the Centre the flexibility to respond to new demands and interests.

### **3D The Electronic Information Gateway**

3D.1 The Centre's overall approach to C & IT will be to use and promote the wide adoption of the new technologies in ways that weave them into the fabric of learning and teaching. The Electronic Information Gateway project will run for two years, in the first instance, and be awarded by open competition. The Gateway will provide a single entry point to accessing remotely stored data, pedagogic and multimedia resources and metadata. The Gateway will work through the creation of a Hub to route all interactivity, enabling input and extraction of information from any of the discipline-based databases, including security features to protect the integrity of the information.

### **3E Advisory Services and the Register of Expertise / Interest**

3E.1 The Subject Centre will provide an email, phone and fax advisory service overseen by the Dissemination Co-ordinator. In response to enquiries, the service will aim to provide either suggested resources or contact details of appropriate persons who have expertise and / or a common interest in the relevant area. During working hours, the Subject Centre will endeavour to provide a response to queries within 24 hours of their receipt. The advisory service will be monitored and frequently asked questions (and responses) posted on the Web-site. Where appropriate, members of the Subject Centre team or Senior Advisors may consider offering a support service which could, for example take the form of workshops (as part of the workshop programme). The Register of Expertise / Interest will be held as a database at the Subject Centre, accessible only by Subject Centre personnel. Persons will only be included in the Register with their written and signed consent.

### **3F Automated Assessment Question Bank**

3F.1 The proposed Question Bank will be set up after an appropriate needs analysis and scoping process. The Bank will potentially hold a variety of questions and related multi-media (e.g. graphics, video or sound clips) in a format compatible with the commonly used computer-based assessment software. The discipline-based communities will be invited to submit questions which will be reviewed before being included in the Bank. The Bank will be held at the Subject Centre and access will be conducted through the advisory service.

### **3G Papers in Relevant Journals and Conference Presentations**

3G.1 As well as providing events and publications, the Subject Centre team and Senior Advisors will contribute papers as appropriate to journals and conferences both within the discipline-based communities and to wider audiences, nationally and internationally.

### **3H National and International Links**

3H.1 In addition to strengthening the links between the three disciplines, the Centre will be pro-active in networking with the wider HE community, including organisations such as the ILT, GLTC, TIC, SEDA and the other Subject Centres. In particular, close links will be made with Bioscience, Physical Sciences, Built Environment, History, Area Studies and Sociology, Politics and Economics. This contact with other Subject Centres will promote information exchange and might include shared events. In addition, a link will be provided from the Web site to all other Centres and a section will be included in the newsletter about items of interest from other parts of the LTSN.

3H.2 Wider links and networking will extend into the international arena utilising established roles in and links with organisations such as the Association of University Departments of Environmental Science in Europe, the International Network for Learning and Teaching Geography in Higher Education and the International Geoscience Education Organisation. These connections will place UK good practice on the world stage and enable UK HE to benefit from new developments overseas. This outward-looking approach will ensure that the Centre maximises its total contribution and effectiveness, whilst enriching the work of the disciplines of Geography, Earth and Environmental Sciences.

### **3I Discipline-based Pedagogic Research**

3I.1 The Subject Centre is committed to the promotion and advancement of pedagogic research in the three disciplines and to a scholarly and evidence-based approach in all areas of its work. Support for pedagogic research will be conducted, in part, through the special dissemination projects described above. Additionally, the Centre staff, including the Senior Advisors, will play an active role, including collaborative ventures, in research and development in selected areas of learning and teaching.

### **3J Communication and Publicity**

3J.1 Four **Senior Advisors**, one for each discipline and one for C & IT, support the Subject Centre's activities. These Advisors play a key role in enabling the Centre to benefit from specialist and high quality expertise and experience based elsewhere. The Advisors will also provide a clear voice for each discipline which will ensure that its needs are identified and met.

- 3J.2 A **contact / liaison person** in each department will facilitate an exchange of information between the Subject Centre and their department. In order to ensure that each liaison person is able to play an effective role without being overburdened, support and guidance will be offered as appropriate.
- 3J.3 **Email Communications** with the three discipline communities will be via two existing email discussion lists (geognet@northampton.ac.uk for Geography and geo-network@mailbase.ac.uk for Earth Science) and through the development of a new Environmental Science list (esac@mailbase.ac.uk).
- 3J.4 **Publicity:** detailed information on the Subject Centre's activities will be posted on the Web-site. Notice will be brought to this via the email discussion lists and departmental contacts. If appropriate, paper-based publicity leaflets and fliers may also be distributed to departments and other relevant organisations.

## **SECTION 4: SUBJECT CENTRE MANAGEMENT**

*This section gives particular expression to the strategic aim A10.*

### **4A Steering Group and Employers Panel**

4A.1 The main role of the Steering Group is to provide strategic direction to the Subject Centre. It will ensure that the three disciplines continue to work effectively together, that the best possible value for money is achieved, and that each discipline is properly served and supported. The Steering Group will oversee both the main operations based at Plymouth and the work of the Senior Advisors, and will normally meet three times per annum.

4A.2 The Centre also has an Employers Panel whose role is to advise the Centre Director and Steering Group on such areas as key skills, graduate employability, work-based learning and employer links in the curriculum. The Employers Panel will meet once in the first instance and then conduct most of its work by email and telephone conferencing. The activities of both the Steering Group and the Employers Panel will be included in the Director's annual report to the LTSN.

