

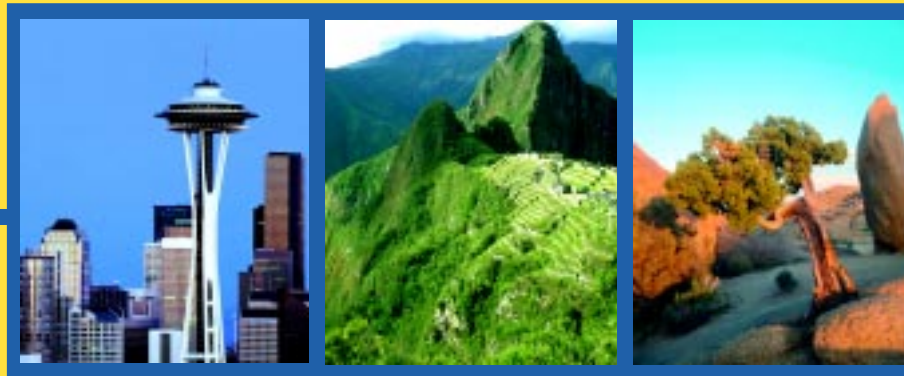
Planet

Special Edition

Special Educational Needs and Disabilities – learning and teaching guidance for Geography, Earth and Environmental Sciences

In this issue:

- Special Educational Needs and Disabilities Act (SENDA) – An introduction
- Access to HE by disabled students
- Developing an accessible curriculum
- Disability and fieldwork
- Disability and labwork
- Disability and assessment
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- Guidance on WWW accessibility
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- QAA Code of Practice on students with disabilities



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What is PLANET?

PLANET is the bi-annual publication of the LTSN Subject Centre for Geography, Earth and Environmental Sciences.

Its aims are to:

- Identify and disseminate good practice in learning and teaching across the three disciplines of Geography, Earth and Environmental Sciences and present examples and case studies in a "magazine" format.
- Provide a forum for the discussion of ideas about learning and teaching in the three discipline communities.
- Provide information for readers on Subject Centre activities and on related resources, conferences and educational developments.

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PLANET is also freely available to download as a .pdf file from the Subject Centre's website at <http://www.gees.ac.uk>. The website also provides general Subject Centre information and specific links to other learning and teaching sites.

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Guest Editorial

Lawrie Phipps, TechDis

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The Special Educational Needs and Disabilities Act (SENDA) (2001) will come into force in September 2002. This special issue of PLANET is intended to review the new legislation and to help higher education staff to consider the kinds of changes that they may need to make in learning, teaching and assessment. The SENDA legislation is discussed fully in the article by Skill, and the article on the QAA Code of Practice discusses how meeting the Code's precepts can provide a framework for meeting the legislative requirements in learning, teaching and assessment. An article on academic assessment is also included in this special edition (see the article by Phipps), but readers may also like to look to the LTSN Assessment Series (<http://www.ltsn.ac.uk/genericcentre/projects/assessment/>) for a fuller discussion of this issue.

Opportunities arise from reflecting on learning, teaching and assessment practices and identifying ways in which we support students with disabilities in the GEES disciplines. Some of these, such as identifying what is core to a subject, are discussed in Anne Simpson's paper about the Teachability project, and are exemplified in the case study from the School of Geography and Geosciences at the University of St Andrews. Healey *et al*, in their paper on fieldwork, identify good practice opportunities that support disabled students and which are also likely to enhance field teaching for all.

It is this latter article that addresses an area that many GEES academics will be most concerned about, namely fieldwork. Healey *et al* dispel some of the concerns about students with disabilities in the paper, but it is essential that staff use the full Geography Discipline Network guides to gain most benefit (<http://www.glos.ac.uk/gdn/disabil/index.htm>). Fieldwork is also discussed in the case study by Ann Norman, which gives a disabled student's perspective. Laboratory work is also an area of concern for academics in the GEES disciplines and Alan Jones' paper looks at how this learning and teaching environment can be made more accessible.

One area of growing concern in the context of undergraduate teaching is dyslexia. Judith Waterfield's paper discusses this disability and provides practical ideas for staff to consider in their teaching. Additionally, Mike Wray of the DEMOS project examines the way staff can be supported using online staff development tools, including dyslexia awareness training.

Technology in learning and teaching is widespread and Juliet Laxton's paper gives an overview of what has been done and what can be done in both using technology to access learning and how learning technologies can be made accessible, particularly with respect to web-page design. Additionally, as an exemplar of an accessible website, readers are encouraged to look at the LTSN-GEES website (<http://www.gees.ac.uk>) which conforms to high accessibility standards.

Mike Adams looks at the 'Improving Provision for Disabled Students' programme. This is a national initiative providing £6m funding for 49 projects in England and Northern Ireland. He also looks at the experiences of HE in Australia, which introduced disability legislation in 1993. The lessons learned from this may provide a taste of what the future holds for the UK.

As September 2002 rapidly approaches, it is important that staff are prepared for the challenges that lie ahead. LTSN-GEES have, alongside other national initiatives, provided a valuable resource through this special edition of PLANET that will help staff meet the needs of students with disabilities. However, it is important that such initiatives are not done in isolation - academic, support and disability staff have to work together to make real improvements in provision for students with disabilities. The new legislation will no doubt provide a stimulus for action.

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LTSN Generic Centre Assessment series 8

A Briefing on Assessing Disabled Students



Dave McCarthy & Alan Hurst

Available from

<http://www.ltsn.ac.uk>

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Learning and Teaching Support Network

The Special Educational Needs and Disability Act (SENDA) 2001: An introduction to the new legislation from Skill: National Bureau for Students with Disabilities



Abstract

On 11 May 2001, the Special Educational Needs and Disability Bill became an Act, finally introducing legal rights for disabled students. This new legislation is likely to affect all those working within the education field. In the article below, Skill: National Bureau for Students with Disabilities explains the main provisions of the Act and their likely consequences with particular reference to staff working in geography, earth and environmental sciences (GEES). Specific examples are given throughout.

What does the Act cover?

The Act introduces the right for disabled students not to be discriminated against in education, training and any services provided wholly or mainly for students or for those enrolled on courses when this is provided by certain 'responsible bodies' as detailed below.

The student services covered by the Act may encompass a range of things, including, for example, teaching, examinations, libraries and accommodation. Members of the GEES community should particularly be aware that services covered will also include field-trips, learning equipment (such as laboratory equipment) and other learning resources. The responsible bodies covered by the Act are:

- further and higher education institutions including sixth form colleges
- all education authorities or local education authorities when they secure further, adult or community education including youth services (but not voluntary sector youth organisations)
- specialist residential colleges for disabled people (the Department for Education and Skills has provided a list of the colleges in question in draft regulations).

What will service providers and institutions have to do?

1. It will be unlawful for providers or institutions to treat a disabled person 'less favourably' than they treat, or would treat, non-disabled people for a reason which relates to the person's disability.

For example, a partially sighted student applies for a geology course. The admissions officer rejects their application because they think the student will not be able to complete the practical element of the course satisfactorily. The disabled student is being treated less favourably because of their disability than a non-disabled student would be. This is likely to be unlawful.

2. Part of not discriminating is making 'adjustments'. If a disabled person is at a 'substantial disadvantage', the provider or institution is required to take such steps as are reasonable to prevent that disadvantage. This might include:
 - changes to policies and practices
 - changes to course requirements or work placements
 - changes to the physical features of a building
 - the provision of interpreters or other support workers
 - the delivery of courses in alternative ways
 - the provision of materials in other formats.

For example, as part of an Geography course, students are required to undertake a field trip involving an overnight stay in a mountain hut. A student who needs regular dialysis cannot go on the residential field trip without missing her dialysis. A reasonable adjustment might be for the tutor to arrange for her to take part during the days but for someone to return with her to a nearby town or village at night so that she can have dialysis.

The duty to make reasonable adjustments is a duty to disabled people generally, not just to particular individuals. This 'anticipatory' aspect effectively means that providers must consider what sort of adjustments may be necessary for disabled people in the future, and where appropriate make adjustments in advance.

For example, lecturers at an institution produce their handouts in electronic form thus ensuring that they can easily be converted into large print or put into other alternative formats. The staff are anticipating reasonable adjustments that might need to be made.

Considering what is reasonable

What steps are reasonable for a particular responsible body to take depends on all the circumstances of the case. They will vary according to:

- the type of services being provided
- the nature of the institution or service and its size and resources
- the effect of the disability on the individual disabled person or student.

The following are some factors that might be taken into account when considering what is reasonable:

- the need to maintain academic or other prescribed standards
- the financial resources available to the responsible body
- grants or loans likely to be available to disabled students (and only disabled students) for the purpose of enabling them to receive student services, such as Disabled Students' Allowances
- the cost of taking a particular step
- the extent to which it is practicable to take a particular step
- the extent to which aids or services will otherwise be provided to disabled people or students
- health and safety requirements
- the relevant interests of other people including other students.

For example, an institution may argue that it is unwilling to take a student with a heart condition on a field-trip to a remote location where access to medical facilities is very limited because of the risks to the student's health. If there really is a significant risk, this could be a justification for less favourable treatment.

Responsible bodies should be careful not to use invalid arguments to avoid making a reasonable adjustment.

For example, animals are not allowed into an institution's laboratories. An environmental sciences lecturer refuses to make the reasonable adjustment of allowing a student's guide dog into the laboratory because he is afraid the dog will knock objects over. However, all laboratory equipment should be kept high enough up and far enough from the edges of furniture that there is no possibility of a person or a dog knocking them over whilst they move around the laboratory. There is unlikely to be a valid reason for not making the reasonable adjustment of allowing the guide dog into the laboratory.

Redress

The Disability Rights Commission is being asked to set up a conciliation service, which it is hoped will deal with most complaints in a speedy and effective way. If both parties do not agree to conciliation, or if conciliation fails, disabled people may take cases to court (the county court in England and Wales and the sheriff court in Scotland). Courts will have the power not only to determine the rights of the case, but also to award compensation and impose injunctions or interdicts to ensure discriminatory practices are reviewed.

Timetable

With two exceptions, the new legislation will be in force by 1 September 2002. The exceptions are reasonable adjustments involving the provision of auxiliary aids and services (such as interpreters etc) which comes into force on 1 September 2003 and the requirement to make physical adjustments, which is to be implemented on 1 September 2005.

Further information

Skill has drafted the Statutory Code of Practice, which will provide guidance to providers on the implementation of the new law, for the post-16 sections of the Act on behalf of the Disability Rights Commission. For further information about the Act and post-16 education, contact Skill below.

Skill: National Bureau for Students with Disabilities

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Planet Register of Interest

The LTSN Subject Centre for Geography, Earth and Environmental Sciences (GEES) is looking for people who have experience and/or expertise in any area of **learning** and **teaching** in these disciplines e.g. problem-based learning, integrating C&IT into the curriculum, developing key skills, promoting employer links etc. If you consider yourself to be an expert in any area of learning and teaching, or if you have experience in any innovative learning and teaching field, then we would like to hear from you! We are currently developing a **register of interest** database. This will enable us to efficiently and effectively put individuals who approach the Centre with any learning and teaching question, in-touch with relevant people in our disciplines. If you would like to find out more about this service, or if you would like to be added to this database, then please contact the Subject Centre on: 01752 233530 or email: info@gees.ac.uk

(Please note that any personal information provided to the Subject Centre will be kept in accordance with the Data Protection Act 1998.)



QAA Code of Practice for the assurance of academic quality and standards in higher education – and its use in relation to the Special Educational Needs and Disability Act 2001

Karen Czapiewski, Quality Assurance Agency (QAA)

Abstract

Section 3 of the Quality Assurance Agency (QAA) Code of Practice for the assurance of academic quality and standards in higher education is about students with disabilities. It has been particularly welcomed as providing a useful tool for institutions in helping them to provide for their students. With the introduction of SENDA (The Special Educational Needs and Disability Act 2001), HE Institutions should find it helpful that they have been adhering to the precepts of this section of the code since October 2000. This section of the QAA code is not the same as SENDA but, if institutions have embraced not simply the precepts but also the spirit, they are likely to remain within the law when SENDA becomes effective in September 2002. This short paper outlines some of the key features of the Code and how they are likely to impact academic departments.

Introduction

The QAA has worked with the higher education sector to publish a Code of Practice for the assurance of academic quality and standards in higher education. Section 3 is on students with disabilities. It was published in October 1999, and has been particularly welcomed as providing a useful tool for institutions in helping them to provide for their students. Indeed, with the introduction of SENDA (The Special Educational Needs and Disability Act 2001), which will become section 4 of the Disability Discrimination Act (DDA), HE institutions should find it helpful that they should have been adhering to the precepts of this section of the QAA Code since October 2000. This section also has the potential to assist institutions in helping to correct the problem of under-representation of people with disabilities in higher education. A full copy of the QAA document is included at the end of this issue of PLANET. The article below highlights some of the key points for the reader looking for a quick summary.

How will the Code be used?

Many people ask how the Code will be used in audit or review undertaken by the QAA. Institutional audit will not be asking institutions about their adherence to the Code of Practice on a precept by precept basis. It will expect to see, in the SED (self evaluation document), a statement about how the institution has addressed the intentions of the precepts, including any resulting changes to its practices, and will discuss any areas of difficulty that the institution has experienced. The team may request some evidence in support of the institution's statement, for verification purposes.

The Code's Format

Each section of the Code follows a consistent format:

- Precepts – The QAA will expect an institution to be able to demonstrate that it is addressing effectively the key matters set out in the precepts. In reviewing an institution's adherence to the precepts of the code, however, it is the intended effect of the precept that is important, not any particular means of achieving it.
- Guidance – This is in the form of good practice. It is not, nor is it intended to be, prescriptive or exhaustive. In certain cases, audit teams may wish to discuss why an institution has decided not to follow the guidance contained in a section of the Code, but they will not criticise an institution if the intended effect of the Code is being achieved by other means.

- Recurring themes - It could be argued that students with disabilities should have been treated not in a separate section of the Code but as a common theme, with consideration of particular needs being covered in all sections of the Code, where appropriate. However, the working group on the section of the Code covering students with disabilities saw it as a positive move that this should form a separate section and welcomed the chance to cover in a very specific and focused way the needs of these students.

Section 3 of the Code contains 24 precepts, each with guidance on good practice. I should stress that although this is neither exhaustive nor prescriptive it does represent work by some leading experts in this field and is therefore likely to prove useful to a wide range of institutions.

The precepts of the Code

The precepts are split into a number of sections:

General principles

- 1 "Institutions should ensure that in all their policies, procedures and activities, including strategic planning and resource allocation, consideration is given to the means of enabling disabled students' participation in all aspects of the academic and social life of the institution."

Although this has, of course, always been best practice, under the new legislation institutions will be obliged to take reasonable steps to ensure that students are not placed at a 'substantial' disadvantage. In particular, the anticipatory element of duty should already be having an effect so that when the legislation is enacted, institutions which have planned for and embraced the principles of the code will be well on the way to meeting the needs of their students.

The physical environment

- 2 "Institutions should ensure that disabled students can have access to the physical environment in which they will study, learn, live and take part in the social life of their institution."
- 3 "Institutions should ensure that facilities and equipment are as accessible as possible to disabled students."

As members of the general public, it has always been the case under the existing DDA that reasonable access arrangements should be made. Non-disclosure by a student of a disability that could reasonably have been anticipated does not provide a suitable defence for an institution against a claim made under the DDA.

Information for applicants, students and staff

- 4 "The institution's publicity, programme details and general information should be accessible to people with disabilities and describe the opportunities for disabled students to participate."

Accessibility is not just about having information available, but involves also ensuring that it is properly publicised.

The selection and admission of students

- 5 "In selecting students institutions should ensure equitable consideration of all applicants."
- 6 "Disabled applicants' support needs should be identified and assessed in an effective and timely way, taking into account the applicant's views."

The new legislation makes it unlawful to discriminate in admissions and enrolment. The justifications permitted for less favourable treatment include academic standards but this would not preclude an institution from making a reasonable adjustment to the way in which academic standards are assessed.

Enrolment, registration and induction of students

- 7 "The arrangements for enrolment, registration and induction of new entrants should accommodate the needs of disabled students."

These arrangements must include suitable provision for confidentiality for new entrants.

Learning and teaching, including provision for research and other postgraduate students

- 8 "Programme specifications should include no unnecessary barriers to access by disabled people."
- 9 "Academic support services and guidance should be accessible and appropriate to the needs of disabled students."
- 10 "The delivery of programmes should take into account the needs of disabled people or, where appropriate, be adapted to accommodate their individual requirements."
- 11 "Institutions should ensure that, wherever possible, disabled students have access to academic and vocational placements including field trips and study abroad."
- 12 "Disabled research students should receive the support and guidance necessary to secure equal access to research programmes."

It is important that institutions can demonstrate that they have taken reasonable steps to investigate each **individual** case. It is not sufficient for an institution to take a general view on a disability or type of disability, or on the effects this might have on participation or progress.

Examination, assessment and progression

- 13 "Assessment and examination policies, practices and procedures should provide disabled students with the same opportunity as their peers to demonstrate the achievement of learning outcomes."
- 14 "Where studying is interrupted as a direct result of a disability-related cause, this should not unjustifiably impede a student's subsequent academic progress."

Reasonable steps to ensure that students are not placed at a 'substantial' disadvantage become a legal requirement. Even when an institution is not itself responsible for the conduct of an examination, it is likely to be responsible for a reasonable adjustment needed by a student to ensure a fair chance to succeed.

Staff development

- 15 "Induction and other relevant training programmes for all staff should include disability awareness/equality and training in specific services and support."

Ignorance of the legal position is not a defence for an institution that has failed to provide reasonable support for a student.

Access to general facilities and support

- 16 "Students with disabilities should have access to the full range of support services that are available to their non-disabled peers."

This becomes a legal requirement under the new legislation.

Additional specialist support

- 17 "Institutions should ensure that there are sufficient designated members of staff with appropriate skills and experience to provide specialist advice and support to disabled applicants and students, and to the staff who work with them."
- 18 "Institutions should identify and seek to meet the particular needs of individual disabled students."
- 19 "Internal communications systems should ensure that appropriate staff receive information about the particular needs of disabled students in a clear and timely way."

- 20 "Institutions should have a clearly defined policy on the confidentiality and disclosure of information relating to a person's disabilities that is communicated to applicants, students and staff."

A particular concern under the new legislation is that of disclosure: once one member of staff knows of a disability, the institution as a whole is deemed to be aware. A request for confidentiality does not absolve an institution from responsibility, especially in cases where suitable anticipatory action could have solved a difficulty.

Complaints

- 21 "Institutions should ensure that information about all complaints and appeals policies and procedures is available in accessible formats and communicated to students."
- 22 "Institutions should have in place policies and procedures to deal with complaints arising directly or indirectly from a student's disability."

Again this is an issue of communication that gains legal authority under the new legislation.

