

LTSN Subject Centre for Geography, Earth & Environmental Sciences

July 2002 Reporting Documentation

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Narrative Account of Activity

1) Strategic Level

Prof Brian Chalkley, Director

The LTSN Subject Centre for Geography, Earth and Environmental Sciences (LTSN-GEES) has as its mission to promote high quality learning and teaching across the three disciplines. Our strategic aims (as set out in the Strategic Plan) continue to guide our activities firmly in support of this ambition. In 2001/2002 we have successfully built on the strong foundation laid in our opening year. Both within and beyond our disciplines we are now acknowledged as the major national hub for the exchange of ideas on student learning and teaching in GEES at higher education level. We have also raised our profile in the international arena.

During the past year, our programme of activities and services (as detailed in the Operational Level report) has included organising five national conferences, eleven departmental workshops, a two day residential event for new lecturers in GEES, and support for eleven small-scale learning and teaching projects. We have published four issues of our journal, Planet, including a special theme issue on disabilities and the new SENDA legislation. Our two LTSN Development Fund (tranche 1) projects, on pedagogic research and developing learning & teaching guides, have made good progress and LTSN-GEES has been awarded further LTSN funding for work on linking teaching and research, and employability. Our Director, Brian Chalkley, has recently been awarded a National Teaching Fellowship, as has Pauline Kneale, a member of our Steering Group (Mick Healey, our Senior Advisor for Geography, was awarded a Fellowship last year, making a total of three for the LTSN-GEES team). Our evaluator, Harold Silver, has once again commented very favourably on our activities and has taken forward work on a pilot study for assessing our impact on departmental learning and teaching practices.

We have also begun to make good the main area of deficiency which was identified in our report last year, namely the slow progress in our becoming a 'one-stop-shop' resource centre. The technical development of our new electronic information gateway (the 'LTSN-GEES Resource Database') is now nearly complete (thanks particularly to Andy Evans and his colleagues at the University of Leeds) and a formal launch of the on-line database is planned for next year. As result of the appointment of a Resource Co-ordinator, Yolande Knight, rapid progress is now beginning to be made in the identification, cataloguing and dissemination of GEES learning and teaching resources.

In terms of national 'reach' and profile, LTSN-GEES is achieving a substantial level of engagement with our three discipline communities. Over 500 UK academics have contributed to our work (for example as departmental contacts, event participants, workshop facilitators, project leaders, authors etc.). Even discounting our virtually comprehensive network of departmental contacts, staff from over 80% of GEES departments have participated in our work. It is notable that over 100 other individuals have also supported our activities, many of these being from areas such as educational development units, careers services, disability units, employers etc. There is, of course, still more for LTSN-GEES to do particularly in targeting the few remaining departments which have not responded to our overtures, but overall, in terms of 'reach' and profile, good progress has been made.

This high level of engagement has been achieved by focussing our events and activities on areas of concern and interest such as employability, SENDA, student transition and retention levels. We have deliberately kept abreast of emerging national issues. Our success also owes much to an insistence on high standards in all our areas of work which has enabled LTSN-GEES to achieve a reputation for quality. In this regard, LTSN-GEES is very fortunate in having a high calibre team both at its Plymouth base and in the four Senior Advisors (based elsewhere) who have special responsibility for each discipline and for C&IT. LTSN-GEES also continues to benefit substantially from the support of the University of Plymouth, our host institution, and from the relevant professional bodies and from organisations representing the GEES Heads of Departments.

In the cause of sharing good practice, during the last year LTSN-GEES has continued to develop and strengthen its international profile. This enables our colleagues to benefit from good practice overseas and to showcase their own work on the international stage. We have contributed to the work of five international bodies in the GEES area, welcomed six international visitors, and contributed to four overseas conferences. In June, LTSN-GEES, in collaboration with Moscow State University, co-convened its first overseas symposium, with a team of nine UK delegates working alongside a high-level Russian delegation to exchange good practice in education for sustainability. About 30 copies of our journal, Planet, are now distributed overseas.

Although 2001/2002 has clearly been a successful year at both national and international levels, there have been areas of concern and disappointment. These relate mainly to the familiar difficulties encountered in the UK higher education environment, for example insufficient rewards for good teaching, the primacy of the RAE, and the uncertainties surrounding the future work of the Quality Assurance Agency (QAA). Moreover, with the GEES disciplines, although the problems of falling student recruitment and departmental mergers do bring some opportunities, they do not always create an encouraging context for our work on innovation in learning and teaching.

For the members of the LTSN-GEES team (including the Senior Advisors), although last year was busy and exciting, it did once again raise concerns about over-commitment. As our Steering Group regularly reminds us, the LTSN-GEES team is operating at full-stretch and at a pace which may not be sustainable over the medium term, particularly as budgetary constraints would seem to rule out any further staff appointments in the foreseeable future. Meanwhile, the team is under pressure to do more in key areas such as departmental workshops, pedagogic research and national conferences while also addressing the national priority agendas such as widening participation, fair access and employability. The operational plan for next year, therefore, reflects some difficult decisions taken in the light of advice from our Steering Group, the LTSN central team in York and from our second, recently-undertaken user needs survey. In essence, decisions have been made to prioritise and protect departmental workshops, Planet and national events at the expense of more limited programme of small-scale projects. We shall also not be replacing Geoff Robinson and so will have to forfeit the role of Senior Advisor for C&IT (albeit Geoff's expertise will be used as and when needed on a consultancy basis).