### **4B Subject Centre Staff**

4B.1 Staff development of the Subject Centre team in Plymouth is a key element of the Centre's in-house strategy and procedures. The Centre Director will take line management responsibility for the team's overall development. On a day-to-day basis, staff development needs, progress monitoring and recording will be dealt with by the individuals concerned and overseen by the Manager. Each staff member will have a personal development plan which will be reviewed on an annual basis. Additionally, the Senior Advisors will undertake appropriate staff development in order to optimise their roles within the Subject Centre.

4B.2 The Plymouth staff team will meet formally on a fortnightly basis to monitor progress and to share information and ideas. This will promote collaboration and ensure that each team member has an awareness of the full range of activities currently undertaken.

4B.3 Frequent contact will be maintained with the four Senior Advisors. Effective management of the Senior Advisors group will also be achieved by annually agreed programmes of work, annual progress reviews, a standing item on the Steering Group's agenda and a face-to-face group meeting at least three times per year. These procedures will allow the Senior Advisors the opportunity to make a distinctive and valuable contribution on behalf of their disciplines, while embedding their work firmly within the Centre's programme of activities and quality assurance processes.

### **4C Financial and Activity Monitoring**

4C.1 The Subject Centre's budget will be monitored by the Subject Centre Manager and overseen by the Director. Regular financial reports will be received by the Steering Group.

4C.2 Individual team members will be responsible for monitoring their activities in line with the framework given in the annual Operational Plan. Progress will normally be discussed during the team's fortnightly meetings or individually with the Manager or Director as necessary. Senior Advisors will be responsible for monitoring their

activities in line with the framework given in their annual Action Plans. Progress will normally be discussed at the Senior Advisors' meetings or individually with the Director as necessary.

#### **4D Evaluation Strategy**

4D.1 Monitoring and evaluation play a key role in ensuring the quality of the Centre's programme and performance. They will cover all the main areas of work as outlined in the annual Operational Plan. Both formative and summative evaluations will be undertaken with the emphasis on the former so that lessons can be learned promptly and, if necessary, steps can be taken to enhance performance and quality. Evaluation will be undertaken by a range of different stakeholders and will include self-reflection, peer review, external (peer) evaluation, feedback from service users and event participants, reviews by the Director, management team, project leaders, Steering Group and LTSN. Evaluation methods will include direct observation, questionnaire surveys and interviews. The external evaluator has developed an evaluation strategy in negotiation with the Subject Centre and its Steering Group. The evaluator will provide independent analysis, review and feedback informally and also formally through an annual report in May.

#### **4E Synergy with the University of Plymouth**

4E.1 Whilst the Subject Centre is a national organisation, synergy with the host institution, the University of Plymouth, is obviously important. This will be achieved by ensuring close links with the relevant academic departments as well as the University's various support services. These include Educational Development Services, the Student Centred Learning team, and local projects funded by the DfEE and by HEFCE's Fund for the Development of Teaching and Learning (FDTL). These elements will combine to provide a strongly supportive institutional environment which will be used both to assist the work of the Centre, and to enrich learning and teaching within the University.

## **Annexe 5 The Development of an LTSN-GEES Pedagogic Research Strategy**

### **Context**

The Subject Centre's commitment to discipline based pedagogic research is set out in both our Strategic and our Operational Plans. Within our Strategic Plan one of our key aims (A9) is to 'review and encourage discipline based research on learning and teaching'. Our Operational Plan (31.1) refers to the development of a Subject Centre pedagogic research strategy which will 'explore ways in which the Subject Centre might best promote, support, encourage and disseminate discipline based pedagogic research'. We are committed to complete the development and approval of this strategy document in time for our end of year report to LTSN in June.

### **Some Draft Principles**

1. The Centre remains committed, as one of its strategic aims, to 'review and encourage discipline based research on learning and teaching'.
2. The Centre believes in the benefits of modes of learning and teaching which are underpinned by scholarship and evidence based approaches.
3. In all three disciplines the current infrastructure (human and physical) with which to develop pedagogic research is limited. Part of the Centre's strategy therefore must be to identify ways of increasing the capacity of the three disciplines to engage in pedagogic research.
4. In taking forward this idea the Centre is mindful that it will need to commit some of its own budget to support these activities, in part at least as a way of demonstrating the sincerity of our commitment to this area of activity.
5. The Subject Centre's budget, however, has to satisfy a wide range of commitments and as a result extensive discussions will be needed (with the Steering Group and others) in order to agree the scale of commitment which would be appropriate in this area.
6. Given these budgetary pressures it will be important to seek additional external sources of funding.
7. The Centre's strategy should be as inclusive as possible in that the funds devoted to this area should generally be open to competitive bidding.
8. A strategic view will need to be taken about priority areas for pedagogic research and about the criteria by which bids for Subject Centre funding are evaluated.
9. The strategy should serve the needs of all three subjects but be informed also by the general body of existing literature and research methodologies on pedagogic research in higher education as a whole. It should not be insular and should build on and harness existing work.
10. The strategy should include clear targets and measurable outcomes.

### **Some First Thoughts On The Process**

1. The development of a research strategy should itself be conducted through a process which involves not only the Steering Group but in so far as practicable the three academic communities as a whole.
2. Decisions will need to be made about any particular organisations who should be specifically invited to make suggestions about our research strategy and its priority areas.
3. The development of a draft strategy will be taken forward by the Subject Centre Manager, Dr. Helen King, assisted by the other members of the Subject Centre team and by the Senior Advisers.
4. It will be important also to take advice from appropriate organisations and individuals outside the three discipline based communities.
5. Our Steering Group should be invited to provide their comments on the broad character and direction of the strategy. They should also receive a draft for comment, discussion and approval, in time for the strategy to be included within our end of year report to LTSN.