Monitoring and evaluation

- 23 "Institutional information systems should monitor the applications, admissions, academic progress and nature of impairment of disabled students."
- 24 "Institutions should operate systems to monitor the effectiveness of provision for students with disabilities, evaluate progress and identify opportunities for enhancement."

Proper evaluation systems will enable institutions to point to the good practice they adopt in any action taken against them.

The new legislation gives weight to much of what disability officers are trying to achieve – and to what institutions have been doing in response to the Code. If disability statements are properly made and disability officers are properly trained, empowered, resourced and supported, then the precepts of this section 3 of the Code should be adequately implemented to meet the needs of the students.

Section 3 of the Code is not identical to the DDA, but if institutions have adopted not only the letter of the precepts but also its spirit, then the SENDA legislation is unlikely to cause serious difficulties when it becomes operational in September 2002.

A full version of section 3 of the Code, with related guidance, is available on the QAA web site (<http://www.qaa.ac.uk>), and is reproduced in full at the back of this issue of PLANET. I recommend that institutions use the SKILL web site (<http://www.skill.org.uk>) to access the new legislation and related guidance as this provides excellent examples of good practice (also see the article by Skill in this special edition of Planet).

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Learning, Teaching and Disability: The Need for a New Approach



Mike Adams, National Disability Team

Abstract

Disability issues are becoming increasingly important in higher education. Forthcoming legislation has led institutions to review how they respond to the needs of students. This article provides a context to the legislation in its relationship to learning and teaching in its broadest sense. It describes the challenges academic staff face, the good practice already undertaken and work in progress. Finally, the article compares the situation in Australia where similar legislation was introduced in 1993 and draws out some of the lessons the UK higher education sector can learn from experience elsewhere.

Introduction

For those of you who have not yet come across the National Disability Team, this article starts by briefly outlining how we fit into the national HE picture.

As one of the Funding Council's co-ordination teams, we provide a service to HEFCE and DEL, Northern Ireland, during the *Improving provision for disabled students* programme, by supporting project staff with advice and guidance. This is a £6m programme funding 49 projects. We are a focal point of information about the programme, and for disseminating outcomes across the HE sector. We undertake liaison with other teams, agencies and organisations to enhance the accessibility and quality of the learning experience of disabled students'.

Full details of the programme we support are on the website: (<http://www.natdisteam.ac.uk>).

This paper discusses disability issues as they relate to academic staff. The paper will attempt to do this through:

1. Making some comments/observations regarding the implications of legislation across an institution. I do not need to describe the legislation as this has been adequately covered elsewhere in this publication (e.g. SKILL). I do however wish to discuss the legislation in its relationship to learning and teaching in the broadest sense.
2. Describing some of the resources/materials already available or currently being developed.
3. Drawing on some of the lessons we can learn from other countries; in particular, Australia, which has striking similarities with the current issues we face in the UK. I was able to undertake a study visit just before last Christmas and the full report is available from me if anybody is interested.
4. The Geography Discipline Network (GDN) event on "Learning Support for Disabled Students Undertaking Fieldwork and Related Activities" in May 2001 disseminated the outcomes of a HEFCE-funded project, which looked at the issue of fieldwork. A follow-up event was provided in October 2001 in the form of an LTSN-GEES conference on special education needs. The GDN-run project was, for a variety of reasons, extremely important:
 - a) It was one of the first disability funded projects that addressed issues concerned with teaching, learning and assessment.
 - b) It was led by academic staff in partnership with disability practitioners. This kind of partnership has signalled a real shift in thinking regarding disability issues. I will return to this topic later.

At the GDN event in May 2001, I said:

- Where do we go from here?
- How do we go about developing teaching and learning practices to make them more inclusive?
- What should the role of Subject Centres be in taking developments forward?

The response has been extremely positive:

- The LTSN-GEES special education needs and disabilities event on October 31st 2001.
- The planning by other Subject Centres of a one-day conference to inform their strategy on how they move forward.
- Some Subject Centres have seconded disability practitioners to provide specialist advice and work alongside centre staff to develop understanding, and in most cases, staff development materials.
- The LTSN Executive is also actively engaged in supporting and enhancing Subject Centres' work in this area. The Generic Centre is currently in the process of working up a significant project and the thrust of its activities will be informed by the Subject Centres themselves.

Special education needs and disability changes in HE

As I have said, this is all signalling a change in how HE views the issue.

Traditionally, disability initiatives have focused on access to the physical environment and welfare support, and as such, services have predominantly been developed and located in student service related departments. But if we are serious about addressing the diverse needs of a broad spectrum of learners, then it is critical to identify and address issues that relate to access to the curriculum, alongside these more traditional forms of providing support.

This will involve a cultural shift in the way institutions respond to the requirements of disabled students. It will no longer be appropriate to view these issues solely in terms of adaptation and add-on. Becoming part of the mainstream learning and teaching debate, therefore, will be the key issue. In no way am I attempting to denigrate the value of support services or the importance of the role they will continue to play. Rather it is a recognition that increasingly this role will involve working alongside academic staff in considering the students' learning needs, including course design and delivery.

Some people consider this issue a philosophical one. Higher education is a right to all who can benefit and therefore we need to address the disability issue. Some institutions will also be driven by the need to avoid litigation. Whatever the driver is, it will require institutions to review their resources, and particularly their human resources, to support/underwrite changing practice, and to facilitate the development of the new kind of partnerships I have outlined.

In considering learning and teaching issues, academic staff will be their own best critics in relation to disability considerations once they are aware of and respect the nature of the critique.

This will have implications for the role and remit of current Disability Officers who are now based in most institutions. Currently, the disability ethos and culture in the UK is committed to an inclusive approach, but over the past ten years the reality has been isolation and separatism. I believe this time any separate power would be better traded for influence in the mainstream. Disability colleagues will themselves need encouragement and possibly training to move into a new era.

What do I mean by this? When I talk to Disability Officers there is a very strong mantra; our ultimate goal is to mainstream disability to a point

where our specialist jobs are no longer needed. Whilst this might be true, I know that lessening a Disability Officer's (DO) power does not sit easily with a lot of people. This is human nature. I see a further role for the DO in maintaining the day-to-day welfare requirements of individual students.

There is a need to develop strategic posts. However, generally there are only one or two examples where this has happened. Current practice is that DOs are expected to do this in addition to their other important work. The role would need to straddle academic departments and student services. I see the post holder as a broker (conduit) informing IT strategy and training strategy to complement new learning and teaching developments.

The harsh reality would be that most current DOs would not meet the personnel specification for what would be required. I consider myself to be either brave or stupid when I raised this exact issue at a disability conference recently. It was interesting, though, how many people came up to me afterwards and said they agreed with me. This is required if our learning and teaching goals are to be realised.

Even if we were in a position to deliver this type of approach, if it is to be successful, I believe it needs to be combined with other activities:

- 1) Within the UK, research is widely seen as the most important activity of an HEI and this is probably the view of many academics. However, in recent years there has been a shift towards recognising the merits of teaching and learning and also of conducting research into learning and teaching. Disability is an area of academic study in its own right and there are already a number of MA's in disability. For example, Coventry University has just launched an MA in Disability and Social Justice. What we need is to encourage academic staff to undertake research concerned with pedagogy and disability. It is critical to develop an evidence base to support and enhance innovation within this area. The HEFCE has just recently commissioned a piece of work to map existing resources related to the learning and teaching of disabled students in higher education. The map will locate pedagogical development materials, pedagogical research and resources including organisations/networks or people within institutions. It is expected that the report will be published this summer and will assist academic staff in locating resources and advice on good practice. It will also identify gaps in knowledge and understanding and thereby inform future HEFCE policy.
- 2) Disability needs to be identified as an issue that cuts across all subjects and which should be incorporated in the curriculum. For example, the impact of town planning on disabled residents, or the recent sociology project that incorporated disability into the syllabus.
- 3) We need 'handy hints', good practice guides dedicated to disability. Disability has also been woven into recent HEFCE publications on Good Practice in Widening Participation and Learning and Teaching strategies.

The Teachability Project

I would like to draw your attention to the Teachability project which is about creating an accessible curriculum for students with disabilities (also see the article by Anne Simpson in this special edition of PLANET). This project was developed at the University of Strathclyde. Its aim was to create resources which would be useful to academic departments in looking at their provision for disabled students, and in identifying ways of enhancing that provision. The outcome has been the development of a

resource booklet used by academic departments to help them 'audit' their own courses to understand better the impact the design and delivery of their curricula has on the learning experience of disabled students. It is important to underline that the academic department or course/programme provider audits *its own* provision for disabled students. The audit is based on an understanding of key ideas, such as 'inclusive teaching practice', 'core course requirements' and a sense of what it is that aids or inhibits access to the curriculum for disabled students. It also requires knowledge of the range of individual adaptations to delivery appropriate to particular disabled students. The resource booklet and associated process are specific neither to any particular subject or discipline area, nor to any individual impairment. Instead, they engage academic staff in reflection about how they design and deliver courses, how they teach students, and this leads them to consider how their practice impacts on the learning experiences of disabled students.

The process is designed to ask five initial questions:

- How accessible is the curriculum in your subject for students with a range of impairments?
- How might the curriculum be made more accessible for these students?
- What steps need to be taken to implement enhanced access to the curriculum?
- What barriers are there to achieving the changes identified and what can be done about them?
- How can the ways in which the curriculum is particularly accessible or inaccessible be made known to potential students with a range of impairments? (SHEFC, 2000)

The tool has now been piloted in 62 academic departments and involved over 1100 staff. It has proved extremely useful in identifying potential issues and creating a space for academic staff to find solutions. The tool is not perfect and is still evolving. Indeed, it is being informed and changed by the users themselves.

The Australian Experience

In outlining the Australian experience, many of the themes/issues raised will have resonance with what I have said previously and provide live illustrations of what we are likely to encounter here in the UK.

The Australian Disability Discrimination Act was introduced in 1993. It is very similar to that soon to be operating in the UK insofar as it provides protection by making it unlawful to discriminate against a person on the grounds of their disability. Again, emphasis is on ensuring reasonable adjustments with the onus on the student to prove that they have been discriminated against on the grounds of their disability.

The aim of my Australian visit was to:

- Look at the impact of disabilities legislation on Australian Higher Education policy and practice.
- Review the implications for both the funding body and HEIs. As I said earlier, in terms of context, there is a great deal of similarity between the two HE systems. For example, in the early 90's Australian government education policy focused on the rapid expansion of Higher Education. Each institution was expected to develop an equity plan, which is similar to current widening participation strategies.
- Australian institutions have a named Disability Liaison Officer (DLO) who is normally located in student support/welfare departments. Their job description and location is comparable with Disability Officers/Advisors in the UK. Again the DLO is expected to co-ordinate individual student's day to day support needs. They are also expected to take a major role in liaising with departments to organise students' academic needs.

- Since 1991 national special initiative funding has been provided on a competitive basis. Recently, funding has been directed at two different levels: (1) individual institutions to pump-prime innovations and (2) national resources and services such as the national clearing-house on Education and Training. This is a web-based information exchange service, which acts as a repository for both students and staff.
- Finally, each of Australia's states has an appointed Regional Disability Liaison Officer (similar to my role in the UK). The major difference is in the funding of disabled students. In Australia there is no equivalent of the Disabled Students Allowance (which enables the individual student to purchase their support needs). Instead, institutions are expected to allocate an amount to provide support services to meet the needs of their disabled students. Interestingly, Australia is currently reviewing their model of funding and is likely to introduce a model similar to that used in the UK.

So what has been the impact?

Legislation has led to an increased awareness of disability issues across Australian Higher Education with most institutions having now formalised their disability services. It was clear, however, that although the aims and spirit of the legislation were known, there was a distinct lack of clarity of detail on what was required by institutions to achieve compliance within the Act. It took over three years before a code of practice was published, which provided institutions with additional guidance. With the QAA Code of Practice on students with disabilities, produced alongside legislation in the UK, this should reduce any uncertainties. However, ultimately this is only for guidance, and the courts may have to decide what constitutes discrimination/reasonableness.

Legislation has also led to much greater awareness across Australian institutions in both academic and support service departments. Individual staff have had to take ownership of disability and as such the quality of provision has been enriched. A major driver for this has been the introduction of Disability Action Plans, which, although not compulsory, have been strongly encouraged.

These plans set out an institution's commitment to disability, the activities and specific targets over a period of time and the resources allocated to achieving them. This includes both academic and support service objectives. It is recognised that not everything (especially physical access) can be achieved overnight and in a way these plans have served as a 'risk management' tool for institutions. By detailing future objectives and

Planet



Got a Question or Query?

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actions with timelines, the plans have proved an extremely effective tool in making transparent an individual institution's current provision and commitment to disability issues over a period of time. They are also used to counter potential claims of discrimination. For example, one student disclosed that she wished to study biology at a particular institution and was told that physical access into those buildings was a problem, but accessibility was being addressed later that year. She was, therefore, able to make her decision secure in the knowledge that the changes would be made in time for the beginning of her studies.

At a number of universities the Disability Action Plan has led to the appointment (and appropriate training) of a member of staff in each department with the required level of expertise on how disability issues affect their specific area of activity. For example, in one institution the Marketing Department has developed a strategy which includes a statement on disability within all their publications. These publications are automatically made available in alternative formats without having to consult with the disabilities office. The same applies in the IT Department, and overall this has led to a cultural change in how the institution organises its provision and promotes inclusion.

But again the major issue in Australia, and the one which I believe will be mirrored in the UK, concerns the quality of advice, guidance and support given to academic staff. Anecdotal evidence from all those we met as part of the visit suggested that approximately 90% of those cases which went to court and where the judgement went against the university were directly concerned with teaching, learning and assessment. The main causes of these academic-based difficulties were:

- Direct discrimination – an admissions tutor refusing entry onto a course with no reasonable grounds for doing so, and where such refusal was clearly due to the student's disability rather than their educational achievement or potential.
- An inability to make reasonable adjustments to learning and teaching practice - not going far enough in making changes in courses/modules to make them accessible.
- Inadequate access to timely materials in alternative formats. Students who required information in braille/on tape receiving it 3 weeks or more after everybody else. Institutions' websites not being accessible was also another major issue. It is important to foreground the above by saying all of these adjustments recognise the importance of maintaining academic standards.

Some curriculum principles

There is no single blueprint for addressing issues of disability related to the curriculum but for academic staff the following principles are suggested (recognising this is not an exhaustive list):

- Course delivery modes and learning activities should take account of both (1) intended educational outcomes and (2) the learning capacities and needs of students with disabilities.
- Course study materials should be made available in appropriate formats and, where this is required, students with disabilities should not be disadvantaged by the time taken for conversion.
- Teaching and delivery strategies should be adjusted to meet the learning needs of disabled students and address any disadvantage in their learning resulting from their disabilities. This might include the provision of additional support.
- Activities conducted in non-classroom settings, such as field trips and work placements, should be designed to be inclusive for disabled students.

By definition, the need to address these issues has required the expertise and active involvement of academic staff.

Good practice

We found several examples of good practice in Australia. For example, at one institution they had appointed academic liaison officers in each department with responsibility for supporting the DLO on curriculum issues and determining appropriate 'accommodations'. These are academic staff who had developed a detailed knowledge of the issues and had been appropriately resourced to do the job, normally by having teaching time bought out. Furthermore, DLOs worked with course designers so that the learning needs of students were considered from the outset and any unnecessary barriers affecting students' learning were removed at an early stage. This has involved academic staff having to make explicit from the outset the learning objectives and the range of tools (including C&IT) required for delivering and completing the course. The result has been a significant reduction in modifications being required during assessment and examinations.

One worrying gap or weakness in provision concerns the availability of quality staff development. This activity is undertaken within individual institutions and this is usually provided by DLOs, which was a matter of concern for each institution visited. Invariably, these staff would be expected to provide briefings to a range of university personnel, including senior management, without appropriate experience or training. Surprisingly, or perhaps not, there were no links or involvement with the institutions' training department. This is not a marginal issue but core business.

So overall what can we conclude?

Firstly, there are no easy solutions. There is no complete manual or blueprint to ensure success. Secondly, it is clear the impact of legislation will lead to changes in the way institutions 'manage' disability and undoubtedly this will have resource implications.

As for the way forward?

I think we have identified the context in which developments need to take place. I think we have also put forward a strong case to suggest that academic intervention will be required in enabling this change to happen. But this cannot be done in isolation. I think we have established a framework, a kind of 'terms of reference' which people can work within. This will continue to evolve but will require the creation of new partnerships with the right mix of specialisms if developments are to be rigorous, fair and lead to systemic change.

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This paper has been adapted from a presentation given by Mike Adams at the LTSN-GEES conference on special education needs and disabilities in Coventry, October 2001.

Reference

Scottish Higher Education Funding Council (SHEFC) *Teachability: creating an accessible curriculum for Students with Disabilities*. Glasgow: University of Strathclyde.



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Geography Discipline Network

Learning Support for Disabled Students Undertaking Fieldwork and Related Activities

Web-based Guides for Tutors in Higher Education

The following Web-based guides are the result of the '*Learning Support for Disabled Students Undertaking Fieldwork and Related Activities*' project, funded by HEFCE's *Improving Provision for Disabled Students Funding Programme*.

- Issues in Providing Learning Support for Disabled Students Undertaking Fieldwork and Related Activities
- Providing Learning Support for Students with Mobility Impairments Undertaking Fieldwork and Related Activities
- Providing Learning Support for Blind or Visually-impaired Students Undertaking Fieldwork and Related Activities
- Providing Learning Support for Deaf or Hearing-impaired Students Undertaking Fieldwork and Related Activities
- Providing Learning Support for Students with Mental Health Difficulties Undertaking Fieldwork and Related Activities
- Providing Learning Support for Students with Hidden Disabilities and Dyslexia Undertaking Fieldwork and Related Activities

<http://www.glos.ac.uk/gdn/disabil/index.htm>

Using Online Learning to Disseminate Disability-related Staff Development Materials

Mike Wray, Manchester Metropolitan University

Abstract

The four universities in the Greater Manchester area have recently worked together on a HEFCE-funded project (DEMOS) which is investigating the use of online learning to disseminate information about disabled students. In this article, the Project Co-ordinator explains some of the issues behind this pedagogical approach to staff development.