Having to make difficult resource decisions is, of course, a fact of life in strategic planning in all levels of organisation and, despite the tight financial constraints, the LTSN-GEES team is looking forward with optimism to the year ahead and, for example, to the launch of our new Resource Database and to our first annual conference. During 2001/2002 LTSN-GEES has strengthened its position as one of the leading Subject Centres and has raised its profile both nationally and internationally. We shall be building on these successes in the year ahead and within the resources available, seeking to ensure that the GEES disciplines maintain their leading position in educational change.

2) Operational Level

Dr Helen King, Manager

Activity Achievement and Scheduling

Our programme of activities has gone ahead according to schedule. They have built on the foundation of activities developed in Year 1 (2000-2001), with several valuable additions. These activities have been very successful and have reached a wide range of departments and institutions as illustrated below:

Individuals

- Approximately 650 different people have engaged with LTSN-GEES (including departmental contacts, event participants, funded projects, workshop facilitators, publication authors etc).
- Around 120 of these individuals were from non-GEES departments (including careers services, educational development units, other Subject Centres, employers, overseas academics etc).
- The individuals described above represent 175 out of the 177 GEES departments listed on our database (99%).

This year LTSN GEES has funded 11 small-scale learning and teaching research and development projects. 11 departmental workshops have been run by a range of facilitators from across the three disciplines and around 5 outreach visits have been made to departments (by invitation). Furthermore, through our Senior Advisors, Steering Group, Heads of Department Committees, professional bodies and ad hoc / informal departmental visits, awareness of LTSN GEES and its activities continues to be raised and maintained.

LTSN GEES has been exploring the possibility of developing a discipline-based award for CPD. Following extensive discussion, it has been agreed that such an award would be too resource intensive. Instead, we will provide a CPD advisory service to support staff in reflecting on their participation in LTSN GEES activities and to help them map this onto the CPD scheme they are following. We will liaise closely with the discipline-based professional bodies, as well as the ILT and other award providers (e.g. SEDA) to discuss the affiliation of our activities to their schemes.

Our bi-annual publication, 'Planet' has been extremely well received and the special editions arising out of themed conferences have also been in demand from outside the disciplines. In particular, the special edition devoted to the Special Education Needs and Disability Act (SENDA) has been particularly popular. 'Planet' was originally conceived to provide a high quality publication accessible to a wide range of readers and authors in UK HE, it has proved its worth and provides an excellent complement to discipline-specific journals already existing in GEES.

New Activities

New activities this year have come about through additional funding (LTSN Development Fund tranche 1), through an increasing international profile, and through the appointment of a fourth full-time member of staff as Resource Co-ordinator.

LTSN Development Fund tranche 1: two projects were funded through this tranche: "Guides to Support Learning & Teaching in Earth & Environmental Sciences" and "Enhancing Fieldwork Quality Through Undertaking Pedagogic Research in Geography, Earth and Environmental Sciences". Both of these activities have provided a great variety of opportunities for the communities to support the work of LTSN GEES and many new 'champions' have emerged. Both these projects are described separately at the end of this report.

Resource Database: the LTSN GEES Resource Database, with the working name of 'Tellus', was initially envisaged as a database holding URLs related to learning and teaching in GEES. The appointment of the Resource Co-ordinator has resulted in a shift in emphasis, with the Resource Database now developing to house information on many different kinds of learning and teaching resources and materials within the disciplines. The Database goes live at the end of June and

the communities will be actively involved in its population and in the review of resources. A formal launch will take place at an LTSN GEES national conference next year.

International Profile: whilst the majority of our work is focused on the UK, there is much to be learnt from and practice to be shared with our international colleagues. This has been achieved through collaboration at a distance (via email), through face-to-face discussions and presentations at conferences (e.g. Geological Society of America and Association of American Geographers) and through membership of organisations such as the International Network for Learning & Teaching in Geography (INLT), the International Geoscience Education Organisation (IGEO) and the EU project, ESSENCE. LTSN-GEES has also been instrumental in the setting up of an international conference on Education for Sustainability in Moscow. This involved a 9 person delegation from the UK working with a team of Russian experts including academics as well as civil servants and members of the Russian Duma. Additionally, Helen King has had a special invitation to attend an NSF/Johnson Foundation-sponsored workshop on "Bringing Research on Learning to the Geosciences" in Wisconsin, USA.

Re-assessment of Priorities

The level of activity is, if anything, increasing despite concerns last year over workloads. Consequently, the priority of some activities had to be re-evaluated. These are Wales & NI visits, the enquiry service and automated assessment questionbank.

Wales and NI Visits: As discussed in the January 2002 mid-year report, the departmental visits were put on hold due to the already extensive programme of activities. A Scottish regional swap-shop was held in April and successfully provided the opportunity to the more northern members of our communities to get together. Consequently, we will ensure that at least one major event is held in Wales next year (in addition to any departmental workshops). The two departments in Northern Ireland continue to be very actively involved in LTSN GEES. In addition, LTSN-GEES supported the educational element of the RGS-IBG conference held this year in Belfast.

Enquiry Service: The enquiry service has been low profile in the first two years of operation mainly because of resource constraints. With the appointment of a new full time member of staff whose responsibility it is to run and monitor the service, we are already seeing an increase in enquiries received. The resources sought in response to these enquiries help provide substance to the new Resource Database.

Questionbank: the idea of an automated assessment questionbank continues to be discussed. However, such a bank has not been specifically requested by the communities, would be technologically challenging (due to the variety of CAA platforms) and would require an additional source of considerable funding. Although an interesting concept, it is not a priority for LTSN GEES at this time, and the idea will be put on hold.

Staff

Director:	Prof Brian Chalkley (0.5)
Manager:	Dr Helen King
C&IT Officer:	Mr Mike Sanders
Dissemination Co-ordinator:	Dr Steve Gaskin
Resource Co-ordinator:	Dr Yolande Knight
Administrative Assistant:	Ms Judith Gill (0.5)

Senior Advisors (0.2):	Prof Mick Healey (Geography: University of Gloucestershire)
	Dr Neil Thomas (Earth Science: Kingston University)
	Mrs Jennifer Blumhof (Environmental Science: University of Hertfordshire)
	Mr Geoff Robinson (C&IT: University of Leicester)

Our staffing structure continues to work extremely well. The staff based in Plymouth work very well as a team, allowing for effective and efficient operations as well as a very pleasant working environment. The Plymouth staff also have maintained a good rapport with the four Senior Advisors (based in their own, separate, institutions). The balance of staffing is, in general, appropriate for the activities we are delivering and the model of a central 'GEES' team supported by the individual discipline-based Senior Advisors has proved very successful, particularly in

meeting our strategic aim of encouraging collaboration between the disciplines whilst serving their individual needs. Each member of the team has their own specific tasks and job descriptions are fairly well defined. The good working relationship between all the LTSN-GEES staff has ensured that we are able to support each other on tasks, where appropriate, to share ideas and experience, and to offer each other advice and comment on all aspects of the LTSN-GEES operations (including Strategic Planning).

At the end of this academic year, our C&IT Senior Advisor, Mr Geoff Robinson, will be retiring. Although he will see through to the end those projects he has been mentoring, his formal role as Senior Advisor will cease. At LTSN-GEES' conception, the role of Senior Advisor for C&IT was crucial to both ensure a smooth transition from CTI (without loss of its experiences) and to support the development of the Resource Database through the Tellus project. Geoff Robinson has provided such support and given us the value of his experience and expertise to the great benefit of LTSN-GEES. However, the most valuable aspect of Geoff's role has more recently been (and will continue to be) his own personal experience, knowledge and contacts. This is something that could not be replaced by a new appointee. Following extensive discussion, it has been agreed that, due to pressures on the budget the role of C&IT Senior Advisor, per se, will no longer be continued. However, links to experts such as Geoff need to be maintained to ensure their experience and expertise are not lost, and the consultancy element of our budget will be used to keep such contacts. The use of C&IT in learning and teaching remains an important aspect of LTSN GEES' work and, through the activities of the Resource Co-ordinator and C&IT Officer in particular, will continue to be supported and enhanced.

Last year's end-of-year report identified one major area of under-development in the LTSN-GEES activities. This being support for very specific areas of GEES (e.g. teaching geophysics, geomorphology, environmental monitoring, urban studies). These areas will mainly be covered through the enquiry service and resource database. In the past, however, these services were low priorities as, although important, they were not considered urgent. The appointment of a new member of staff, the Resource Co-ordinator, in March has rectified this situation and Yolande has already proved to be a valuable asset to the team and to provide considerable enhancement to LTSN GEES' activities.

The new member of staff, however, does not necessarily support the others' workloads as she is working on a new area of activity. The team continue to work at full stretch and the Steering Group have asked the Senior Advisors to reflect on the sustainability of their role in the longer term. Although additional funding for specific areas of our activity is welcomed, it does add considerably to workloads as, even if the work is commissioned out to the communities, the time required for writing of bids and project management and support is not insignificant. Additionally, the team feel concerned over any potential future extension of LTSN's role. Although these might be appropriate for LTSN to undertake, they cannot be done at the current level of resourcing and additional funding would be required for extra members of staff, this then has implications for accommodation which is already limited.

In addition to the staff who are formally employed by the Subject Centre, our activities are supported by various other individuals particularly in the area of workshop facilitation and project work. Again, these collaborations are working very well and have contributed towards the smooth running of the Subject Centre's activities.

Evaluation

A culture of critical but constructive evaluation is at the heart of the Centre's operations and activities. Everyone involved recognises the importance of reflecting on experience and learning both from success and failure. LTSN-GEES continues to use a variety of forms of evaluation. These include self-assessment, peer assessment, delegate feedback, and the views obtained from the Steering Group, Heads of Department and our network of departmental contacts. In order to guarantee the quality of its content, Planet maintains its established small editorial board and use of external referees.