Traditional Staff Development Model

Disability offices of UK universities are under increasing pressure to work with academic staff to disseminate information about disabled students. Due to recent legislative changes and an increase in the number of disabled students, staff developers are seeking more efficient ways of delivering this information. However, until recently the model most frequently evident in Higher Education for engaging academic staff in issues relating to this subject has been poorly conceived. Traditionally, disability offices of universities have worked alongside Staff Development Units (SDUs) to deliver training events. Also, in many cases the disability office is placed within central services and staffed by administrative personnel (McCabe, 2000). This can unfortunately lead to a 'them and us' situation and poor working relationships (Seyd, 2000) where central services are seen as feeding down policies from increasingly managerialist organisations and the latest government initiatives. In addition to these difficulties, Educational Development Units are usually better perceived by academics than SDUs as the relevant place to go for pedagogical advice (Webb, 1996). It is therefore easy to see why many events about the support of disabled students are poorly attended by academic staff. For instance, the four disability offices of the universities in Manchester in conjunction with staff from the Access Summit Centre have run disability-related training events in recent years and an effort has been made to continue to run this programme through the Staff and Educational Development units in the current academic year. Whilst many of the events have proved popular, some have been cancelled due to lack of attendance. This is despite efforts by the disability offices to deliver the programme in the most efficient method possible (i.e. lunchtime sessions of no more than 2 hours – with sandwiches laid on!).

Working Together

It is important that disability offices work together with academic departments if support for disabled students is to improve. In addition, there is a need to develop successful models from which to work. Recent signs indicate that the tide is turning. We appear to be at a fortuitous time when national policy is forcing HEIs to examine their policies and a number of initiatives have appeared that will lead to collaborative working between subject-specific departments and disability specialists. For me one of the most promising developments is the formation of the LTSN. This seems to be a network that academic staff can trust since it has their subject specialisms at heart. There is also a real increase in the amount of information that is being written about supporting disabled students. This special edition of PLANET is a good example and it appears alongside a number of articles that have emerged across several staff networks.

Useful resources include:

- the Geography Discipline Network's series of guides on disability and fieldwork (<http://www.glos.ac.uk/el/philg/gdn/disabil/index.htm>);

- a number of relevant articles appearing on the members area of the ILT website (<http://www.ilt.ac.uk>);
- a guide to assessment issues for disabled students available from the LTSN Generic Centre (<http://www.ltsn.ac.uk/genericcentre/projects/assessment/>);
- a series of guides to disability at the CoWork project's website (<http://www.cowork.ac.uk/development/materials/index.htm>).

What these resources have in common is that they address specific pedagogical issues. There has been a lack of research and literature on the pedagogical implications of working with disabled students in higher education and, although the resources listed above are beginning to address this problem, we have a long way to go before all the gaps are filled.

Situated Approaches

Another common principle about the above resources is that they represent a 'situated' approach to learning through staff development in this area (Lave and Wenger, 1991). Resources are now being developed by academics alongside disability specialists, written for and delivered through academic networks to academic staff. In this approach, staff concerned with working with disabled students in the learning situation are responsible for developing and taking part in their own development process and through hands-on practice.

This is a model that is beginning to be adopted by disability offices in their delivery of staff development. For instance, in another HEFCE-funded disability initiative based at Nottingham University (http://www.nottingham.ac.uk/~tazwebl/ssc/staff/randd_asdsds/index.html) and encompassing institutions in the M1/M69 staff development network, disability specialists are working alongside academic departments to form a plan to develop initiatives within the departments. Staff developers from the disability field are recognising that it is not enough simply to enter the department and deliver a workshop, an approach that stems from a deficit model of staff development (Candy, 1996). Academic staff need to feel that it is part of their role to support disabled students and that they are actively engaged in creating the practices, research and literature around this support.

Can Online Delivery Help?

Much has been written about the power of the web and of online learning to facilitate learner-centred or constructivist approaches to delivery. The remit for the DEMOS Project is to explore the usefulness of this approach and whether or not it can be utilised by disability offices and departments to disseminate information about disabled students. Many people are producing information online in the form of web pages that are simply electronic versions of text documents. Very few are being converted for the web or indeed written for the web as a learning experience. Also, little use has been made of online learning to deliver staff development in HE except in the field of training staff to deliver online learning itself. We hope to tap into the swell of concern about disabled students and at the same time provide a unique approach that will hopefully capture the interest of academic staff. An unanticipated benefit of the project is that staff who take part get an online learning experience. Even though many are engaged in developing courses of their own, few get such an opportunity.

DEMOS's early experiences demonstrated the difficulties that disability offices have previously faced in engaging academic staff. The first module was written using a collaborative learning environment and attempted to engage academic staff in a discussion of the issues around implementation of the QAA's Code of Practice on students with disabilities (QAA, 1999) but it proved very difficult to deliver this module in an effective way. However, as discussed above, we feel that this is mainly due to the context in which the materials were presented.

DEMOS are currently developing a series of modules with the concerns of academic staff in mind. So far, the modules are generic in nature, and the project has developed two that are available for piloting – on dyslexia

and university admission of disabled students. DEMOS is also releasing a module on assessment issues (in late February) and in the summer will make available another generic module on teaching and learning issues. These learning modules are enriched with a number of further resources - web links, further reading, a database of student experiences from interviews with students and case studies where possible. As the information on the site grows, the learner will be able to explore these resources and hopefully find the answers they are looking for. The content is being underpinned by a social model of disability (one that looks at the social construction of disability rather than an individualistic medical model) and also by an appreciation of the impact of the Special Education Needs and Disability Act (2001). We have also tried to interweave some interactivity into the materials with learning activities and hypertext links to external resources. An analysis of need is an ongoing feature of the project and modules have been written for academic staff with academic staff acting as members of each module writing team. The materials are also being independently checked for quality by an external representative who is a respected academic in the field.

The challenge for the rest of the project's lifetime and indeed for those interested in utilising the materials developed is how to embed the tool within a delivery method that has meaning for the academic staff it is intended to reach.

Information about the DEMOS project is available at our website: (<http://www.demos.ac.uk>).

Finally, DEMOS is looking for groups of staff to try out the materials. If you are interested or would like to know more, please contact the author below.

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The Teachability Project: Creating an Accessible Curriculum for Students with Disabilities

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Abstract

The Scottish Higher Education Funding Council (SHEFC) Teachability Project is about making the higher education curriculum accessible to disabled students, an aspiration which will soon become a legal duty on HE providers. The experience of St Andrews' School of Geography and Geoscience shows that it is possible to make disciplines with strong fieldwork components accessible to students with mobility and visual impairments — it also shows that implementation of 'Teachability' can benefit all students, not just those who are disabled. This article will be of interest to other disciplines, such as Environmental Science, which also have fieldwork components.

Introduction

The School of Geography and Geosciences at the University of St Andrews is one of 62 academic departments to have used the resource materials developed in the Teachability Project to do two things: to self-audit and evaluate current curricular provision for disabled students; and to identify a strategy for enhancing that provision. This article briefly describes some key features of the project, which was piloted by the Geoscience staff within the wider Geography and Geoscience school at St Andrews. Some further information about the Teachability project is also included in the article by Adams in this special edition of PLANET.

Background to the Project

The SHEFC-funded Teachability project commenced in January 1999. A partnership of five West of Scotland HEIs, involving disabled students, a range of academic departments, Teaching and Learning units and Disability Advisers developed a resource booklet and — at least as important — a recommended process for its use. The resource booklet is intended to be used by academic departments, supported, where this is helpful, by those in the institution with specialist knowledge of the ways in which the design and delivery of curricula can impact on the learning experience of disabled students. Through a process of self-audit, academic departments are asked to reflect on the ways in which their current curricular design and delivery are accessible – or not – to current and future disabled students.

Departmental Self-Auditing

The academic self-audit rests on an understanding of key ideas, such as 'inclusive teaching practice', 'core course requirements' and a sense of what it is that aids or inhibits access to the curriculum for disabled students. However, the concerns of Teachability extend beyond notions of inclusive practice. While it may be the case that the needs of many disabled students are met by good, inclusive teaching practices, it is also true that the participation of some disabled students on some courses will require consideration of needs which are specific to the individual. The goal of Teachability, which matches with the 'anticipatory duties' articulated in the Special Educational Needs and Disability Act, 2001, is that curricular provision should be as ready as possible for diverse learners and that the notion of "diverse learners" should be informed by knowledge of the generality of disabled students' needs. When that is achieved, *ad hoc* reaction to individual disabled students becomes less necessary. At the same time, where barriers to access continue to exist for some disabled people, creative "one-off" solutions can often be found by academic staff. Experience at St Andrews suggests that such solutions can develop into a more universal practice which enhances access to the curriculum for all students.



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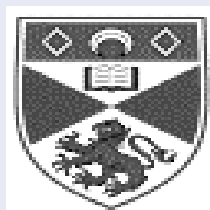
The work of the Geography and Geoscience School at St Andrews exemplifies the 'Teachability' process of departmental self-audit at its most productive. A day's introduction of the project to Geoscience, Modern Languages and Divinity staff at St Andrews, sought to explore the central themes of inclusive practice, alternative adaptations, and, most importantly, the notion of 'core course requirements'. The departments' critical self-audits were then co-ordinated by those who had been present at the introductory day.

The starting point of the accessible curriculum enquiry should be clarity about what is at the heart of the course, about what in the content and delivery of the course is negotiable and what is non-negotiable. Only then is it possible to move on to thinking about alternative ways of meeting core course requirements. Moreover, it seems vital to consider the possibility and consequences of limits to the participation of some students on some courses, while nevertheless looking for ways of pushing these limits. These considerations will be crucial for departments grappling with the duties imposed by the Special Educational Needs and Disability Act, 2001, to make 'reasonable adjustments' and not to discriminate through 'unjustifiable exclusions'.

The following extracts are taken from the Teachability report written by Ed Stephens (Head of the School of Geography and Geosciences at St Andrews). They are drawn from a much lengthier report, and have been selected to demonstrate two things: (i) the exemplary use by St Andrews Geoscience staff of the Teachability self-audit and, related to that, (ii) the innovative ways identified by the department of enhancing access to the curriculum for present and future disabled students.

School of Geography & Geosciences University of St Andrews

Teachability Project Creating an Accessible Curriculum in Geoscience for Students with Disabilities at the University of St Andrews



Introduction

This report is an analysis of the curriculum in Geology and Geoscience at St Andrews University from the standpoint of accessibility to students with disabilities. Training in geological sciences involves major field and laboratory courses as well as more traditional lecture and formal examinations. The report aims primarily to identify those aspects of current provision that appear to inhibit access to the course for various forms of disability, and it concludes with proposals for improvements.

Hitherto, *ad hoc* solutions have been devised and implemented (generally successfully) for students with disabilities but it is proposed that a more formal procedure be adopted. Full participation in the curriculum of students with impairments is the goal of the new course and steps to achieve this are outlined. Considerations of disabilities issues will be included in future curriculum development. Significant problems still remain to be resolved and some of these are identified.

Data for this report were gathered from several sources during the academic session 2000/2001. Each member of teaching staff was surveyed for the arrangements they make for disabled students, and the data were compiled for a meeting of the Geoscience Teaching Council which considered the issues.

Core Requirements for the Geoscience Course

Geoscience is rooted in traditional Geology but differs by its emphasis on the Earth's surface and its interaction with humankind.

The new curriculum at St Andrews is wholly consistent with the QAA Benchmark for Earth Science, Environmental Science and Earth studies (ES³) and its stress on field training amongst a range of practical skills.

Accessing the Geoscience curriculum for students with a range of impairments

1) The General Case

In line with University policy on equal rights and opportunities no prospective student has been denied access to the Geology or Geoscience courses. Students with various mobility impairments, sight impairment and post-viral conditions have successfully completed modules.

2) Specific cases

a) Mobility Impairment

Field courses present the biggest challenge to the Geoscience curriculum. Many important field localities used throughout the course are difficult to access. Alternative sites which are more accessible are sometimes available. We have carefully considered the contents of each field excursion and course and have students at Honours level undertaking alternative approaches to the same learning outcomes. Some teaching staff were initially reluctant to accept the equivalence of training, but have been convinced that this can be achieved. Examples of alternatives to site visits include:

- virtual field excursions
- video records of field excursions
- photographic displays
- use of samples collected *in situ*
- core logging

The School has a policy to train a technician in creating virtual field excursions. This has now started and the appropriate software (Macromedia Authorware, TRIADS implementation) and digital cameras have been purchased. Over the next few years the technician will attend all field courses and generate support material for students unable to access the outcrops. All students will benefit from this approach as it is not possible always to get the best from a field excursion, in adverse weather conditions such as horizontal sleet in the Highlands. This is a good example of how the whole class can benefit from an action originally designed to assist disabled students.

b) Visual impairment

Accessing the curriculum is presently being addressed by working closely with a willing visually impaired student and the University's Disabilities Adviser. All course handouts are provided in advance in enlarged format and all staff have indicated their willingness for a tape recorder and small telescope to be used in lectures. In laboratory classes microscope work provides the greatest challenge and this has been successfully met by attaching a small video camera to a standard polarised light petrological microscope, with the image signal being fed into a personal monitor. With this aid, the student can examine all the class material. Hand specimens are examined with the aid of hand lenses and other appropriate magnification tools. The classes are supported by demonstrators who can spend time with any student requiring extra assistance.

Field excursions are an additional challenge. The intention has been to use a companion to act as "buddy" in the field to describe the features and ensure safety.

We have not yet fully addressed the issues of how a student with no visual capability may access the curriculum.

Improving Accessibility to the Curriculum

1) Curriculum-based approaches

At the heart of curriculum development is the learning outcome, and generally the best or most efficient route to that outcome is chosen. Recent efforts to cater for various disabilities have shown that alternative routes to the same learning outcome are possible, often without much extra demand on resources. Future curriculum developments should aim to identify various means of achieving the same learning outcome, some of which should cater for various impairments.

The main learning outcome of most field courses is the ability to make appropriate and accurate observations leading to an interpretation of some aspect(s) of the geology. While physical impairments may hinder the collection of raw data in the field (but other opportunities to acquire such data may be possible), the intellectual challenge of interpretation is common to all students regardless of impairment. Thus field courses should examine alternatives to the traditional means of acquiring the necessary data. Lab classes have analogous issues relating to primary observations, for instance visually impaired students using the microscope. Similar strategies may be adopted.

In parallel with the skills training and intellectual training aspects, care must be taken to make sure that assessments are similarly designed to cater for impairments. A fair system will allow all students to acquire the necessary information in a manner appropriate to the individual situation, but it must be clear that the level of challenge is the same. For example, if a visually impaired student is given much longer to acquire data in a lab test, it is important that the class as a whole appreciates the reason. The "level playing-field" must be related to the challenge involved not some more arbitrary variable such as time. Similarly, a physically disabled student might be asked to log a rock section in a series of road cuttings whereas the remainder of the class may be asked to log some crags or river cuttings. As long as the difficulty in interpreting the geology is comparable, such strategies should be acceptable to all reasonable students.

2) Teaching and Assessment Aids

Major progress has been made in recent years in the area of Computer Aided Learning in Geology. Several CAL modules were created (including one at St Andrews) and they were particularly effective in assisting students to understand principles from atomic scale to global scale processes. These were not designed specifically to assist students with impairments but are nevertheless useful. The new generation of IT applications is facilitating the creation of excellent field simulations. We envisage that in the next few years a wide variety of software will become available both nationally (co-ordinated by the LTSN Subject Centre for Geography, Earth and Environmental Sciences) and locally using TRIADS software and in-house expertise. The web is also a growing source of useful "virtual fieldtrips".

3) Barriers to Change

a) Awareness

This is perhaps the biggest barrier. Participating in the Teachability project has been successful in raising awareness. It has also demonstrated the value of being proactive in seeking solutions and that solutions to seemingly impossible problems are sometimes relatively straightforward. The process has also helped teaching staff in the School to think carefully about learning outcomes and the possibility that these can be achieved in new and different ways. Raised awareness is, however, not in itself

sufficient to ensure total access to the curriculum for a whole range of impairments and real barriers still need to be overcome.

b) Training

Specific training of teaching staff will occasionally be necessary. For instance, it might assist a deaf student if all staff were trained in lecturing styles that accommodate lip reading (describing slides in a dark lecture theatre is unhelpful but this is perhaps not obvious to everyone unless pointed out). Teaching staff and lab demonstrators might gain from a better understanding of how dyslexia and related impairments might influence three-dimensional thinking, a potentially important attribute in understanding rock structures.

4) Communication of Accessibility

Promotional literature is clear about the extensive field component of the Geoscience course. Applicants are encouraged to contact the School to discuss the implications of any disability with regard to fully participating in the course, yet few do so. Course handbooks will therefore be rewritten in more positive and inclusive language.

With the best will in the world, there will be circumstances when accessing the curriculum becomes so difficult because of a particular impairment that it may be considered unwise to encourage the student in this direction. Field training is at the heart of the St Andrews course and so this degree programme might seem an unwise choice, but there would be no formal barrier to participating. Medical advice based on information supplied by the School would help the student make an informed decision.

Conclusion

Adapting the Geology/Geoscience curriculum, with its traditional image of physical challenge, to make it accessible to the whole range of potential students requires careful planning. Nevertheless, the experience gained on this Teachability project suggests that much progress has been made and, with some thought and modest resources, a lot more is achievable. Although many recent changes have been introduced in response to new legislation, it will be to the benefit of the subject and to society at large when barriers to accessing the Geoscience curriculum have been removed, or at least made manageable. This will enable the whole community to be represented among our graduates.

For further information about the experience of applying Teachability in the discipline of Geoscience at St Andrews, please contact Ed Stephens, Head of the School of Geography and Geosciences
wes@st-and.ac.uk

You can view the Teachability resource booklet materials at the web-site, <http://www.teachability.strath.ac.uk/>

Copies (at £5.00) may be purchased by contacting the Project Manager below.

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Of Mountains and Molehills: An Overview of Accessibility and Technology for Learning and Teaching

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Abstract

This paper addresses a number of basic technological accessibility issues faced by physically and mentally impaired or disabled students and their teachers in post-compulsory education. It includes information on current legislation and enabling technologies, as well as good practice recommendations relating to web design and online resource selection. Online references and contact addresses are provided throughout, and at the end.

The Technological Divide

There are many potential barriers to successful integration of ICT (Information and Communication Technology) into learning and teaching. Equipment may be limited, staff or students may show resistance to it, ICT skills may be lacking, and management support may be found wanting. However, even when all these barriers have been lifted, if learners cannot access the electronic media due to learning difficulties or physical impairment or disability, the best-laid plans of teachers and technologists will be thwarted.

Current Legislation

1) England, Wales and Scotland

The Disability Discrimination Act (DDA) was passed in 1995, followed by the European Convention on Human Rights and the Human Rights Act 1998. However, education in the UK was originally exempted from the DDA, due to the belief in some quarters that its enforcement might lead to the lowering of academic standards. As an amendment to the DDA, the Special Educational Needs and Disability Act (SENDA) was given Royal Assent in May 2001. The various parts of this Act, which forms Part IV of the DDA, will take effect from 1 September 2002, 2003 and 2005. A revised Code of Practice was made available from 31 October 2001, including a section relating specifically to post-16 education.¹

The main new duties of the post-16 section of SENDA will be implemented from 1 September 2002 and identify what constitutes unlawful discrimination against the disabled by treating them less favourably than others. Institutions are also required to provide reasonable adjustments to provision where disabled students or other disabled people might otherwise be substantially disadvantaged.