An especially important part of our evaluation strategy is the work of our external evaluator, Prof Harold Silver. During the start-up period and Year 1, Prof Silver undertook a 'process evaluation', sampling the various activities of LTSN GEES and gauging perceptions of their value

by participants. It was agreed that the need this academic year was to begin to consider outcomes, a view reinforced by the concern of the LTSN Generic Centre for 'evidence of success'. After discussion between Brian Chalkley, Helen King and Prof Silver, the Steering Group endorsed the proposal for the external evaluator to plan for a study that would provide what in evaluation terms is commonly called 'impact'. The LTSN GEES team continued to conduct internal evaluations, but the external evaluator did not continue sampling LTSN GEES-organised events. The initial study involved consultations with the Head of Department organisations of the three subject constituencies in order to devise a methodology to be piloted in the following academic year.

Feedback from Prof Silver's visits and from LTSN GEES' internal evaluation have all indicated, in general, a very positive response to our activities and services. Planet and the departmental workshops have been particularly welcomed. Those individuals that have used our services extensively or worked closely with us are, in general, the most positive, though they do identify the need for LTSN GEES to raise its profile still further and to find ways to engage with their less enthusiastic / more sceptical colleagues.

The role of LTSN GEES as a catalyst has been particular noted by those departments Prof Silver visited, for example:

"GEES events act as a stimulus", they "help us to think"

There are "secondary effects of GEES activity, e.g. bids for internal funds".

The needs analysis conducted at the end of April showed that all of our activities are of use to the communities (though, not surprisingly, different individuals highlighted different activities), and that the priority issues we have identified also match their common concerns. One areas of shortfall noted was in support for postgraduate level teaching, and in the need for a central learning and teaching resource bank. We will begin to address postgraduate teaching next year through our small-scale project fund and national conference programme. Our Resource Database goes live in June.

Looking Forward

Our Strategic Plan remains, in general, applicable from last year. The main area of update is within the particular areas highlighted for priority over the next three years. Those specified last year (Employability, Students Entering HE, Accessibility, Fieldwork, and Scholarship of Teaching) have been expanded to include the key HE priority areas (outlined in HEFCE 02/24):

- Support for the target of 50%,
- A more representative social mix,
- Fair access for all social groups,
- Lower rates of non-completion, and
- Strengthening teaching excellence.

In addition to these longer-term themes, the Year 3 Operational Plan identifies the following priority activities:

- Continue current programme of activities and services and extend to include postgraduate level teaching,
- Promote subject / topic-specific support through the Resource Database and the Enquiry Service,
- Support the cascading of information into departments beyond departmental contacts and learning and teaching 'champions'
- Pro-actively enhance our presence in Wales through targeted activities (e.g. departmental workshops and national events),
- Maintain and develop our collaboration with generic staff and educational developers.

The updated Strategic Plan, and Year 3 Operational Plan and budget accompanying this report indicate how LTSN-GEES intends to build on the activities of Years 1 and 2, and take account of the evaluations and reflections reported here in order to respond to the needs of the communities whilst leading the way in learning and teaching support across the GEES disciplines.

3) Areas of Activity Relating to Key Sectoral Developments & Agendas

This section of the report deals with a series of higher education issues on which each LTSN Subject Centre has been asked to comment.

a) Widening Participation, Student Retention and Employability

Paradoxically, whilst participation in HE is widening, the GEES disciplines are experiencing a general decline in applications. The reasons for this are not completely known, though the de-emphasis of the subjects in the National Curriculum is likely to play a major part. Widening participation, as a concept, has implication for GEES in terms of a more diverse student population and to this LTSN GEES has responded through departmental workshops (to support teaching of large classes, assessment, motivation of students etc), events and publications (motivating students and PBL, SENDA).

Student retention was the main focus of a national conference held in March this year, this also included the issues associated with transition to HE from a variety of backgrounds (school, work, foundation degrees etc).

Employability is a key issue for the GEES disciplines particularly as they are, in general, non-vocational and around 60% of graduates are employed in non-related areas of work. The GEES disciplines endeavour to engender a holistic learning and teaching experience which has the potential to produce well-rounded graduates suitable for discipline- or non-discipline-based employment. To support this, LTSN GEES has provided activities and resources focused around key skills integration and development (through links to preceding projects and resources, and through departmental workshops), careers education and work-based learning (through departmental workshops, a national conference and a special edition of Planet). There is still much to be done and, thanks to recently received funding from the LTSN Generic Centre project other aspects of employability may also be addressed such as such as business awareness, employer links, self-management, career development and entrepreneurship. This work will also be greatly enhanced through synergies with the programme of work on employability to be undertaken by two National Teaching Fellows associated with LTSN-GEES (Brian Chalkley and Pauline Kneale).

b) Quality Assurance Processes

We are particularly mindful of the impact that quality assurance processes have on academics departments and endeavour to support their needs in this area wherever possible. In Year 1, we ran two events (one in England and one in Scotland) themed around the, then new, process of academic review. 5 members of the GEES team were involved on the subject benchmarking panels and, hence, are well placed to advise on the use of the statements in curriculum development. Several departmental workshops have been run on this theme and the Geography Discipline Network web-site (hosted by the LTSN GEES Geography Senior Advisor) provides copies of the statements and guidelines for their use, and examples of programme specifications. We regularly update the communities on the progress towards the new system of academic review and encourage them to get involved in any relevant consultation processes.