The Disability Rights Commission (DRC) lists examples of services to which reasonable adjustments must be made if they place students at a substantial disadvantage to others. Those which may relate specifically to ICT and GEES disciplines include:

- practical sessions
- fieldwork and arranging study abroad
- informal/optional study skills sessions
- distance learning
- independent learning opportunities
- learning equipment
- libraries, learning centres and information centres and their resources
- information and communication technology and resources.

Discrimination against overseas students studying in UK institutions and home students while studying abroad is also the responsibility of the UK institution.

2) Northern Ireland

SENDA will not yet apply in Northern Ireland. However, reviews are currently taking place to include Northern Irish Higher Education institutions as well. SKILL (National Bureau for Students with Disabilities) Northern Ireland has announced new legislation that designates Northern Irish Higher Education Institutions as "public authorities" under Section 75 of the Northern Ireland Act 1998.²

Implications of SENDA for ICT in Higher Education

In the light of the SENDA Consultation Code of Practice, McCarthy (2001) suggests the following examples of technology related aspects of provision that may have to be adjusted or implemented:

- allow disabled students more than the usual 'one hour at a time' access to college computers
- allow disabled students to use computers for examinations
- waive the usual charge for access to the college intranet from home computers for disabled students who need it
- make disabled students wait no longer than other users to get their computers fixed by technical support staff
- introduce a policy of checking all new electronic courseware to ensure it is accessible to disabled students.

Institutions will have to make adjustments to auxiliary services from 1 September 2003. This may involve providing training for IT support staff and resources assistants on working with disabled people and their equipment.³

Enabling Technologies

Generic software developers have recognised the importance of inclusive technology and provide many optional features for disabled and impaired people. There is also a considerable selection of dedicated adaptive software products to assist people with specific physical impairments and disabilities, such as voice-recognition packages, which transcribe speech into on-screen text.

1) Office Suite Applications

a) Microsoft:

An Accessibility Wizard is available on Microsoft Office Suite products, through which accessibility options can be configured for vision, hearing and mobility impaired users. It also enables network administrators to configure these options for more than one machine.

<http://www.microsoft.com/enable/default.htm>

b) Macintosh:

Apple Macintosh products include Easy Access system software (StickyKeys, SlowKeys, MouseKeys).

<http://www.apple.com/disability/easyaccess.html>

c) Lotus:

The IBM/Lotus SmartSuite has a ViaVoice programme integrated into the WordPro software. This provides text-to-voice and voice-to-text functions as well as a braille embosser. The SmartSuite Millennium Edition 9.6 allows for further software accessibility.

<http://www.lotus.com/home.nsf/welcome/education>

<http://www.lotus.com/home.nsf/tabs/sswin>

2) Peripherals

a) Keyboard and Mouse

- keyboard shortcuts can be used instead of a mouse
- predictive typing option (e.g. Microsoft's 'AutoComplete' and 'AutoText') can be activated
- a toolbar with frequently used commands/characters can be created
- a wireless mouse (e.g. Microsoft *Intellimouse*) can be used to reduce the dexterity required for scrolling, zooming etc
- a foot-controlled mouse (e.g. Hunter Digital's *NoHands Mouse*)
- a head-controlled mouse (e.g. SEMCO's *QuadJoy*) for quadriplegic users
- wireless, adapted and single-handed keyboards
- orthopaedic mousemats
- adjustable arm and back rests.

b) Screen

- magnifiers can be used to increase visibility of documents and toolbars
- LCD screens (CRT screens flicker and can trigger photosensitive epilepsy)
- screen filters can be used to dim contrast
- text-to-voice software or screen readers
- voice-to-text software.

c) Printers, Scanners, Headphones

- single and double-sided braille embossers and software
- personally amplified headphones
- scanners for enlarging printed material for visually impaired people (preferable to photocopied enlargements).

Special Needs Funding

Higher Education students are generally eligible for a Disabled Students' Allowance (DSA) to fund the purchase of specialist equipment and software, non-medical helpers, travel costs and other costs. This is available through:

- Local Education Authorities (LEAs) in England and Wales
- Student Awards Agency for Scotland (SAAS)
- Education and Library Board (ELB) in Northern Ireland

A needs assessment is usually required prior to the award of funding. See the comprehensive SKILL information sheet on special-needs funding at: <http://www.skill.org.uk/l-sheets/ISheet03.htm>

WebSite

"The power of the Web is in its universality.

Access by everyone regardless of disability is an essential aspect."

Tim Berners-Lee, W3C Director

Good basic website design can help significantly in counteracting the potential discomforts and dangers posed by the layout of online information. However, since the web is, by its very nature, the product of the world, not all websites are compatible with assistive software (e.g. most screen readers cannot access pdf files and frameset sites). This said, public institution websites in particular are becoming increasingly user-friendly as awareness of technological accessibility issues and solutions is growing. National guidelines – particularly in the USA – are also gradually being set down and implemented to advise public bodies and private individuals on desirable design features.⁴

The Good, The Bad and The Ugly

The ever-expanding range of web-design scripts and animations offers a myriad of aesthetic possibilities to the creative website developer. For

example, blinking graphics can be used to alert visitors to new or important information, and auto-scrolling text can provide a subliminal overview of site contents. Such animations are generally used to attract a maximum number of visitors to a site, but can prove forbidding or inaccessible to physically or cognitively impaired or disabled users, and distracting to others. However, user-friendly design should not be equated to raw text, devoid of the multisensory potential of web-based presentation. It simply means that a website developer should be aware of and sensitive to the needs of users with disabilities.

The following recommendations relate to desirable design features of websites. They can be used to inform website design practice as well as choice of web-based resources that lecturers might wish to direct their students to in an independent learning capacity. Good web design follows several basic technical principles:⁵

✓ look at the pictures

Non-text elements such as graphics and image maps cannot be accessed by screen readers. Alternative text equivalents should give a description of the content of the images. Images containing non-essential information or 'eye candy' can be indicated by having a "*" as the alternative text entry.

✓ care for your colours

When colour is used to convey meaning, it can pose problems for colour-blind users. Sharp contrast between background and text can be disorientating and uncomfortable for dyslexic users, whereas insufficient contrast can make differentiation difficult for those with visual impairments. The solution is to make the design flexible, i.e. make it easy to change colours and text size by adjusting browser settings. The Lighthouse International website (<http://www.lighthouse.org/index.html>) is a useful resource on vision impairment. Two useful links on their website are:

- Effective Colour Contrast: Designing for People with Partial Sight and Colour Deficiencies (http://www.lighthouse.org/color_contrast.htm)
- Making Text Legible: Designing for People with Partial Sight (http://www.lighthouse.org/print_leg.htm)

✓ get with the program

Screen readers cannot read inaccurately or incorrectly programmed markup (e.g. HTML, XML). This occurs when markup is not used according to specification. The World Wide Web Consortium (W3C) offers a free online HTML Validation Service that checks HTML documents for conformance to W3C Recommendations and other standards (<http://validator.w3.org/>).

✓ mind your language

Specify the primary natural language of your web site. Use mark up that facilitates pronunciation or interpretation of abbreviated or foreign text. When web designers mark up language changes in a document, speech synthesizers and braille devices can automatically switch to the new language, making the document more accessible to multilingual users.



Further copies of PLANET are available in a variety of different formats - if you would like any further information please contact the Subject Centre: info@gees.ac.uk • (01752) 233530

✓ mind your table manners

Ensure that tables have the necessary markup to be transformed by accessible browsers. Tables should only be used to mark up truly tabular information (e.g. quantitative data). However, rightly or wrongly, many websites use tables to control the layout of a page. If tables have to be used for this purpose then keep them simple and avoid the use of nested tables (i.e. tables within the cells of other tables). In order to check what the contents of a table look like when the table is no longer displayed, it may be necessary to view the web page through a text only browser like lynx.

Tables for any use present problems for screen readers and braille displays and for people who only view a portion of a page at a time.

✓ don't blink!

Ensure that moving, blinking, scrolling, or auto-updating objects or pages (e.g. created with Flash or Java) may be paused or stopped. Some people with cognitive or visual disabilities are unable to read moving text quickly enough or at all. Movement can also cause such a distraction that the rest of the page becomes unreadable for people with cognitive disabilities. Screen readers are unable to read moving text. People with physical disabilities might not be able to move quickly or accurately enough to interact with moving objects.

✓ show the way

Include a site map to facilitate navigation of the site. It is also worth noting that screen reader users will often use a control key that simply skips from one link to the next on a webpage. For this reason provide descriptive links (rather than just 'Click Here' buttons) to support screen readers. These features are of benefit to all users.

✓ use the proper title

Frameset websites cannot be read by some screen readers. Use a NOFRAMES tag option to offer frames-free versions of the site. When using frames, ensure that each one has an individual title, otherwise a screen reader will not be able to identify the content of a page.⁶

It is reasonable to assume that most lecturers will be exploiting pre-existing web-based resources rather than creating their own. The following is a list of design features to check for before recommending a website to students:

Web Site Accessibility Checklist

- Does each page have a different URL (address)?
- How is colour used?
- Are there alternative text equivalents for images?
- How elaborate is the layout?
- How long does it take to download?
- How easy is it to navigate / is navigation consistent?
- Does it contain moving images or text?
- Does it contain tables that transform gracefully?

NB: Tables are not always visible on the user interface. To check for tables, on the menu bar of your web browser, click on Source in the View menu. In the window you will see the source code of the on-screen page. The code for tables is <table>⁷

Viewing Web Pages

Certain web browsers have integrated accessibility options that can be adjusted according to the needs of the individual:

1) Internet Explorer

The accessibility options can be found in the Internet Options menu under Tools. Colour, font and accessibility options are available. The font size can be changed by choosing View then Text Size.

2) Netscape Navigator

Netscape offers a greater choice of font sizes. To change font and font size choose the Edit menu and then Preferences. To use personal default fonts instead of those of a given web page, click 'Use my default fonts, overriding document-specified fonts'.

There are also a number of online resources that can assist in platform/browser compatibility such as **AnyBrowser** and **NetMechanic**. Online references are given below.

Contacts

1) General Information

- **SKILL**
<http://www.skill.org.uk/>
- **SKILL Scotland**
<http://www.skill.org.uk/news-Scot.htm>
- **SKILL Northern Ireland**
<http://www.skill.org.uk/news-NI.htm>
- **Disability Rights Commission**
<http://www.drc-gb.org/drc/default.asp>
- **Equality Commission for Northern Ireland (ECNI)**
<http://www.equalityni.org/>
- **National Information Services and Systems (NISS)**
<http://www.niss.ac.uk/admin/sp-needs.html#p5>
- **SMILE Project (Dyslexia and learning support guidelines)**
<http://www.hull.ac.uk/langinst/smile>
<http://www.hull.ac.uk/langinst/olc/dyslexia.htm>
- **ALLADIN Project (Dyslexia and ICT for learning support)**
http://www.alladin.ac.uk/support/dyslexia_tutors_tips.html

2) Assistive Technology

(UK Outlets)

The **TechDis Accessibility Database** offers a comprehensive searchable directory of national suppliers of adaptive and assistive technology products listed by product type at: <http://niad.disinhe.ac.uk/index.cfm>.

3) Web Design

There are a number of organisations that address accessibility issues concerning the presentation and content of online information. They offer design guidelines and validate web sites.

- **World Wide Web Consortium (W3C) Web Accessibility Initiative (WAI)** A US organisation offering detailed technical guidelines on web design. <http://www.w3c.org/WAI>
- **Center for Applied Special technology (CAST)**
<http://www.cast.org/>
- **CAST Bobby**
A free validating tool to check and improve web site accessibility.
<http://www.cast.org/bobby/>
- **NetMechanic**
Identifies HTML code errors and browser display problems.
<http://www.netmechanic.com/>
- **AnyBrowser**
Checks platform/browser compatibility.
<http://www.anybrowser.com/>

- Technology for Disabilities Information Service (**TechDis**)
Provides free advice on UK legislation and enabling techniques and technologies.
<http://www.techdis.ac.uk/>

For further information on the issues outlined in this article, please contact the author, or the GEES Subject Centre (info@gees.ac.uk).

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Endnotes

- 1 Available at: <http://www.drc-gb.org/drc/documents/Post16CoPdoc>
Information is taken from this Draft Code of Practice.
- 2 Information from SKILL Northern Ireland at <http://www.skill.org.uk/news-NI.htm>
- 3 McCarthy, D. (2001) 'Accessibility and Legislation in Higher Education', *Interactions*, 5 (3). Available at: <http://www.warwick.ac.uk/ETS/interactions/vol5no3/McCarthy.htm>
- 4 Three articles plus links and resources pertinent to web accessibility issues in Higher Education can be found in (2001) *Interactions*, 5 (3) at: <http://www.warwick.ac.uk/ETS/interactions/vol5no3/>
- 5 These basic guidelines are taken from the WAI's checklist at: <http://www.w3.org/TR/WAI-WEBCONTENT/>
Also see Howell, J. (2001) 'Information Underload: Web Design and People with Disabilities', *Interactions*, 5 (3) Available at: <http://www.warwick.ac.uk/ETS/interactions/vol5no3/Howell.htm>
- 6 Certain software manufacturers also offer accessibility templates and customisation features that automatically address the above considerations and other design issues, e.g. *Dreamweaver 508 Accessibility Suite* and *Dreamweaver 3 Check for Accessibility Extension*. Further details about Macromedia Dreamweaver's accessibility products are available at: <http://www.macromedia.com/software/dreamweaver/productinfo/features/>
- 7 See the following GEES-related web sites for examples of good design practice: <http://imina.soest.hawaii.edu/oceanography/ges-6/>
<http://www.els.mq.edu.au/>
<http://www.gees.ac.uk/>
The GEES Subject Centre web site is itself a model of good practice as witnessed to in the Bobby, Lynx and W3C validation logos to be found at the foot of the home page.

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Mobility impaired students could face access and location problems on entering Higher Education

Ann Norman, MSc Student

Abstract

This case study describes a wheelchair-using mature student's personal experiences. It highlights some access problems which still exist in HE institutions with old buildings, limiting mobility-impaired students' use of particular course facilities. The problems surrounding such students' field research are discussed, together with their need for inclusion in field trips. The use of a wheelchair 'urban trail' to experientially raise disability awareness amongst fit undergraduates, is also evaluated. It is hoped that this article might encourage further discussion as to how courses could be made inclusive to disabled students.

The Case Study

'Access' or 'accessibility' is not restricted to adaptations in living space and improvements to limited facilities, but rather refers to participation, as well as mobility through society' (Eiesland, 1994: 28)

Having developed Multiple Sclerosis in 1983 and become a wheelchair-user, it was later deemed best that I should take early retirement from my NHS post as an Occupational Therapist. Needing other less physical challenges, I took up the 'mental aerobics' of learning German, beginning at GCSE level and progressing to an 'A' grade at A level in three years.

Access problems

Higher Education beckoned. I made enquiries through a tutor in German at a highly prestigious old university and was told: " 'Red brick' would be better suited to your needs." The old institution has beautiful medieval buildings with stone staircases rendering access difficult, but many newer universities were former Polytechnics, also built before wheelchair users' needs were on the agenda. Nonetheless, I applied to read German at a post-1992 university and was accepted for September 1995. Although Student Services had been visited months before to make my access needs known, I was depressingly confronted by barriers on my eagerly-awaited first morning: the high step into the Humanities building had not been ramped. I registered my strong protest, but had to return home disconsolate.

During my three years as an undergraduate, access difficulties arose involving lectures on the higher floors, usually due to lift failure caused by too many able-bodied students cramming in and exceeding the weight limits, and a number of lectures had to be missed as a result. Problems were also caused by other students or even lecturers parking in my designated disabled space, necessitating persistence and ingenuity in finding other spaces suitable for a long wheel-base, tail-lift vehicle.

Having graduated with First Class Honours, I looked to move on to a master's degree course. German at the highly prestigious old university continued to pose access problems and I ruled out London because train travel with a wheelchair is a nightmare. As a result I looked for other courses where I might try out my transferable skills. Another post-1992 university offered an MSc in Geography, Health and Environment, and although my Geography studies had previously ended at school very many years ago with GCE 'O' level, I felt drawn to the course. The course content was very interesting, and I hoped my medical training would help with the health element and my life experiences with the environmental aspects.

The course is certainly inspired by and firmly grounded in the School of Geography, and obviously involves the links between Geography, Health

and Environment. However, relating the concept of health to students wishing to study this course, the Department of Geography's location (on the first floor, without a lift), clearly creates a hostile environment for those with health difficulties, such as heart or mobility problems. So currently this discriminates against such students, and would certainly prevent the course being advertised as 'inclusive'. This again is an access problem related to the inheritance of old Polytechnic buildings on a multi-level site, with some existing buildings designed without lifts between floors. Although the problems of having few suitably-sized lecture rooms at ground level have largely been solved, those to the Map Library and other facilities of the Geography Department are still awaiting solution.

Location Problems and Personal Solutions

My undergraduate university presented location problems in trying to rush between lectures in time, with back-to-back time-tabling on geographically separated campuses. A low-flying wheelchair was frequently seen around the town! Even greater potential location problems were raised in Freshers' week, as we were told that, since this was now a four year degree, the third year had to be spent in Germany unless the Committee for the Year Abroad agreed our reasons for being unable to spend such a year overseas, and also approved our suggested alternative. Germany! How would I manage independently to fulfil this challenge? Holidaying abroad with a wheelchair presents sufficient problems even when accompanied. Inspiration led me to contact a wheelchair-friendly old people's home in Hamburg, and I solved the potential problem of having to work abroad, by driving my tail-lift Volkswagen Transporter to Harwich, sailing Harwich-Hamburg, then driving to and working in the Occupational Therapy department at the home, for eight weeks in the first summer vacation and ten weeks in the second. This was an amazing and much-valued experience, and Hamburg has much to teach Britain about wheelchair-friendly access and services. The single-decker service buses are nearly all wheelchair accessible, and I ventured all over the city and to the University at weekends when I was not working. This was a total revelation and freedom with a capital 'F'! It was impossible in my home county to use buses at all with a wheelchair, and the journey between my home and the university, ten miles by bus, was only possible with the purchase of my own transport.

Although it could appear from the Hamburg example that I am no longer disabled once access is available, I still have more limitations than able-bodied people. I tire easily, have considerable osteoporosis pain on walking a very few steps and am unable to reach items outside my midrange. Two thirds of library and supermarket shelves are inaccessible. Laboratories and map libraries are more hostile environments for wheelchair-users than for able-bodied students.

Research fieldwork poses numerous challenges. I chose as my dissertation topic: *Investigating the Needs of Disabled/Vulnerable people in Flood Warning and Response*. This arose out of my interest in Hazard Geography, my professional and personal experience of disability, and, as little has been written on this subject, the wish to help people with varying disabilities (disabled people) 'find a voice'. Solving location difficulties of researching in various counties and of finding wheelchair-accessible accommodation relatively close to the research site, was challenging. Interviewing some disabled people in their homes – when two wheelchairs into one home or flat won't go - required considerable determination, persistence, ingenuity, an elbow crutch, a walking stick seat and a very helpful husband! Interviewing disabled people, sometimes in temporary and sparsely-furnished accommodation, can present practical problems relating to improvisation or rearrangement of seating for the disabled interviewer or safe siting of the microphone. A disabled driver experiences difficulties in disembarking to ask directions when lost in a strange town, or in securing parking places sufficiently near to give access to a disabled interviewee. Nonetheless, the field work is finished, the MS fatiguability (exacerbated by the June heat wave during fieldwork), has thankfully receded, and the less physically demanding interview tape transcription and subsequent data analysis should provide continuing challenges for many months to come.

Toward eliminating discrimination

The Disability Rights Commission (DRC) Draft Code of Practice (Post 16) 'deals with the duties placed on providers of post-16 education and other related services in Great Britain by the Disability Discrimination Act (DDA) 1995, as amended by the Special Educational Needs and Disability Act 2001. The DDA makes it unlawful for bodies responsible for such provision to discriminate against disabled students and other disabled people.' (Foreword, p.2)

The DRC Draft Code of Practice gives practical guidance on avoiding discrimination against disabled people and students wanting to access education or other related provision. It encourages those working with disabled people in education... 'to go beyond mere compliance with the law and work towards eliminating discrimination in these services altogether'. (p.7, 1.5)

Fieldwork

Access to fieldwork can cause very real difficulties for students with mobility impairments. The Geography Discipline Network (GDN) set of six Web-based guides on 'Supporting disabled students undertaking fieldwork', is an extremely useful reference, with separate guides for students with mobility, visual and hearing impairments, mental health difficulties, hidden disabilities and dyslexia. The GDN guide by Gardiner and Anwar, (2001): "Providing learning support for students with mobility impairments undertaking fieldwork and related activities" states that such support is 'driven by legislative, financial and moral imperatives.' Legislative measures e.g. DDA legislation (as above) are highlighted, together with the Quality Assurance Agency (QAA) (2000) Precept 11 recommendations that disabled students should be included in fieldwork... 'wherever possible.' Financially, mainstream funding 'disability premiums' support provision for disabled students. Guidelines are presented on providing learning support in fieldwork. These stress the importance of discussion with mobility-impaired students to ascertain their needs, and also detailed planning, with the facilitation of activity or substitution of an alternative and additional time provision where necessary.

Many universities have a compulsory residential overseas field trip (e.g. Perkins et al, 2001). One wonders how mobility impaired students could be catered for in such trips and whether the accommodation offers limited disabled access. This could become an increasingly frequent question for tutors: 'Your student group next year comprises twenty able-bodied students and four with varying disabilities. Could your course and previously-used field work venue be changed, or made accessible and adapted to their varying needs?' At Stanford University, USA, it was found that all students received a better learning experience when accessible, introductory geology fieldtrips were created (Cooke et al, 1997).

Heightening able-bodied students' disability awareness

Having been asked to contribute to the 'disability' session on the university's undergraduate module *Place, Gender and Social Groups* (1998 and 1999) during my postgraduate degree, I wished to highlight the exclusion and marginalisation of disabled people, and to give an important perspective on the Geographies of Ability and Disability. My input was planned in two sessions: the first being a presentation giving definitions and background information, and the second being experiential learning in following an 'Urban Trail'. For this, students were divided into two groups, each with one of my wheelchairs. Tasks were set such as getting a bank balance from an unreachable cash dispenser, enquiring prices of items in two shops with steps, checking the bus times in an inaccessible bus office, comparing access into shops with automatic and heavy push doors, and making a phone call from a call box with a heavy door and high handset. Students took turns in pushing each other and attempting the difficult tasks, and others were 'Planners,' deciding what changes could minimise the difficulties. Although it is rightly held that such short-term simulated experience in a wheelchair fails to present all physical and social barriers (Gardiner and Anwar, 2001), all students returned to College sharing

their amazement at how conspicuous, vulnerable or helpless they had felt, and how their awareness of the problems facing wheelchair users in the hostile built environment had been raised.

Researching background for the presentation to the students, I discovered that in feudal times, disabled people were included in, not separated from society, and thus enabled to make their contribution (Oliver, 1996). However, all this changed with the advent of industrial capitalism. Davis (1995: 24) agrees, stressing that industrialisation ushered in the social process of disabling, and Gleeson, (1999) also highlights industrial capitalism's responsibility for destroying the markets which had previously included disabled people's contributions. Gleeson (1999: 31) maintains that, since disability is a 'socio-historical construct, an oppressive structure that was built at some point over the lives of impaired people... it can therefore be torn down and replaced by inclusive social relations.'

Conclusion

There have been oppressive power structures and institutional patriarchy in government politics and policy, together with the various services offered by local authorities and social services, health and education authorities. These have militated against disabled people's full participation in society, and change has been slow through lack of resources and vision for change. Consultation with disabled people about their integration needs has formerly been conspicuous by its absence, but this is currently being rectified, (for example by inaugurating Disability User Groups). Hopefully, when measures for change are put into effect over the next few years, disabled students' full integration in HE will gradually come to pass. However, we need to continue within our seats of learning to seek new and creative ways of making many more courses accessible - in every sense of the word - to students with various disabilities. Studies in Geography, Earth and Environmental Science pose a number of challenges in this respect, but forward thinking and imaginative planning, combined with increased resources, could hopefully overcome many seemingly insurmountable difficulties.

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Dyslexia: Implications for Learning, Teaching and Support

Judith Waterfield, University of Plymouth

Abstract

Dyslexia is a syndrome with a range of characteristics that vary in form and severity. This article outlines some of the implications for learning, teaching and support for academics and technical staff to consider. It also provides some handy hints for staff to adopt in their teaching. Finally, the paper finishes with a list of indicators that may alert staff to the possibility of dyslexia among students.

Background to the disability

Dyslexia is a syndrome with a range of characteristics that vary in form and severity. It is often referred to as a specific learning difficulty because the individual also has strengths and areas of ability, which, when properly channelled, may make for success. Their specific difficulty may affect aspects of reading and/or writing but the adult may experience information processing and short-term recall difficulties, particularly in relation to language-related activities. Difficulties with sequencing, co-ordination, motor skills and visual processing of large amounts of text may also exist.

Further factors such as the structuring of oral information, organisational and numeracy difficulties, attention span and high levels of anxiety may also have a bearing on the study and career path of the student or graduate.

Adults with dyslexia may have abilities which allow them to excel in arts, engineering and science subjects. By operating in a right-brained mode, they show aptitude for making connections and visualising global ideas. They rely on long-term memory, requiring practice and concrete examples for understanding. In an appropriate study and work environment, their abilities may be advantageous. Their strengths can include:

- verbal acuity (key attributes for broadcasters, politicians, lecturers);
- excellent spatial awareness with the ability for three dimensional realisation (key attributes for sculptors, engineers, surgeons, geographers and geologists);
- flexible problem-solving (key attributes for people such as careers advisors, lawyers, mechanical engineers);
- artistic, imaginative or musical ability (key attributes for artists, architects, graphic designers).

The impact of the disability can be affected by whether the dyslexia has been recently acquired (i.e. through head injury) or recently diagnosed. The individual's received experience of dyslexia within the family or school also has a bearing on how the dyslexia is managed.

The identified number of students with dyslexia undertaking H.E. study has been steadily rising in recent years. In 1993 the UCAS Research and Statistics office showed a known total of 2003 students with dyslexia. By the following year the total had risen by 11%. Currently, the total is around 6,000 students representing the largest single disability category in H.E. The likely causes of this increase are greater recognition of dyslexia as a disability, earlier identification in the schools systems, increased support and a growing acceptance that students with dyslexia have a justified right to H.E. study. At a personal level, however, the experience of this student group may not be one of inclusive and uniform good practice.

Implications for study support

Whilst many adults with dyslexia have acquired coping strategies to utilise their strengths and compensate for their weaknesses, the mode and demands of H.E. study with its examinations and concept of independent learning can make the student vulnerable.

It is important for a prospective student to discover what support mechanisms and procedures are in place in the university or college they are considering. These students can be successful in H.E. if appropriate arrangements are made for curriculum inclusivity (e.g. supported by professional assessments for assistive technology, study strategies and alternative course assessments). Some students might like to consider whether a modular course, involving continuous assessment, might best suit their needs. The demands of the course, mode of assessment and activities such as field-work need to be addressed.

Any pre-entry guidance interview needs to encourage the student to check what support mechanisms are available, as institutions vary in the levels of core funding and support available. All disabled students in the UK on full-time, part-time (50%) and post-graduate courses can now obtain the Disabled Student Allowance. A combination of institutional and DSA funding may be used to provide finances for the following kinds of support:

- **notetaking support:** notes can be written by another person, and handouts given at the beginning of the lecture to facilitate annotation and keywording. Photocopying finance can allow for others' notes to be copied along with overheads and any other notes that may need enlarged text if too small a font has been used and reading is difficult. Scanning and using text-to-speech software can mean that handouts become more accessible. Audiotapes may be typed out and staff development training can result in a more realistic approach being taken to how a dyslexic student copes in a note-taking situation;
- **library support:** assistance is sometimes available to help with finding books, coping with catalogues if alphabet sequencing makes using these types of facilities difficult to access. Help can also be provided with following the layout of the library and managing the indexing system;
- **assignment writing:** sometimes specialist study skill classes are available. These may include specific help with organisational skills, time management, essay planning, grammar, sentence construction, spelling and proof reading skills;
- **assistive technology:** a specialist assessment for technological aids and their use in an educational setting can help those with dyslexia cope with their studies. Low and high technology support might include:
 - a computer, printer and scanner with specialist software for word processing
 - CD-ROM dictionaries
 - short cuts and macros to help with word prediction and text correction, keyboarding skill programs, essay planning tools etc.
 - speech recognition with voice replay
 - hand-held electronic dictionaries
 - scanners and spell checkers with dictionaries
 - coloured acetates or specialist glasses to ease the problem of reading dense text
 - ergonomic aids such as copy holders, task lighting, anti-glare screens
- **examinations:** extra time, breaks, use of a separate room to allow for word processing may be provided, as can counselling. Counselling can help with anxiety problems and specialist tutors can advise on exam technique.
- **Awareness training:** this is essential for both staff and students within higher education institutions.

Disclosing dyslexia

Disclosure is a key issue that may need exploring at interview. There are many misconceptions about dyslexia amongst the general public and the disclosure of dyslexia may meet with a range of reactions from understanding and support, to deeply held prejudice and suspicion.

It is understood that some students feel they may not gain entry to H.E. if they admit that they have spelling, reading or writing difficulties. They are often fearful of mentioning the fact that they may have difficulties with some aspects of the study or work envisaged. It is necessary to engender a higher education culture which accepts diversity especially in the light of the Special Educational Needs and Disability Act 2001.

Implications for teaching, learning and assessment

West (1991) acknowledges that adults with dyslexia often display a "paradoxical co-existence of special abilities and disabilities in the same individual... Too often the gift is not recognised but is regarded only as a problem". Modes of learning, teaching and assessment need to take cognisance of both aspects of the dyslexia profile in order that students achieve their full potential and that the special talents some dyslexic adults display and the contributions they can make are not lost to the graduate workplace and society.

At this level of study and life stage, language processing, and skills of reading, writing and spelling may be compensated for through acquired personal strategies, self-knowledge of learning styles, determination and motivation. However, stress, lack of familiarity, time constraints and the demands of operating at optimum learning capacity may have a negative effect on performance. All students are affected by these stresses to some extent but for the student with dyslexia they exacerbate an already confused operating style. Students with dyslexia may also experience working memory deficits related to the acquisition of new symbolic information, rote learning, sequential information and an inaccurate response to written or verbal information. Organisational difficulties and poor time management may have implications for structuring conceptually understood work and the acquisition of revision and assessment of subject learning. These students often report a worsening of their literary, organisational and memory skills on entry to H.E. or as they move into the second or third year of study. A change in course assessment methods, an overload of new ideas and information, written demands and volume of reading can be the cause of this seeming loss of skills and it may be necessary to review the level and type of DSA support.

For the student with dyslexia the acquisition of a good degree is often the result of excessive hours of work to overcome the lexical and non-lexical barriers to study. Currently, there are still anomalies, unknowns and inconsistencies in the context of dyslexia in higher education. A lack of longitudinal research into the nature of adult dyslexia and its appropriate support at this level of study, plus the crisis of growing numbers, challenges the resources, skills and beliefs of university management, academic and support departments. In order for such students to meet their potential, it is vital for senior managers, course planners and tutors, who teach and assess their achievement of the course learning outcomes, to recognise the paradoxical pattern of possible strengths and basic lexical and memory processing disabilities. People with dyslexia are not a homogenous group and each person may display a varied cluster of difficulties and experience good and bad days of efficiency. They are all individuals and the recency of their diagnosis, their particular strengths, course choice and coping strategies will have an impact. To address this, multi-sensory learning, supported by technology and inclusive teaching practices needs to be student centred and the assessment process varied to accommodate differing learning styles and strengths and to ameliorate some of the barriers to effective and efficient study. This will not only provide greater access to higher order learning for the students with dyslexia but improve access to learning for the unidentified cohort of students who lie between those identified for the purposes of support and those traditionally valued linear, lexical and left-brained thinkers.

Guidance and Handy Hints for Tutors

The following suggestions constitute a model of good practice and may prevent obstruction to learning for a range of students. Students with dyslexia often find difficulty with performing more than one cognitive

task at a time. This has implications for standard teaching practices which demand that students: listen and write; read from OHTs and articles and write; listen and read from OHTs /powerpoint presentations; and search for and select relevant material from computer screens.

To support accurate note taking:

- Prepare OHTs in type written form with reasonably large print. (Colour print or background is preferable to black on white which may cause distortions and increase the opportunity for errors in students with visual perceptive disorders)
- Limit the amount of information – present it in vertical rather than linear format
- Use a variety of diagrams and mind maps, to present material more graphically
- Distribute summarised notes at the end of a session for those students who experience difficulties with dictation or writing at speed
- Use coloured pens on whiteboards
- Put photocopied notes on coloured or recycled paper to reduce glare and distortions – blue or soft yellow suit most people
- Make photocopies readable and of good quality
- Lecturers need to stand still so that tape recordings are audible
- Allow students to sit where they are not distracted – away from windows, at the back, or at the front, if they are recording
- If possible, prepare lecture notes or synopses ahead of the lecture for the student with dyslexia, check unknown words, highlight key points to aid absorption during the lecture
- Give a framework to the lecture/activity before starting, introducing the global whole of the subject before breaking down into detail
- Divide the teaching into different styles so that the student is only focusing in one mode for a short period
- Try to keep the same room and times: students with dyslexia may not read changes correctly on a notice board
- Give aide memoirs as the lecture progresses to assist students to see what is crucial
- Allow processing time – invite questions to ensure comprehension
- Be explicit, linking detail and examples back to the overall concept
- Keep the carrier language simple so that processing is not wasted on unnecessary decoding
- Do not presume competency in one area equals competency in others
- Introduce and define new words and their meaning so that students can build a glossary of significant terms
- Use audio visual technology to utilise the student's visual-mode strength and reliance on multi-sensory channels
- Don't ask the student to read aloud unless you are sure it is a manageable task
- Reinforce spoken instructions with written information (e.g. dates for handing in assignments, the requirements of an assessed piece of work).

When setting assignments:

- Try to allow spacing of assignments so that overload doesn't exacerbate the student's difficulty with memory processing
- Be clear about what is expected and the format in which it has to be presented
- Highlight "essential" reading and "desirable" reading to assist in selection
- If students appear to understand concepts or contribute in a meaningful way in group work/presentations, don't presume that they have not applied themselves to an assignment if the spelling, syntax and ordering of ideas is a cause for concern

- Allow for organisation, time and memory difficulties – keep instructions direct and simple about length of work, hand in times and places. Reinforce verbal instructions with written instructions

How might you identify a non-diagnosed dyslexic student?

Teaching staff who are aware may be able to identify the non-diagnosed dyslexic student. Indications below may alert staff to the possibility of dyslexia:

- discrepancies between class/laboratory/group participation and discussion, and written work
- unusually large discrepancies between course marks and exam marks
- using tinted lenses to read
- consistently late handing in of work
- illegible writing
- students who listen but never take notes
- students who are late, disorganised, often in the wrong room, and who misread notice boards

Some students are angry at the suggestion that they might be dyslexic but most follow it up and confirmation of fears is almost always valuable and a relief. It is important for academic staff to know the procedure for referral to the support service and for examination provision. If tutors can applaud the benefits some students may bring – global ideas, creative intuitive thinking, the ability to grasp advanced concepts – then the linguistic and memory deficits can be put into perspective.

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Note

Some of this article has been drawn from extracts of the European Funded H.E. project guidance document: 'TEAM: Trans-European Access and Mobility for People with Disabilities – A Guidance Resource for H.E. Study and Employment'. Edited and Written by Waterfield, J. and West R. (2000), (further details available from the author).

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Disabled Students and Fieldwork: Towards Inclusivity?

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Abstract

Awareness of the need to develop inclusive practices which give equal opportunities to disabled students in HEIs has been stimulated by the Quality Assurance Agency's (2000) Code of Practice on Students with Disabilities and also by the Special Education Needs and Disability Act (2001). This paper reviews some of the ways in which the barriers to their inclusion in fieldwork may be dismantled. Many of the modifications are of benefit to all students undertaking fieldwork.

Introduction

'Institutions should ensure that, wherever possible, disabled students have access to academic and vocational placements including field trips and study abroad'

(QAA, 2000, Precept 11)

'Inclusive field trip design will envisage a variety of potential participants, and accommodate as many varied needs as possible without compromising the educational objectives'

(University of Strathclyde, 2000, p.2)

Awareness of the need to develop inclusive practices, which provide equal opportunities for disabled students in various parts of their courses, is beginning to spread through Higher Education Institutions in the UK. This has been stimulated by the publication of the Quality Assurance Agency (QAA) (2000) *Code of Practice - Students with Disabilities* and the extension of the Disability Discrimination Act (1995) to education through the Special Education Needs and Disability Act (2001).

The Geography Discipline Network (GDN) has recently undertaken a project, funded by HEFCE, involving geographers, earth and environmental scientists and disability advisors to help raise awareness of inclusivity issues. The aim has been to identify and promote the principles and good practice of how to provide learning support for disabled students undertaking fieldwork and related activities. The advantage of focusing on fieldwork is that many of the issues faced by disabled students in HE are magnified in this form of teaching and learning. If the barriers to full participation by everyone in fieldwork can be reduced or overcome, it is likely that our awareness of the obstacles to their full participation in other learning activities will be heightened and the difficulties of overcoming the barriers will be lessened.