d) Subject-related Policy Developments

There are currently no policy developments related specifically to the disciplines, however, the Special Education Needs and Disability Act (SENDA) has particular implications for the fieldwork elements of our learning and teaching. The GEES disciplines have benefited from the Geography Discipline Network (GDN) project on "Learning Support for Disabled Students Undertaking Fieldwork and Related Activities ". We ran a national conference on SENDA in October 2001 and the special edition of Planet which resulted from this event has been extremely popular amongst the disciplines and beyond. We also supported the joint conference run by LTSN Engineering in April 2002, and are supporting the GDN on a further project bid.

d) Scotland, Wales and Northern Ireland

Most of our events are targeted at the whole UK GEES communities, thereby ensuring a useful mix of ideas, issues and sharing of practice. However, we are aware of the needs of our Welsh, Scottish and Northern Irish colleagues for whom the issues in higher education may vary and the travelling times to English venues may be prohibitive. To ensure the needs of all the communities are met, we regularly liaise with the three Heads of Department Committees who have representatives from throughout the UK. Additionally, all our formal needs analyses, regular mailings and all other correspondence is directed at all GEES departments in all parts of the UK, thereby allowing all colleagues to understand and feedback on all aspects of our work.

Given that most GEES departments are located within England (see table below), London and the Midlands are the preferred localities for our national events. However, although we generally provide for the needs of the majority we are extremely mindful of not neglecting those more remote departments. In Year 1 we ran a launch event in Edinburgh and, in Year 2, followed this up with a swap-shop in Glasgow. In Year 2, we supported an in event in Northern Ireland convened by the Royal Geographical Society. We plan to hold one of our major national conferences in Wales in Year 3.

National events are only one small part of our activities, and, through departmental workshops, projects and publications we have often worked closely with colleagues from Scotland, Wales and Northern Ireland as outlined below.

Wales: Departmental workshop, small-scale Earth Science project, participants at conferences and new lecturers' workshop, article for Planet special edition.

Scotland: Departmental workshops, small-scale project, pedagogic research project, participants at conferences and new lecturers' workshop, articles for Planet.

Northern Ireland: Departmental workshop, small-scale projects, pedagogic research project, L&T Guides project, participants at conferences and new lecturers' workshop, articles for Planet.

e) LTSN Development Fund

The two projects funded under tranche one of this fund have provided excellent opportunities to both enhance the resource-base of LTSN GEES and to engage more fully with the discipline communities. The mini-project format of the projects has allowed us to spread our net in terms of identifying experts and enthusiasts, and the fact that we are creating resources of real use to the communities has helped promote and raise awareness of LTSN GEES. These two projects, perhaps more than any other of our activities, have really provided the opportunity to show that LTSN GEES is part of the discipline communities rather than some separate entity, thus enhancing ownership and 'winning hearts and minds'.

f) Additional Funds from other Sources

University of Plymouth

LTSN-GEES benefits considerably from the relationship with its host institution, the University of Plymouth. As well as providing excellent accommodation and access to all its services (including C&IT, staff development, financial and personnel support), the University also contributes £32,000 towards the LTSN-GEES budget, targeted mainly towards supporting a member of the LTSN-GEES staff. In addition, the high quality of the provision of learning and teaching in the GEES disciplines at the University provides opportunities for liaison, consultation and piloting of new activities with local members of staff.

LTSN Generic Centre Project

Funding has been received from the LTSN Generic Centre to support LTSN GEES' contribution to their 'Linking Teaching & Research' project. This funding has allowed us to develop an understanding of the links between teaching and research in the GEES disciplines and to gather case study examples. This will help to enhance our resource base and to support and promote our commitment to the scholarship of teaching. Additionally, this project has provided opportunities for collaboration with Subject Centres other than the usual 'cognates'.

Institute for Learning and Research Technology (ILRT) project: Focusing Images for Learning & Teaching an Enriched Resource (FILTER)

This project "seeks to educate the tertiary education community in the use of digital images and related metadata for learning and teaching purposes". LTSN GEES, together with five other Subject Centres, is contributing to the project by providing information on the discipline-specific use of images for learning and teaching. This provides opportunities for collaboration both with the ILRT and other Subject Centres, as well as adding to our resource collection.

New Lecturers' Workshop Registration Fee

Currently, we only charge a registration fee for one event: the annual residential workshop for new lecturers. This fee is nominal (£50) and is intended mainly to secure commitment from the participants, however, with 20-30 delegates it also provides an added source of income to support this our most expensive event.

g) Key Issues Facing the Discipline Communities

The two key issues facing our discipline communities are student recruitment and merging / closing departments. Although it may be beyond our remit to directly influence these issues, we need to be mindful of them in order to fully understand the context within which we are working.

Widening participation and fair access (additional to SENDA) are also major areas of concern. We currently have limited experience or expertise in dealing with a potentially wider diversity of students, particularly with respect to the social and ethnic dimension. We also do not have much knowledge on the current profile of students' backgrounds in order to provide a baseline against which to compare in a few years' time.

The vast majority of learning and teaching resources in GEES relate to undergraduate teaching and, so far, our activities have entirely focused on this level. However, we are mindful of the need to support staff who teach at postgraduate level and, potentially, in foundation degrees too. We are able to touch on these areas through encouraging articles in Planet or small-scale project bids, for example, and we also hope to include them in our proposed annual conference in 2003. However, with current resources we are unable to investigate further the issues facing those who teach at foundation or postgraduate level or to provide specific activities or special resources to support them.

Through the LTSN Development Fund we have been able to raise the profile of pedagogic research in the disciplines, and to enhance the capacity of the individuals involved to undertake such research. However, this funding is time-limited and we do not have enough resources to sustain it at the same level. It is hoped that the participants will be suitably empowered to continue through their own momentum, and, in addition, through our small-scale projects fund and potentially international collaboration hope to spread the net wider and to explore other dimensions of learning and teaching in our disciplines.

h) Key Findings and Conclusions from LTSN GEES Evaluation

As stated in our Operational Level report, feedback from our external evaluator, Prof Silver's visits and from LTSN GEES' internal evaluation have all indicated, in general, a very positive response to our activities and services. Planet and the departmental workshops have been particularly welcomed. Those individuals that have used our services extensively or worked closely with us are, in general, the most positive, though they do identify the need for LTSN GEES to raise its profile still further and to find ways to engage with their less enthusiastic / more sceptical colleagues.

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The evaluative comments from participants at one departmental workshop summarise the general feedback we have been receiving:

"Practical examples"

"Open discussion and exchange of ideas."

"Getting together to discuss these issues."

"This workshop has been extremely useful and demonstrates how useful subject-based experience is."

i) Collaboration

Partner Sites / Institutions

A formal agreement has been made with the four Senior Advisors and their institutions (listed below). The Senior Advisors provide, nominally, one day a week for LTSN GEES. However, it is with the individuals that the contract is made, not the institutions, so that, should they move on to new posts elsewhere, they would take their Senior Advisor role with them as appropriate.

Geography:

Mick Healey - Geography & Environmental Management Research Unit - University of Gloucestershire

Earth Science:

Neil Thomas - School of Earth Sciences & Geography - Kingston University

Environmental Science:

Jennifer Blumhof - Department of Environmental Sciences - University of Hertfordshire

C&IT:

Geoff Robinson - Department of Geography - University of Leicester (until Autumn 2002)

Departments / Institutions Hosting Research and Development Projects

LTSN GEES-funded Small Scale Learning & Teaching Projects 2001 - 2002

The following 4 projects were selected, from 17 proposals, by a panel consisting of Brian Chalkley, Helen King and the four Senior Advisors. The projects total ~£10, 000.

1) *Team based learning in Geography, Earth & Environmental Sciences*

Kenny Lynch: School of Earth Sciences & Geography, Kingston University

2) *Atmosphere, lithosphere, hydrosphere, biosphere: Cross-disciplinary virtual fieldwork*
Roger Suthren: School of Biological & Molecular Sciences: Geology, Oxford Brookes University

3) *POPWEB: An annotated image bank for palaeoecology, pollen studies and biogeography*
Jeff Blackford: Department of Geography, Queen Mary University of London

4) *Reflective Learning in Geography, Earth and Environmental Sciences*
Margaret Harrison: School of Environment, University of Gloucestershire

LTSN GEES-funded Small Scale Learning & Teaching Projects 2002 - 2003

The following 11 projects were selected, from 25 proposals, by a panel consisting of Brian Chalkley, Helen King and the four Senior Advisors. The projects total ~£40, 000.

1) *Learning Styles And Concepts Held By Geography Undergraduates: An International Comparison*

John Bradbeer: Department of Geography, University of Portsmouth

2) *The Vertical Project*

Sarah Maguire: School of Biological & Environmental Sciences, University of Ulster & Sheena Wurthmann: School of the Built & Natural Environment, Glasgow Caledonian University

3) *Field Guides and Associated Learning Support Materials for Selected Geological Sites of National Importance with Particular Emphasis on Support for Disabled Students*

Rob Chapman: Continuing Education, University of Leeds &
J Best: Department of Earth Sciences, University of Leeds

4) *'Real World' Experiences – an Evaluation of Practitioner / Employer Input from the 'Region' to Advanced Environmental Taught Programmes*

Lindsey McEwen: Geography & Environmental Management Research Unit, University of Gloucestershire

5) *Developing Independent Learning Skills*

Peter Hughes: Geography & Tourism Team, University of Sunderland

6) *Student Publishing of Fieldwork Geography*

John McKendrick & Dr E Mooney; Human Geography Subject Group, Glasgow Caledonian University

7) *The Transition Between 'AS', 'A' and IB Level and Honours Degrees in Geography, Environmental Science and Geology*

David Croot: Department of Geographical Sciences, University of Plymouth

8) *Analytical Chemical Skills Development*

Mark Varney: School of Ocean & Earth Science, University of Southampton

9) *An Illustrative Guide to Demonstrate the Concepts and Processes in Bringing Web Based Materials in Line with SENDA Legislation*

Neil Witt: Institute of Marine Studies, University of Plymouth

10) *A Web Based Interactive Learning Package to Assist in the Development of Fieldwork Skills*

John Stainfield: Department of Geographical Sciences, University of Plymouth

11) *Module Websites as Tools for Active Learning in Undergraduate Geography*

Caedmon Staddon: School of Geography & Environmental Management, University of the West of England