The net outcome of the quality assurance and legislative changes is that HEIs will need to treat disability issues in a more structured and transparent way. In particular, we may expect to see a relative shift of emphasis from issues of recruitment and physical access to issues of parity of the learning experience that disabled students receive. The implication of this shift is that disability issues 'cannot remain closed within a student services arena but must become part of the mainstream learning and teaching debate' (Adams and Brown, 2000, p.8). But there is an opportunity here as well as a challenge. As we become more sensitive to the diversity of student needs, we can adjust how we teach and facilitate learning in ways which will benefit all our students.

What is PLANET?

PLANET is the bi-annual publication of the LTSN Subject Centre for Geography, Earth and Environmental Sciences. Its aims are to:

- Identify and disseminate good practice in learning and teaching across the three disciplines of Geography, Earth and Environmental Sciences and present examples and case studies in a "magazine" format.
- Provide a forum for the discussion of ideas about learning and teaching in the three discipline communities.
- Provide information for readers on Subject Centre activities and on related resources, conferences and educational developments.

Fieldwork and disability

The images of fieldwork presented in undergraduate prospectuses often emphasise masculine, youthful, able-bodied people conquering difficult terrain (Hall, *et al.*, 2001). Such images can deter those who do not share the displayed characteristics, and although Virtual Field Courses may provide new learning experiences for some disabled students, this sidesteps the main issue of access by disabled students to the full curriculum, including fieldwork.

The Disability and Discrimination Act (1995) defines a person's disability as 'a physical or mental impairment which has a substantial and long-term adverse effect on his or her ability to carry out normal day-to-day activities'. More than 4% of undergraduates in the UK (22,500) self-assessed themselves as having a disability in 1998/9; given that there is no obligation to divulge, the actual number may be closer to 10%. Less than 5% of those reporting were wheelchair users or had mobility difficulties, disabilities often regarded as providing the greatest challenges to would-be field class organisers. The most common category was unseen disabilities such as epilepsy, diabetes or asthma (39%), followed by dyslexia (26%). Remembering that there are many different types of disability is important in planning for inclusion because detailed needs differ for different groups and individuals, and a personal approach within an overarching strategy is required. It is easy to make erroneous assumptions about what students with particular impairments can or cannot do, when usually the best thing to do is simply to ask them.

The reaction of many staff, when faced with the realisation of the wide variety of disabilities that students in their classes or on fieldwork may have, is one of lack of confidence. Mention of specific medical conditions may leave staff feeling concerned that they will be expected to develop medical expertise in order to support disabled students. This is where an understanding of different concepts or models of disability becomes important (Oliver, 1990). **Medical models** of disability tend to individualise the problems experienced by disabled people, and assume that they are subjects for treatment and cure. By comparison **social models** shift the focus from what is 'wrong' with an individual, to 'society's failure to accept disabled people for who they are and to provide adequate facilities for them' (Kitchen, 2000, p.7). The emphasis thus moves from pity or sympathy, on to generic barriers to participation in mainstream activities which need to be identified and overcome through strategic planning.

Dismantling the barriers to inclusion

Steps, ramps and remote locations have traditionally been the focus of much consideration, but this represents an overly simplistic response to disabled students' needs. In reality, there is a range of potential barriers to inclusion, certainly including physical barriers (such as print size, audibility, as well as building and site access) but embracing other types too. Barriers of personal attitudes (of staff, other students, the general public) and barriers of institutional and organisational systems (particular course requirements, time constraints, regulations), may well be more significant for individual students in the longer term. Moreover the barriers faced may be complex. For example, mature students with mobility problems may feel that their presence on an excursion to an upland location may damage the experience of younger, able-bodied people for whom the visit was initially conceived, even if appropriate transport was arranged. A student with severe dyslexia, faced with completing Health and Safety forms at short notice, may not be able to comply with the paperwork involved in visiting a particular site, and may either exclude herself or expose the group to unnecessary risk. Lecturers, aware of someone with mental health difficulties or an addiction, may approach the university management assuming that the student's behaviour on a residential class might compromise the achievements of other students, without having discussed this with him. A mix of attitudinal, organisational and physical barriers to participation is the norm, rather than the exception. And it is at this level that Departments need initially to plan, so that these situations do not arise.

The Special Education Needs and Disability Act (SENDA) establishes that 'an educational provider would discriminate against a disabled student if he failed to make reasonable adjustment to any arrangements, including physical features of premises, for services that place the disabled student at a substantial disadvantage in comparison to persons who are not disabled' (DfEE, 2000). The key phrase 'reasonable adjustment' has yet to be tested in law, but the DfEE provide clear guidance that academic and other standards should not be compromised by the adjustments. They also suggest that 'reasonableness' is a function of practicality, cost, effectiveness, disruption, the significance of the element of the course or service being accessed and the needs of other students. However, field course providers should be aware that the social aspects of fieldwork, including domestic arrangements such as sleeping, eating, washing and recreation or relaxation, will also need accommodating. A code of practice on the implementation of the Act should be available early in 2002 from the Disability Rights Commission (<http://www.drc-gb.org/drc/InformationAndLegislation/InformationAndLegislationMenu.asp>).

Fortunately, disabled students and the HEIs in which they study have both gained from recent financial changes. Since 1990 disabled students have had access to an allowance to cover 'disability-related costs', such as personal assistance and adaptive technology. In 2000 these allowances were increased to up to £10,000 pa for full-time and part-time (50% or more of full-time course) undergraduates, and £5,000 for postgraduates. These allowances are no longer means-tested and can be used to help disabled students with the additional costs of participating in fieldwork. Since the academic year 2000/2001 HEIs have been eligible for mainstream funding for the first time to support their provision for disabled students. Some universities have used part of this money to establish departmental disability representatives. Departments running field courses may be able to make bids to their institutions under this funding for equipment that would be of benefit to particular groups of disabled students, such as modifications to minibuses to provide access to students in wheel chairs or the purchase of laptops to take on field trips to help dyslexic students. Some of the physical barriers can thus be readily overcome.

Course planning, particularly careful consideration of the intended learning outcomes of particular activities, is the key to overcoming many institutional or organisational barriers. Fieldwork should be undertaken in particular locations for specific educational reasons linked to the course outcomes. These reasons are not usually connected with the participants' abilities to climb mountains or tramp city streets, listen to shouted instructions in the teeth of a gale or over traffic noise, sustain concentrated physical effort over extended spans of time, or work in close proximity to other people in areas without ready access to toilet facilities. Consequently, the field course needs organising in a way which is appropriate for as many people as possible, and integrating into the programme in a manner which renders its intended outcomes very clear, in advance. Opportunities for prior negotiation with disabled participants should be included. Only students who achieve the course outcomes will be successful, and the provision of appropriate physical or personal aid will not compromise the academic standards expected. Figure 1 shows examples of the modifications which can assist disabled students to succeed in meeting the learning outcomes, emphasising the collateral benefits for others. The guides produced by the GDN give many examples of others (<http://www.chelt.ac.uk/gdn/disabil/index.htm>).

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P L A N E T

- Providing written details about the main features to be seen in the field and the activities and projects to be undertaken to benefit a deaf student also clarifies the learning to be experienced by all the students on the field trip.
- Making a video of a classic geological site that is not accessible to a student in a wheel chair may also be used in other classes and as part of the pre-fieldwork introduction for students visiting the site in subsequent years.
- Investigating an alternative local, non-residential field course venue for a student needing daily dialysis treatment, may lead to the alternative location also being offered to other students, particularly benefiting those with family responsibilities and those who cannot afford the cost of a residential field course.

Figure 1: Some modifications and additions to fieldwork that are of benefit to many students

Conclusion

The curricula provided by individual departments vary in their starting positions on a spectrum from inclusive to exclusive (Figure 2). Some departments have already embraced diversity and inclusivity as part of their course philosophy, and have built curricula, including fieldwork experiences, around this concept. Disabled students are encouraged to apply, can be reassured that their disabilities will not be an impediment to fulfillment of the course requirements, and that appropriate physical and organisational support is available. For other departments there may be a longer journey, which may begin by offering disabled students surrogate or different field experiences, or providing physical support to particular styles of activity, whilst considering more fundamental changes to fieldwork expectations over a longer period of time. Many of the adjustments to be made will nevertheless benefit all students undertaking fieldwork, not only disabled ones.

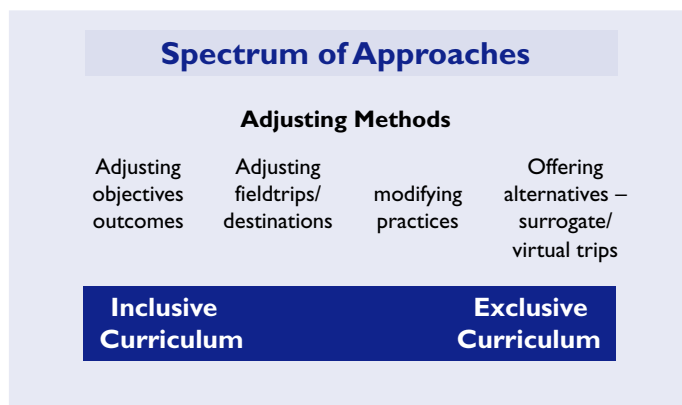


Figure 2. The curricula provided by individual departments vary in their starting positions on a spectrum from inclusive to exclusive

Note

The GDN has produced six guides and a survey report on 'Providing learning support to disabled students undertaking fieldwork'. They are available at: <http://www.chelt.ac.uk/gdn/disabil/index.htm> The Subject Centre for Geography, Earth and Environmental Sciences (GEES) is committed to continuing to promote effective practices in providing learning support for disabled students and to offering general guidance on how this might be achieved.

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Planet Register of Interest

The LTSN Subject Centre for Geography, Earth and Environmental Sciences (GEES) is looking for people who have experience and/or expertise in any area of **learning** and **teaching** in these disciplines e.g. problem-based learning, integrating C&IT into the curriculum, developing key skills, promoting employer links etc. If you consider yourself to be an expert in any area of learning and teaching, or if you have experience in any innovative learning and teaching field, then we would like to hear from you! We are currently developing a **register of interest** database. This will enable us to efficiently and effectively put individuals who approach the Centre with any learning and teaching question, in-touch with relevant people in our disciplines. If you would like to find out more about this service, or if you would like to be added to this database, then please contact the Subject Centre on: 01752 233530 or email: info@gees.ac.uk

(Please note that any personal information provided to the Subject Centre will be kept in accordance with the Data Protection Act 1998.)

Able Student, Disabled Person: Practical activities and disabled students

Alan Jones, Nottingham Trent University

Abstract

The law expects access by disabled students to higher education. This includes access to the appropriate areas of practical science, laboratory work in disciplines such as geography, earth and environmental sciences, biology, medicine and engineering. Disabled students should demand their rights, if they have the academic ability to do the courses. Colleges and universities should make suitable access to courses and train their admission tutors to be receptive to the students' needs and above all train their staff to be able to cope with a range of students with disabilities. This latter area is often more in the mind of the tutor than being in practice a major barrier. The presence of a highly motivated disabled student usually changes even the most reluctant tutor into a convert. This short article describes some of the practical solutions that can be adopted to make laboratory work more accessible for students with disabilities.

Introduction

It has been my contention, and that of many others, that true access into higher education by disabled students means a right to enter courses involving the practical sciences such as geography, environmental sciences and earth sciences (GEES). These students should not be restricted to the more 'book' based courses if they have a genuine desire and motivation to do other more practical programmes.

All subject areas have their own 'culture' and set of academic expectations which students must grapple with, and disabled students are no exception.

The theoretical concepts involved in higher education can be open to any student with the ability to work with abstract ideas. These can be very stimulating but the question comes 'can the practical work be accessed?'. The writer's particular interest was to provide access to chemistry and other science areas for students in schools and also in higher education. Is there a need to do all the practical work to become say, an environmental scientist or earth scientist? Are there any disabilities that should automatically bar a person from doing a course?

The Law and its effect upon admission to education and training

Since 1989 the National Curriculum in British Schools (and in the USA a lot earlier than this) has ensured that a full, balanced curriculum should be available to all who could benefit from it. It encompassed for the first time, pupils with special education needs who had previously often been under-educated in special schools or had no entitlement to education at all and who were restricted to a hospital regime and so had a limited curriculum. The latest education acts have strengthened these entitlements.

In the past, if a pupil had lost a lot of schooling due to time in hospital, they were often placed in special schools and their educational potential was not fully utilised. Since 1989, the trend towards integration and inclusion of all suitable pupils into 'mainstream' schools has moved dramatically and now the full curriculum is available to any pupil able to benefit from it. There are still pockets of resistance but these are being revealed at various school Ofsted inspections. If the school curriculum up to the age of 16 has been opened up to all pupils, then there should be more pupils with disabilities and learning difficulties entering courses at 16+ ('A' level, Btec, NVQ, GNVQ, Colleges of Further Education etc). Certainly, there has been a growth in vocational education and post-16 courses available to many students who had previously not been

considered. Some of the students who lost out in educational opportunities due to a lack of schooling in their early years now have the opportunity to redress this. Furthermore, if more students are undertaking more 16+ courses, then one can expect an increase in the numbers from this cohort going on into HE as well.

The 1995 Disability Discrimination Act (DDA) expects disabled people to be present in the work-place, not to be just working from home as telephone answering services and computer operators. So, all levels of education and training must be accessible. The Quality Assurance Agency (QAA) endorses this in its Code of Practice on students with disabilities (2000) (also see the article by Czapiewski in this special edition of Planet).

Staff responsibilities: safety matters

It is probably true to say that the majority of staff in mainstream schools and universities have not had many students with disabilities attending their courses. None-the-less, a number of local education authorities or the schools themselves have run in-service courses. The courses in higher education are often conducted by the disability services and cover all aspects of disability awareness. All educational establishments will by now have produced a wide ranging policy statement on disability. Specific help is always readily available from the disability organisation concerned e.g. The Royal National Institute for the Blind (RNIB), or The Royal National Institute for the Deaf (RNID) (see also the learning material by Hopkins and Jones at the end of this article).

One of the biggest concerns of staff is the area of safety in the laboratory, on field study and in workshops. Read what one higher education student said when asked about his safety record in a laboratory:

Question:

"Were you safe in the laboratory at school and college?" asked the tutor:

Answer:

'I am, I've got to be, its my life and future livelihood and I give particular thought to experimental procedures. There will always be accidents and unexpected events, but that's life and the unexpected makes life interesting anyway. The most unsafe place for most people is in the kitchen not the laboratory.'

Generally, disabled people are more safe as they know their limitations and are inclined to be more deliberate and forward thinking when doing particularly unusual or extreme experiments.

All experiments at all levels of school, college or higher education have to be vetted for safety and have a 'risk assessment' made for each one. If a disabled student is going to use such an experiment then the person responsible for the experiment might need to make additions to the details about any extra precautions that need to be made. Because everyone is different, there are no general comments that can be attached to all experiments to cover all eventualities. That is true for any group of students.

There might be a very few experiments that some students with disabilities will not be able to do but that does not make them non-scientists. Often students work in pairs or groups for some experiments and this procedure is equally valid when disabled students are present. They will all be able to collect the data and write up the experiment but not all will necessarily be able to do all the individual tasks.

When it comes to tutorial discussions about laboratory experiments it is also appropriate to ensure that the disabled student gets their chance of being the 'chairperson', even if they have speech, visual or hearing difficulties.

The Royal Society of Chemistry and also the American Association for the Advancement of Science have some guidelines for disabled people in laboratories, also listed at the end of this article.

Traditional courses and Modular courses

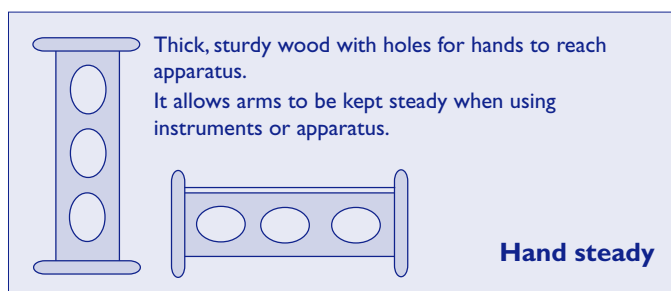
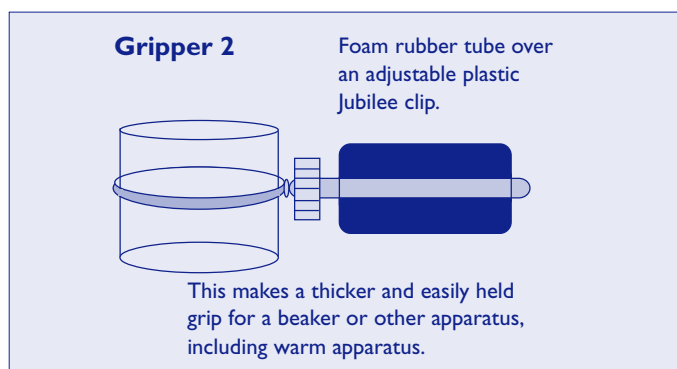
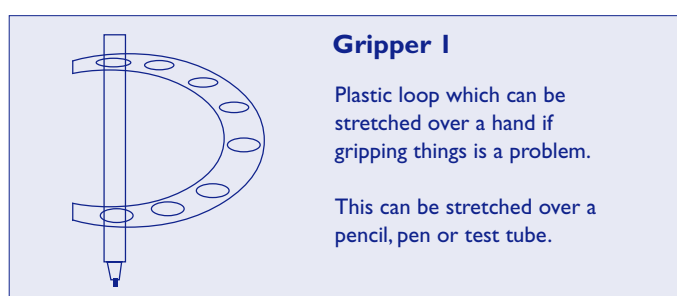
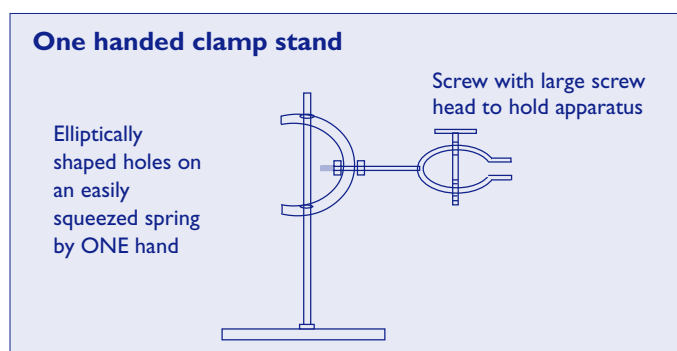
The traditional, continuous, follow-on science course where one term's work depends heavily upon understanding the concepts of the term before and ending with a single set of end-of-year exams, is now a dying pattern (if not already dead).

Modular courses are common in schools and universities, as are the integral assessments for each particular module. The options allowed by module selection mean that a disabled student has the same flexibility as anyone else in how to manage their educational pathway. If a particular module involves climbing gantries, then an alternative computer module might be available.