LTSN GEES-Funded Projects in Earth Sciences (through Senior Advisor) 2000 - 2001

1) *Developing observational skills for geoscience fieldwork*

Pam Murphy: School of Earth Sciences & Geography, Kingston University

2) *The geological application of fossils*

Sue Rigby: Department of Geology & Geophysics, University of Edinburgh

3) *Origins - an introductory web-based learning package on the origin of the Earth and the origin of Life.*

Hugh Rollinson: Geography & Environmental Management Research Unit, University of Gloucestershire

LTSN GEES-Funded Projects in Earth Sciences (through Senior Advisor) 2001 – 2002

1) *Interactive, online support in fundamental mathematics for Earth Scientists*

Bryn Hubbard: Institute of Geography and Earth Sciences, University of Wales: Aberystwyth

2) *Pembrokeshire Introduction to Geology Learning and Teaching Support (PIGL&T) Website*

Ian Stimpson: School of Earth Sciences & Geography, University of Keele

3) *Introduction of 3-D computer visualization models in an Earth Science undergraduate mapping training class*

Ken McCaffrey: Department of Geological Sciences, University of Durham

LTSN Development Fund tranche 1 Projects

Enhancing Fieldwork Quality Through Undertaking Pedagogic Research in Geography, Earth and Environmental Sciences

a) *Fieldwork is good? - the student view*

Karel Hughes: School of Life Sciences, Roehampton University of Surrey

Margaret Harrison: School of Environment, University of Gloucestershire

Julie Jones: School of Environment, University of Gloucestershire

Graham Nevin: School of Biological & Environmental Sciences, University of Ulster

Clare Milsom: School of Biological & Earth Sciences, Liverpool John Moores University

Adrian Martin: School of Physical Education, Sport & Leisure, De Montfort University

Rhu Nash: School of Maritime & Coastal Studies, Southampton Institute

Alan Boyle: Department of Earth Sciences, University of Liverpool

Sheena Wurthmann: School of the Built & Natural Environment, Glasgow Caledonian

Andrew Turner: School of Science & the Environment, Coventry University

Steve Rawlinson: School of Education, University of Northumbria

Chris Paul: Department of Earth Sciences, University of Liverpool

Anthony Thomas: Field Studies Council

b) *Fieldwork in the curriculum*

Jim Andrews: School of Ocean & Earth Science, University of Southampton

Vince Gardiner: School of Education, Community & Social Science, Liverpool John Moores University

Pauline Kneale: School of Geography, University of Leeds

Martyn Stewart: Learning Innovation & Guidance, Liverpool John Moores University

c) *Fieldwork Education and Technology*

Tim Burt: Department of Geography, University of Durham

Peter Fisher: Department of Geography, University of Leicester

Steve Fletcher: School of Maritime & Coastal Studies, Southampton Institute

Derek France: Department of Geography, Chester College of Higher Education

Kate Moore: Department of Geography, University of Leicester

Roger Suthren: School of Biological & Molecular Sciences: Geology, Oxford Brookes University

Nick Tate: Department of Geography, University of Leicester

d) *The impact on the learning and teaching experience of the removal of fieldwork from academic programmes in the GEES subject areas*

Ian Scott: School of Physical Education, Sport & Leisure, De Montfort University

Ian Fuller: Division of Geography and Environmental Management, University of Northumbria

Steve Gaskin: LTSN GEES

e) *Learning to do pedagogic research*

John Bradbeer: Department of Geography, University of Portsmouth

Helen King: LTSN GEES

2) Guides to Support Learning & Teaching in Earth & Environmental Sciences

a) *Learning and Teaching with C&IT in Earth & Environmental Sciences*

Andrew Turner: School of Science & the Environment, Coventry University

Roger Suthren: School of Biological & Molecular Sciences: Geology, Oxford Brookes University

b) *Practical & Laboratory Work in Earth & Environmental Sciences*

Ian Williams: Department of Environmental Management, University of Central Lancashire

Hugh Rollinson: Geography & Environmental Management Research Unit, University of Gloucestershire

c) *Fieldwork in Earth & Environmental Sciences*

Kevin Andrew: Department of Environmental Sciences, University of Plymouth

Rob Butler: School of Earth Sciences, University of Leeds

d) *Learning Outcomes & Assessment in Earth & Environmental Sciences*

Peter Hughes: Geography & Tourism Team, University of Sunderland

Alan Boyle: Department of Earth Sciences, University of Liverpool

e) *Earth Science, Environmental Science & Environmental Studies (ES3) at University*

Claire Guyer: School of Biological & Environmental Sciences, University of Ulster

Sarah Maguire: School of Biological & Environmental Sciences, University of Ulster

Neil Thomas: School of Earth Sciences & Geography, Kingston University

Institute for Learning and Research Technology (ILRT) project:

Focusing Images for Learning & Teaching an Enriched Resource (FILTER)

LTSN GEES-commissioned contribution:

Roger Suthren: School of Biological & Molecular Sciences: Geology, Oxford Brookes University

Appendix 1: LTSN Development Fund tranche 1 Reports

Enhancing Fieldwork Quality Through Undertaking Pedagogic Research

Prof Mick Healey & Prof Alan Jenkins, Project Leaders

This is an exciting programme, which is making good progress. Approximately 50 people are involved, which is more than we expected. It is keeping to the timetable (extended by four months, because of the delay in the confirmation of funding). We have already held a one-day workshop (in May before the formal start of the project) and a two-day residential workshop (in September) from which we have identified five projects, which the programme is funding:

- Fieldwork is good? - the student view
- Fieldwork in the curriculum
- Fieldwork Education and Technology
- The impact on the learning and teaching experience of the removal of fieldwork
- Learning to do pedagogic research

The aim of the programme is to develop the capacity of our communities to undertake research into teaching and learning. This is being done through working together on a series of pilot projects all concerned with fieldwork, a key mode of learning for students in geography, earth and environmental sciences. Developing pedagogic research capacity is a key issue, which has been recognised in recent initiatives by the ESRC. All the projects are adopting a common theoretical framework, based on the idea of constructive alignment (Biggs, 1999).