If hospitalisation is necessary, then the module(s) lost during the period away can be picked up the following semester or year. For legitimate reasons the exam boards and authorities are usually very understanding.

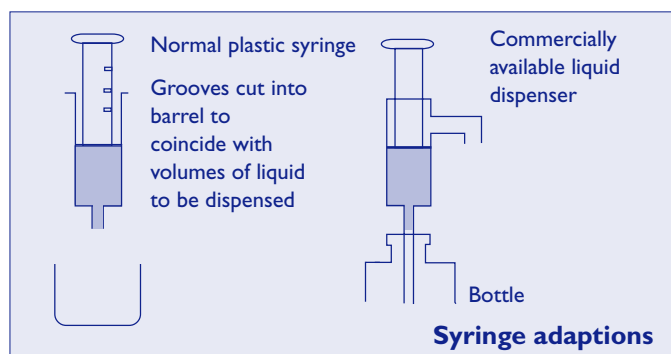
Apparatus and equipment

The following are some of the simple and cheap adaptations we have developed to allow physically disabled students to do practical experiments, both in university and at school. It is important not to dissuade students from studying science just because they have a disability. The majority of adaptations are cheap, easily stored, and safe to use. The diagrams below show some examples.



Some simple adaptations for students with visual limitations

Some might think that it is impossible for a visually impaired or blind student to do science. But is it? The RNIB supply a good catalogue of items for everyday living which are easily adaptable for laboratory use. Also, raised diagrams or 'tactile' diagrams are useful for people with great visual loss.



Conclusion

This brief paper highlights the importance of making practically based courses accessible to students with disabilities. However, the article has only just scratched the surface of this important topic. Every student is different and all are experts in their own condition and must be consulted when considering any modifications being made to apparatus, mode of operation of the course and assessment procedures. Whatever the situation, the student must be given every opportunity to succeed, as in the past society and educational establishments have been guilty of creating barriers to access, particularly in laboratory-based courses. Many disabled students have had to battle through the maze of bureaucracy and negative attitudes of others, to achieve what other students take for granted; namely the opportunity to succeed.

However, with a little ingenuity and using guides like those listed below, disabled students too can enjoy the benefits of a scientific education.

Further Reading and Guidance Material

American Association for the Advancement of Science (AAAS) *Barrier free laboratories and classrooms in engineering and science* (Available from: www.aaas.org).

American Association for the Advancement of Science (AAAS) *Resource directory of scientists and engineers with disabilities* (Available from: www.aaas.org).

American Association for the Advancement of Science (AAAS) *Teaching Chemistry to the physically handicapped* (Available from: www.aaas.org).

Corlett, S. and Cooper, D. (1992) *Skill Into Science and Engineering* (available from SKILL: www.skill.org)

Hopkins, C. and Jones, A. *Able Scientists/Technologist, Disabled Person* ISBN 0905 488 989

Hopkins, C. and Jones, A. *Disabled Students in Chemistry* (video) (Available from: Eslek Publications, 26, West End, Long Whatton, Leics, LE12 5DW)

Hopkins, C. and Jones, A. *Science for Special Pupils* (a guide to policies and teaching ideas)

QAA (Quality Assurance Agency) (2000) *Code of Practice - students with disabilities*, QAA, Gloucester

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Academic Assessment and Students with Disabilities

Lawrie Phipps, TechDis

Abstract

Assessment and the need to record academic achievement are an integral part of the higher education experience for all students. For disabled students it is essential that they are assessed in such a way so as not to disadvantage them, and equally, in a way that does not give them an advantage over other students. This paper highlights some of the issues that academic staff should consider and indicates the resources that are available to help them. This paper looks at the planning of assessment, physical environments in which assessments take place, alternative formats and timings and discusses how technology can be both an opportunity and a barrier for students to participate in assessments.

Introduction

The Special Educational Needs and Disability Act 2001 (SENDA) is covered extensively in this Planet special edition. Although the legislation makes no specific reference to academic assessment, the phrases 'less favourable treatment' and 'reasonable adjustment' should be taken to refer to this area as well as any other part of the educational experience. Additionally, the QAA Code of Practice on students with disabilities, (2000), although not compulsory, presents a framework within which legislative duties could be worked toward.

Much of the information contained in this paper summarises 'A Briefing on Assessing Disabled Students' (McCarthy and Hurst, 2001), one of a series of guides on Academic Assessment in Higher Education. Further information about this is available from both LTSN subject centres and the LTSN Generic Centre (<http://www.ltsn.ac.uk/genericcentre>). For those wishing to explore the issues surrounding assessment and disability in more detail, this is a key text. One of the main messages is the importance of being flexible and negotiating forms of assessment which are sensitive to individual needs while maintaining academic rigour.

Planning and Information

A well planned assessment process, as part of a detailed course information pack, helps students with disabilities to identify any problems they may have well in advance. For example, a student unable to sit in the same position for longer than an hour or so will need to make alternative arrangements in order to take a two-hour examination. More generally, for students who need to have learning texts converted into alternative formats (Braille, spoken word), providing a reading list well before the course starts is essential.

Physical Environment

In formal examinations thought should be given to the immediate physical environment. For example, in a *viva voce*, a deaf student who lip reads will find it impossible to do so if the examiners are sitting in front of a window, lighting them from behind. Rooms that are being used for exams may need to be made accessible for wheelchair users, and additional time may be required for the student to get into the room and prepare for the exam.

Alternative Format

British Sign Language (BSL) has a different structure and word order to English. Thus students may have difficulty understanding written questions and may wish to have their questions and responses translated by an interpreter. It is also important to bear in mind that the interpreter may need to be familiar with the subject matter involved.

Alternative Timing

Thought should be given to the length of time a student with disabilities needs to complete an examination. For example, longer periods of time may be required if the student is using technology aids, or short rest breaks may be needed for Repetitive Strain Injury (RSI) sufferers.

Technology and Assessment

The use of learning technologies such as virtual learning environments, virtual fieldwork, remote laboratories and computer-aided assessment is widespread in the Geography, Earth and Environmental Science (GEES) disciplines. Care must be taken to ensure students with disabilities are not disadvantaged, when these modes of assessment are deployed.

Computer Assisted Assessment

Computer Assisted Assessment (CAA) is being implemented in higher education for a variety of reasons, including improved course management and enhancing the learning experience (Charman and Elmes, 1998). The latter can be achieved in a variety of ways, for example in the provision of formative testing to aid revision, and in providing immediate feedback (Brown *et al*, 1999). Brown *et al* also identified other benefits of using CAA, including reduced load on teaching staff when marking or giving feedback and bringing the assessment culture experienced by students closer to their (computer-based) learning environments.

Accessibility guidelines (those guidelines that pertain to fonts, colours and frames etc.) are well established for online materials. They are available at a very technical level covering aspects of HTML (HyperText Mark-up Language), XML (eXtensible Mark-up Language), CSS (Cascading Style Sheets) and a plethora of other issues (<http://www.w3c.org/WAI>). Help is at hand from two projects (Fisher and Jeffers, 2000; Sams and Yates-Mercer, 2000) who have interpreted these guidelines to provide simple but effective checklists for good practice. These include the provision of text equivalents for images and video, providing transcripts of sound recordings and ensuring that information conveyed by the use of colour is available to those with colour-deficient vision. It is often learning technologists or educational developers who can aid in implementing these guidelines during the planning stages of any move to use CAA or any online learning environment. (Also see the article by Laxton in this special edition of Planet).

Accessing Assessment through Technology

A variety of software and hardware is available to help students with disabilities gain greater access to learning and teaching activities. The use of screen readers (converting on screen text to speech), Voice Recognition Software (recognising speech from a user and translating it into text) and magnifiers (enlarging areas of a computer screen) are tools commonly used by students. It is important to understand that although a student can use these tools to access learning and teaching, some modifications may be required if they are used in an examination situation. For example, it would be distracting to other students to have someone using a screen reader in a computer-based assessment.

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Examples of modifications

These and other examples of good practice can be found in McCarthy and Hurst (2001).

Academic Assessment of a Student with Impaired Mobility

Context: A student who uses a wheelchair, and who has slow keyboarding skills, uses assistive technology (e.g. a one-handed keyboard) and is required to participate in on-line discussions via a Virtual Learning Environment as a part of the assessment, at a designated time during the week.

Action: There are several key issues here: the majority of students will use on-campus computing facilities in order to contribute to these discussions, and as such the tutor and student must be happy that these facilities are available and accessible (e.g. are the desk heights adjustable, are the computing rooms accessible?).

If these facilities are available, then the ability to use assistive software with University networked computers must be available. Many institutions will not allow students the rights to install extra software either on the network or on individual computers, and this may prevent them using any assistive software.

If that is the case, then the obvious solution is to allow the student access to the chat-room and network from a personal computer – this may be done in liaison with relevant computer services.

Having addressed the technical issues, it becomes clear that there is another problem – the slow keyboarding skills of the student mean that by the time he has typed a response to a thread, the conversation has moved on, and he is unable to engage in any dialogue. The highly dynamic nature of this assessment process means that the student is being placed at an unfair disadvantage, and this becomes clear to the tutor when he looks at the results of the discussion. In consultation with the student, and possibly with the institution's Disability Co-ordinator, the tutor identifies several options:

- He can offer a scribe who can type out the student's responses;
- He can ask for the student's thoughts on the discussion, rather than their contribution in the discussion;
- He can remove the on-line discussion from the assessment process, returning instead to a conventional seminar format (this may discriminate against others though, if there is for instance a deaf student in the same group);
- He can alter the 'chat' function to something more akin to a notice-board, whereby thoughts and responses can be posted on a limited number of topics throughout the assessment process.

The tutor opts for the 'notice-board' option. This has the advantage of being cost-effective, not altering the aims of the assessment significantly, allows the student to retain a degree of independence that would be lacking when using a scribe, and allows the student to participate in the same assessment on an equal footing with other students.

Academic Assessment of a Visually Impaired Student

Context: a lecturer has on his course a visually impaired female student, who requires a screen enlarger to read text and view images, and who uses voice recognition software to 'type' essays.

Action: In consultation with the student, available institutional support and institutional guidelines, the following may represent an acceptable outcome:

It is decided that the voice recognition software can be used for the assessment, but that the student must be isolated from the rest of the class as the noise would be a distraction. The possibility of using an oral exam is considered, but as the assessment requires only short answers, it is decided that this is unnecessary, and that the student will sit the exam in the same format as other students, using the maximum extra time for which she is eligible. The student says that a copy of the paper in large print will be acceptable (Braille or electronic copies could also be made available).

An acceptable room is found, which is located on the second floor of a block of teaching rooms and offices. There is no lift, but the student often uses other rooms on the same floor for seminars, and she is happy to have her assessment here. There are toilet facilities nearby, and the room has a multiple power socket for the computer and any auxiliary equipment, as well as a large external window with curtains and good lighting.

IT staff are liaised with to ensure that the computer being used is compatible with the assistive technology, and that the computer does not contain any information which may otherwise assist the student in completing the assessment. IT staff also agree to make themselves available during the planned period of the assessment in case there is a problem with the equipment.

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Enhancing access for those with learning difficulties and/or disabilities, to learning, teaching, research and administration across Further and Higher Education through the use of Information and Communication Technologies TechDis provides:

- Support at strategic and operational levels
- Practical advice and information
- Brokerage of good and innovative practice

Disability: The Students' View

These three short articles have been written by students with disabilities who were asked to reflect on their experiences of higher education. LTSN-GEES would like to thank all of the students and staff who assisted in the production of this section*.

1) Choosing a university – the view of a sixth form student with disabilities

James Robertson, Student

Having recently passed eleven GCSEs, the majority of which at A* or A, I have embarked on my A level studies and, if all goes well, I hope to go to university. I feel now is a good time to reflect on my success, identify what worked well, and decide upon an appropriate action plan for my future studies.

I should explain first that I am disabled, and rely on a wheelchair for much of my mobility. This brings about an added complication when it comes to looking at suitable universities. Not only do I need to consider the course being offered, but also choose the university according to its provision or students with disabilities.

In my case, having Cerebral Palsy means that, as well as having limited use of my legs, my fine motor skills are also affected because the movement in my upper arms is impaired. This impairment makes it difficult for me to write at speed. The importance of this had never really occurred to me until I reached the stage in my schooling when I was required to sit exams, or write to dictation in class. I used to get extremely frustrated because my brain was thinking what to say faster than my hands were able to write it, and so by the time my hand was ready to write I would have forgotten what it was that I wanted to say in the first place!

After what seemed like hours of consultation with the local education authority and the head of special needs at my school, we were able to find a viable solution to my problem, which would enable me to reach my full potential. In the end it was decided that I should be allowed twenty five per cent extra time, as well as an amanuensis who would type as I dictated.

This method was so effective that I have decided to use it again in the next set of exams I do. A similar system implemented at university level would be invaluable to me, because it would mean that I would be able to cope more easily with the level of work that is expected. Having a note-taker in lectures and seminars would mean that I could participate and not miss out on valuable notes. I have used a Dictaphone at school to record what teachers say, but it has been a slow process converting the tapes into useable notes. I also used a Dictaphone to record my notes for exam revision. It goes without saying that the lecture theatres themselves should be fully accessible for wheelchairs, and have enough space so the user can maneuver in and out of position!

Of course, I have come to rely on the benefits that Information and Communication Technology brings, including using a lap-top, email, and voice recognition. It will be essential that the university I choose is able to support me in this important area.

Until recently I found it very difficult to achieve fully independent mobility because I was reliant on a manual wheelchair, which I found difficult to push. Now, however, I have a powered chair that makes things easier. That said, I still think it is important that the university I choose has a campus that is relatively flat and compact to make getting about less of a struggle for everyone. Where possible, I feel universities should ensure that all their buildings are made accessible for wheelchair users. This does not just mean putting any old ramp in any old place, ramps should be at the right gradient so they can be managed independently – and also in the right place!

As far as possible, students with disabilities want to be independent, but we have to accept that there are some things we are unable to do. I am unable to cook, because I do not have the strength in my arms to carry pots and pans full with food, or to chop vegetables. I also find some aspects of dressing difficult. A good university in my opinion will recognise these needs, and work with me to find a way of overcoming them.

A solution offered by a number of universities is the "buddy system". Each disabled student is allocated a buddy, often a postgraduate student, who looks after their personal care needs like helping with aspects of dressing, cookery, note taking etc. The disabled student is able to claim a grant to pay their buddy and is also entitled to ask for a change of buddy if necessary.

I think the buddy system is an invaluable resource for students with disabilities, because it provides them with the means to be more independent, and also a friend with similar interests and background who can help if they get into difficulty.

Also important is that students with disabilities don't feel they are being segregated. I personally would like the accommodation designed for the special needs of the disabled student to be integrated into the normal accommodation, rather than being kept separate. Nearly all my friends now are able-bodied and it would be a shame if I was just able to mix with disabled people as I have worked hard to be integrated up until now.

As you can see I have a lot to consider before I apply for a university place. Luckily though help is at hand in the form of my local careers service. They offer personal advisors, specifically dedicated to the needs of disabled people, who can give personal consultations to help me make my final decision, by providing an objective, unbiased account of the different institutions and courses available. They can also provide me with useful literature in order to help me make an informed decision.

My final decision will be based on a number of different criteria. Obviously two extremely important factors are whether the university is geared up for, and aware of the needs of disabled people; and whether they offer the right course. Equally important is the location of the university, far enough away from home so I feel independent, but close enough to allow me to come home if I run into difficulties.

Obviously, I need to spend more time than most in making my choice of university and course. It is a big decision and there is lots to consider, but I'm looking forward to enjoying the student life and to getting a degree as an important stage towards building myself a career.

2) A Dyslexic Student in Higher Education

(Anon)

An interview was undertaken with a dyslexic student in the final year of a degree in the Geography subject area. He had been diagnosed as dyslexic at the age of 9 and had this verified in his first year at University. However, it was the first term of Year 3 before the Local Education Authority recognised that extra resources were required as a result of his disability and now, six months before graduation, he is yet to receive the laptop, software and printer to which he is entitled.

The student acknowledged that adjustments had been made in the learning, teaching and assessment practices that he had experienced since starting university. Examples of this were a blue slip of paper attached to his coursework to identify it as having been written by a dyslexic student; free photocopying credits; extra time in exams and support with his dissertation.

However, it was clear that certain issues continued to present problems: "People say it is better for dyslexic people to do coursework but I always do better in exams because I can memorise notes and then just regurgitate them. I write scatter diagrams and visualise them when I get into the exam – I don't actually know it but I know where it is in the diagram".

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"Checking coursework is really hard – I read what I think is there. Other people say that it doesn't make sense, but when I read it again it does."

The student's main criticisms of his experience in his higher education were:

- *The attitudes of some lecturers* – "you tell some lecturers 'I'm dyslexic' and they say they know, but they don't make themselves approachable. If they could just say 'I know you are dyslexic, if you need help come and ask me after class'. Lecturers say 'think for yourself', but I find that so hard."
- *Use of jargon* – "lecturers use language like 'key concepts' and 'objectives'. What I really need is examples."
- *Taking of notes* – "Notetaking in classes is very difficult. I can't keep up and at the end my notes are full of gaps and mean nothing. I need spaces in handouts to act as prompts."

3) Disability – a student perspective

Lyn Bibbings
Oxford Brookes University

Much has been written about students with disabilities and the differing needs they may have. Often such discussions have focused on facilities and materials that can be provided in order to ameliorate difficulties for disabled students, and little has been discussed about the 'whole' experience of a student with disabilities studying at university.

This short article summarises an interview with a student who is deaf and has some mobility difficulties, and tries to capture some of the key elements of that experience. The student had also recently spent a term in an American university and it is useful to reflect on some of the differences she noticed, and the effect these had on her experience of studying at university.

Nicola* felt the most important things for her, as a student at university, was to have the opportunity to try new things out. She felt that university was a time when she wanted to experiment and to exercise some freedom of choice.

We discussed her experience of classroom situations and in particular what happened in groupwork. Nicola's experiences had been varied, and she felt that one of the key influences on how other students behaved toward her was the relationship that the member of staff had with those students. Where staff had a good relationship with the student group, and particularly one of trust, students tended to respond more positively to the staff member requesting that other students should be helpful and sympathetic towards her.

While she was in America, she also undertook some groupwork and she felt that the pressure was taken out of the situation for both her and other students in that an individual mark as well as a group mark average was awarded.

Nicola feels that, for her, the differences in lecturers and their style of teaching, is more important than her contact with other students, and it can take time to 'tune in' to what is happening. She felt that this could be helped by lecturers discussing together the support she needs, and to 'even out' the level of help she receives.