Critical to the success of the project is the contribution of two pedagogic research consultants – Liz Beaty and Glynis Cousin (Coventry) who ran the two-day workshop in September. Typical of the evaluations were comments such as:

- The best parts of the workshop were: *"Networking with other like-minded individuals. Realising I had got a contribution to make. Being involved in such an exciting project."*
- What I feel about the programme as a whole is: *"It is very dynamic - lots of good ideas generated in an open and supportive environment."*

A third one-day workshop on analysing research data is to be held in May. Each project has a Chair and a diarist. A member of GEES is acting as a mentor to each project. John Bradbeer and Helen King are the researchers for the Developing Pedagogic Research Capacity project and are interviewing the participants and the management team. We have had a paper accepted for presentation at the Tenth Improving Student Learning Conference in Brussels in September. We have set up two Web sites: one for us (the programme team) and the other to tell our communities about the programme (<http://www.gees.ac.uk/pedresfw/pedresfw.htm>).

Initially we said we would prepare a book as the main output of the research programme to which each of the projects would contribute a chapter. However, at our two day workshop many of the participants said that they would much rather put the effort into preparing an article for submission to a refereed journal. We also realised that the market for a book would be limited and trying to cover issues of raising pedagogic capacity as well as the substantive findings of the research projects in the same volume would make the audience for the book unclear. We have therefore decided that each project should produce:

- An article which will be submitted to an appropriate refereed journal, which might be a disciplinary one (e.g. *JGHE*) or an educational one (e.g. *Active Learning*) dependent on the emphasis of the project and the interests of the participants. In the case of the overview project run by the programme team we intend to prepare at least two articles.
- A contribution to the project Website which will be a reflection on the process of undertaking pedagogic research and what they have learnt.

In addition each project will prepare a short article for *Planet*, the GEES journal to inform our communities. Finally we have changed the title of our project from 'Enhancing the effectiveness of fieldwork' to 'Enhancing fieldwork quality through undertaking pedagogic research'. This, we feel, is a more accurate title and one more acceptable to our communities.

Biggs, J. (1999) *Teaching for quality learning at university* Open University Press, Milton Keynes

Mick Healey and Alan Jenkins (Programme Leaders)

Guides to Support Learning & Teaching in Earth & Environmental Sciences

Dr Phil Gravestock, Project Manager

Project Summary

The project aims to develop a series of '*Guides to Support Learning and Teaching in Earth and Environmental Sciences*', based on the Geography Discipline Network (GDN) Guides. The authors of the new guides (listed below) are discipline specialists working in close collaboration with the original GDN authors.

Project Team

Learning Outcomes and Assessment in Earth & Environmental Sciences

Peter Hughes, University of Sunderland (Environmental Sciences)

Alan Boyle, University of Liverpool (Earth Sciences)

Learning and Teaching with C&IT in Earth & Environmental Sciences

Andrew Turner, Coventry University (Environmental Sciences)

Roger Suthren, Oxford Brookes University (Earth Sciences)

Fieldwork in Earth & Environmental Sciences

Kevin Andrew, University of Plymouth (Environmental Sciences)

Rob Butler, University of Leeds (Earth Sciences)

Practical & Laboratory Work in Earth & Environmental Sciences

Ian Williams, University of Central Lancashire (Environmental Sciences)

Hugh Rollinson, University of Gloucestershire (Earth Sciences)

Discipline Focused Skills Guide for Students – Earth & Environmental Science

Claire Guyer & Sarah Maguire, University of Ulster

Neil Thomas, Kingston University

The series will be edited by Mick Healey, Neil Thomas, Jennifer Blumhof and Phil Gravestock.

Activities to date

The Project is currently on schedule, and has hosted one Project Team meeting and two national 'swap shops'. The Project Team meeting was held on 25 February at the TechnoCentre, Coventry. This event was timed to coincide with the first of the project's 'swap shops', which took place on the second day of the meeting (26 February). A second 'swap shop' was held in Glasgow on 29 April. Abstracts from the first 'swap shop' have been added to the LTSN-GEES Resource Database.

At the Project Team meeting it was decided that the 'staff guides' should be Web-based and hosted on LTSN-GEES web-site. The pages will conform to current accessibility guidelines. Printable versions of the guides, in portable document format (pdf) and rich-text format (rtf) will be available. It was felt that this format would be more useful to teaching staff in Earth & Environmental Sciences in that they could adapt the resources to match their requirements. Hard copies of the guides will be available and will still be distributed to all relevant departments, as stated in the original bid. The student guide will remain as a hard copy printed guide.