In America she felt there was a greater recognition of student's special needs and that these were better resourced, although she recognised that she chose the university in America based on their response to her letter asking if they would be able to provide what she needed. For example, she had asked for a note-taker, an interpreter and accommodation adapted for a deaf person with visual alerts for the doorbell, fire alarm and telephone. A room was specially adapted for her, and instead of a note-taker she had a stenographer who emailed her the lecture notes 24 hours after the lecture with a verbatim report of what was said, both by the lecturer and by the other students and with summary notes. She found this especially useful.

In addition the campus had been large, and Nicola would have become very tired getting herself around. Her parents bought her a tricycle that she was allowed to ride in the corridors to lectures as well as around the campus. When the tricycle was stolen from outside the library the Dean paid, out of his own money, for a replacement, and her fellow students then held events to raise money to pay him back. This made her feel valued and part of the community.

Nicola also stated that while she was in America she was taught by a Professor who was blind, and who was aided in the delivery of his lecture by an assistant who helped him use visual material, and he used a web site to augment his face to face lectures. This was a novel experience for her as she had not knowingly had contact with a lecturer with a disability in the UK.

Nicola is enjoying being a student and feels that she is given opportunities to make the most of what she has, but that this is not enough to give her an experience equal to that of other students.

*These short pieces first appeared in the publication by LTSN Hospitality, Leisure, Sport and Tourism (LINK Issue 3) and they have been slightly modified for the GEES community. The original articles are available at <http://www.brookes.cc.uk>

The Quality Assurance Agency for Higher Education

Code of practice for the assurance of academic quality and standards in higher education

Section 3: Students with disabilities - October 1999

Code of practice for the assurance of academic quality and standards in higher education: Students with disabilities

Foreword

- 1 This document is a code of practice for the assurance of the quality of learning opportunities for students with disabilities* in UK higher education institutions. The object of the code is to assist institutions in ensuring that students with disabilities have access to a learning experience comparable to that of their peers. It is one of a suite of inter-related documents which, taken together, will form an overall Code of Practice for the assurance of academic quality and standards in higher education for the guidance of higher education institutions subscribing to the Quality Assurance Agency for Higher Education (the QAA).
- 2 The overall Code and its constituent sections are being prepared by the QAA in response both to the Reports of the National Committee of Inquiry into Higher Education and its Scottish Committee (the 'Dearing and Garrick Reports') and the consequent remodelling of the national arrangements for quality assurance in higher education. The completed Code will identify a comprehensive series of system-wide expectations covering matters relating to the management of academic quality and standards in higher education. In so doing, it will provide an authoritative reference point for institutions as they assure, consciously, actively and systematically, the academic quality and standards of their programmes, awards and qualifications. The Code will assume that, taking into account nationally agreed principles and practices, each institution has its own systems for independent verification both of its quality and standards and of the effectiveness of its quality assurance systems. In developing the Code, extensive guidance is being sought from a range of knowledgeable practitioners.

*Within this code the phrases 'students with disabilities' and 'disabled students' are used interchangeably. See also introductory discussion under 'Who is disabled?'

- 3 Each section of the Code is being structured into a series of precepts and accompanying outline guidance. The precepts identify those key matters which the QAA expects an institution to be able to demonstrate it is addressing effectively through its own quality assurance mechanisms. The accompanying outline guidance is provided to assist institutions in maintaining and enhancing the quality of provision for students and other stakeholders. The guidance is not intended to be either prescriptive or exhaustive: its purpose is to offer a framework for quality assurance and control which institutions may wish to

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use directly and adapt according to their own needs, traditions, cultures and decision-making processes. Nonetheless, in many institutions the guidance will constitute appropriate good practice.

- 4 To assist users, the precepts are listed, without the associated guidance, in appendix I to the code.
- 5 During the course of its quality assurance reviews, the QAA will consider the extent to which individual institutions are meeting the expectations of the precepts in the available sections of the Code of Practice. The Agency will report on how effectively higher education institutions individually are meeting these expectations and are discharging their responsibilities for the academic standards and quality of their programmes and awards. In doing so it will focus on the precepts themselves, and not on the associated guidance: the latter may, however, provide a helpful starting point for discussion. So far as this particular section of the Code is concerned, institutions will also be expected to demonstrate that, as they review their existing arrangements for students with disabilities, they are identifying any aspects which do not offer the safeguards that the precepts seek to provide and are taking appropriate action to meet any consequent shortcomings. The Agency expects that by Autumn 2000 all institutions will be able to demonstrate that they are adhering to the precepts of this section of the Code.

Introduction

- 6 This code of practice recognises that disabled students are an integral part of the academic community. It takes as its starting point the premiss that accessible and appropriate provision is not 'additional', but a core element of the overall service which an institution makes available. As such, the quality of the learning opportunities on offer to disabled students in higher education institutions needs to be assured in the same way as any other provision.
- 7 The development of this section of the QAA's Code of Practice was undertaken by a group including representatives of higher education institutions, the Committee of Vice-Chancellors and Principals (CVCP), the Standing Conference of Principals (SCOP), and specialist bodies promoting access for students with disabilities. Members of the working group are listed in appendix 2. The group benefited from being able to draw on a range of existing publications, including several that provide more detailed operational guidance that may be of interest to institutions in developing their own arrangements.
- 8 All institutions face many competing demands on their resources. It may appear that the needs of disabled students are not central to institutional survival and should therefore give way to issues of 'higher' priority. When setting their priorities, however, institutions will want to take into account that the quality of their overall provision will be measured, in part, on how well they meet the expectations of this code.
- 9 Disabled people have been under-represented within higher education. Poor physical access to buildings has created a barrier for some students, while others have been excluded by teaching methods that do not take full account of their needs. Facilities beyond the classroom have been inaccessible in some institutions; in others the attitudes of staff may have been less than welcoming.
- 10 The code is not a charter for disabled students, and does not attempt to offer a blueprint for best practice in provision; but it does provide some pointers towards good practice. It will be for institutions to determine which approaches to meeting the standards set by the precepts best suit their own culture and ethos. It is expected that the code will help to raise standards of provision for disabled students.
- 11 Nevertheless, there are likely to be some common features amongst those institutions that measure up well to the code's expectations. For example, institutions which are already active in this area tend to have an ethos that attentively embraces equal opportunities, and be working to widen them. They have senior managers with an active interest in how access is progressing, and who take seriously the budgetary and other implications of their commitment. In these institutions consideration of the needs of disabled students is a dimension in all decisions and activities, and the intervention of a disability co-ordinator is viewed as a welcome injection of specialist expertise, rather than an obstruction to the smooth pursuit of 'more important' priorities.
- 12 The code focuses on the quality assurance aspects of the level of provision for disabled students, and does not try to offer extensive practical advice. Institutions wanting further practical guidance will find a wealth of expertise within the sector; in printed publications, on the world wide web and from voluntary organisations. Some further reading and web site addresses are suggested in appendix 3 and institutions are encouraged to make full use of the resources available to them. Disabled students already enrolled on programmes are often a useful source of advice. Their participation at every stage of provision, from design to evaluation, is likely to ensure that developments are both effective and efficient in increasing

access and improving the quality of disabled students' experience of higher education.

- 13 Higher education institutions will also have gained an understanding of the needs of disabled people as a result of meeting their legal responsibilities towards disabled employees and users of goods, facilities and services. These responsibilities, acquired through the Disability Discrimination Act 1995, do not as yet extend to institutions' role as providers of education. Nevertheless, the experience gained in this way will no doubt be helpful in considering what action to take to improve participation by disabled students.
- 14 The Disability Discrimination Act also introduced a requirement on institutions to publish disability statements. Disability statements are useful ways of communicating to students the approach and level of provision within an institution. Students use them to make informed choices about their future. Institutions may wish to use disability statements to publicise the way in which they are meeting the expectations set out in the code.

Who is disabled?

- 15 There are many different ways of defining who is disabled. This code follows no particular model. Institutions should be aware that disability covers a wide range of impairments including physical and mobility difficulties, hearing impairments, visual impairments, specific learning difficulties including dyslexia, medical conditions and mental health problems. Some of these impairments may have few, if any, implications for a student's life or study. Others may have little impact on day to day life but may have a major impact on a student's study, or vice versa. Some students may already be disabled when they apply to an institution, others may become disabled or become aware of an existing disability only after their programme has started. Others may have fluctuating conditions. Some students may be disabled temporarily by accident or illness.
- 16 Institutions will want to ensure that their provision and structures take into account, so far as possible, the full range of needs which disabled students may have, and that their provision is sufficiently flexible to cater to individuals' changing needs throughout their periods of study.

Precepts and guidance

(The precepts are contained in the grey boxes: see paragraphs 3 and 4 of the Foreword.)

General principles

- 1) **Institutions should ensure that in all their policies, procedures and activities, including strategic planning and resource allocation, consideration is given to the means of enabling disabled students' participation in all aspects of the academic and social life of the institution.**

Institutions should consider:

- implementing procedures which ensure that the needs of students with disabilities are addressed at all stages and levels of academic and resource planning;
- embedding the fair and equal treatment of disabled students in all operational practices;
- identifying clearly the locus of senior management responsibilities in relation to arrangements for students with disabilities;
- ensuring that senior managers and other key staff have an adequate understanding of the legal framework concerning disabled people;
- ensuring that management systems include the gathering of information to enable well-informed decisions to be made regarding participation and progression of students with disabilities;
- including the needs of disabled students within the remit of all resource allocation, academic management, estates and services committees;
- incorporating the views of disabled students in the development and review of the physical environment, academic programmes and services;
- identifying designated contact(s) for disabled students with specialist expertise and effective channels of communication with senior managers;
- providing staff development in disability awareness/equality for all staff;
- monitoring and reviewing the impact of all institutional policies, procedures and practices on students with disabilities with a view to continuous improvement;
- the implications for disabled students of collaborative provision and articulation of arrangements involving study in more than one institution and/or other partner organisation.

The physical environment

- 2** Institutions should ensure that disabled students can have access to the physical environment in which they will study, learn, live and take part in the social life of their institution.

Institutions should consider:

- undertaking a physical access audit of all buildings, including halls of residence, teaching and learning accommodation and resources, leisure and recreational facilities (covering general access and health and safety);
- establishing plans to improve physical accessibility that are effectively linked to resource allocation procedures and enable progress to be monitored and evaluated;
- having in place policies and procedures which ensure that the needs of disabled students are taken into account when any new building work or refurbishment of existing buildings is to take place;
- making arrangements to ensure that landscaping, car parking, and on-site and inter-site transport take account of access by disabled students;
- flexible and imaginative approaches to enabling alternative means of participation where physical access is impossible or unreasonably difficult;
- flexibility regarding where classes are held, including moving teaching from inaccessible lecture theatres/classrooms to more accessible ones;
- informed timetabling arrangements which ensure that there is enough time between classes to enable students with mobility impairments to travel between them.

- 3** Institutions should ensure that facilities and equipment are as accessible as possible to disabled students.

Institutions should consider the requirements of disabled students in such matters as:

- the height and layout of classroom tables and laboratory benches;
- supporting access around the campus with appropriate signage and information, such as large print and Braille notices, tactile maps and maps showing wheelchair-accessible routes;
- the publication and dissemination of information, in accessible formats, on physical access;
- the use of tone and colour contrasting in both the interior and exterior of buildings for visually-impaired students;
- the provision of appropriately adapted and well-sited accessible toilet facilities;
- the design and layout of seating especially in raked lecture theatres and computer laboratories;
- lighting design;
- systems of amplification and availability of induction loop or infra-red systems for hearing aid users;
- acoustics, including the minimising of background noise from fans in projection equipment, computers, heating or ventilation systems;
- ease of use of equipment in laboratories, computer and teaching rooms;
- alternative safety systems such as flashing fire alarms or vibrating pagers.

Information for applicants, students and staff

- 4** The institution's publicity, programme details and general information should be accessible to people with disabilities and describe the opportunities for disabled students to participate. Institutions should consider implementing arrangements which ensure that:

- the disability statement provides clear and accurate information in accessible media on the physical environment, the human and technical support available and any costs that students will be expected to bear;
- electronic information, including web sites, is accessible to students with disabilities;
- information on placement opportunities, where relevant, is available at an early stage;
- details of the designated contact(s) for disabled students are widely publicised;
- responses to enquiries from people with disabilities are prompt and candid and include advice from experienced, specialist staff.

The selection and admission of students

- 5** In selecting students institutions should ensure equitable consideration of all applicants.

Institutions should consider:

- ensuring that criteria and procedures used for selecting students are relevant to the requirements of the programme, including any professional requirements, and do not unjustifiably disadvantage or debar applicants with disabilities;
- ensuring that appropriate support is offered and available for applicants attending interviews and other selection activities;
- providing disability awareness/equality guidance and training for all tutors and administrative staff involved in selection and admissions;
- where appropriate, offering disabled applicants the opportunity to demonstrate their ability to use alternative ways for meeting programme requirements.

- 6** Disabled applicants' support needs should be identified and assessed in an effective and timely way, taking into account the applicant's views.

Institutions should consider:

- developing an environment within which individuals feel able to disclose their disability;
- providing specialist advice which draws on recognised sources of expertise to assess applicants' support needs, in order to ensure that decisions by admissions tutors and disabled students are as well-informed as possible;
- developing systems which ensure that applicants with disabilities are not subject to undue disadvantage in terms of support if they apply later through the 'clearing' procedure;
- drawing up agreements with individual disabled students and all concerned parties which specify details of support and other arrangements, including those for course examinations and assessments (precept 18 below).

Enrolment, registration and induction of students

- 7** The arrangements for enrolment, registration and induction of new entrants should accommodate the needs of disabled students.

Institutions should consider implementing arrangements which ensure that:

- enrolment procedures and induction events take into account the access requirements of disabled students;
- enrolment forms and other relevant forms are modified to enable students with disabilities to complete them with the same levels of independence and confidentiality as other students;
- when information about disability is collected, the purpose of collection is made clear and the measures taken to ensure confidentiality are outlined;
- staff who are responsible for organising induction programmes take into account the requirements of students with disabilities including orientation training for, for example, visually impaired students;
- during enrolment and induction, there are opportunities to identify or reconsider the support needs of disabled entrants and to confirm that they are in place.

Learning and teaching, including provision for research and other postgraduate students

- 8** Programme specifications should include no unnecessary barriers to access by disabled people.

Institutions should consider establishing procedures which ensure that:

- the setting and/or amendment of academic and other programme requirements during approval or validation processes includes well-informed consideration of the requirements of disabled students;
- programme specifications and descriptions give sufficient information to enable students with disabilities and staff to make informed decisions about the ability to complete the programme.

- 9** Academic support services and guidance should be accessible and appropriate to the needs of disabled students.

In developing academic support and guidance structures and procedures institutions should consider implementing arrangements which ensure that:

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- information about course choice and content is fully accessible to disabled students;
- all staff who advise students are aware of any aspects of courses that may raise barriers or be inaccessible to students with particular disabilities;
- the academic facilities and support available to non-disabled students including library, IT and careers services, are fully accessible and appropriate to disabled students.

10 The delivery of programmes should take into account the needs of disabled people or, where appropriate, be adapted to accommodate their individual requirements.

Institutions should consider making arrangements which ensure that all academic and technical staff:

- plan and employ teaching and learning strategies which make the delivery of the programme as inclusive as is reasonably possible;
- know and understand the learning implications of any disabilities of the students whom they teach, and are responsive to student feedback;
- make individual adaptations to delivery that are appropriate for particular students, which might include providing handouts in advance and/or in different formats (Braille, disk), short breaks for interpreters to rest, or using radio microphone systems, or flexible/interrupted study for students with mental health difficulties.

Institutions should consider implementing IT and computer arrangements which maximise disabled students' access to learning, including:

- IT strategies and procedures that pay due attention to the needs of disabled students;
- ensuring that any courseware and electronic learning materials are fully accessible to disabled students using, if necessary, alternative hardware or software;
- installing appropriate specialist hardware and software on computer facilities;
- ensuring that computer services staff have appropriate training and time to meet the needs of disabled students.

11 Institutions should ensure that, wherever possible, disabled students have access to academic and vocational placements including field trips and study abroad.

Where placements, including international placements, are a formal requirement or standard component of the programme, institutions should consider ways of ensuring that the specified learning opportunities are available to disabled students by:

- seeking placements in accessible contexts;
- providing specialist guidance on international placements;
- re-locating field trips to alternative sites or providing alternative experiences where comparable opportunities are available which satisfy the learning outcomes;
- working with placement providers to ensure accessibility;
- providing support before, during and after placements that takes account of the needs of any disabled students, including transport needs.

Where a placement is an optional but desirable element of the programme, institutions should consider making similar arrangements to support access for disabled students.

12 Disabled research students should receive the support and guidance necessary to secure equal access to research programmes.

Institutions should consider ways of ensuring that supervisors:

- know the learning implications of any disabilities of students whom they supervise;
- agree with the students, where appropriate, mutually acceptable alternative methods of carrying out research.

(See also the QAA's code of practice on postgraduate research programmes.)

Examination, assessment and progression

13 Assessment and examination policies, practices and procedures should provide disabled students with the same opportunity as their peers to demonstrate the achievement of learning outcomes.

Institutions should consider implementing procedures for agreeing alternative assessment and examination arrangements when necessary that:

- are widely publicised and easy for students to follow;
- operate with minimum delay;
- allow flexibility in the conduct of the assessment;
- protect the rigour and comparability of the assessment;
- are applied consistently across the institution;
- are not dependent on students' individual funding arrangements.

Institutions may wish to consider the following adjustments:

- flexibility in the balance between assessed course work and examinations;
- demonstration of achievement in alternative ways, such as through signed presentations or viva voce examinations;
- additional time allowances, rest breaks and re-scheduling of examinations;
- the use of computers, amanuenses, readers and other support in examinations;
- the availability of examinations or the presentation of assessed work in alternative formats (eg modifying carrier language);
- the provision of additional rooms and invigilators for those using alternative arrangements.

Institutions should have policies and procedures in place which enable disabled students to participate in ceremonial events.

14 Where studying is interrupted as a direct result of a disability-related cause, this should not unjustifiably impede a student's subsequent academic progress.

Institutions should consider ways of ensuring that where reliable evidence is provided that delayed completion of assessed work, non-attendance at examinations, deferral or withdrawal has been due to a disability-related cause, this is recorded in non-prejudicial terms in all academic progress files.

Staff development

15 Induction and other relevant training programmes for all staff should include disability awareness/equality and training in specific services and support.

Institutions should consider providing disability training as part of induction and development programmes for all staff, including part-time and contract staff. This might cover:

- basic disability awareness/equality;
- the implications of disability for the learning and teaching process for all staff involved in admissions, learning/teaching and assessment, curriculum development and learning resource provision;
- the range and types of support available to disabled people relevant to the education context for staff involved in admissions, learning and teaching and curriculum development;
- accessible and alternative teaching strategies for teaching staff and those involved in curriculum development;
- the needs of disabled students for those designing or managing the physical environment.

In addition, institutions should consider:

- ensuring that training programmes are flexible enough to allow specific training on working with students with particular disabilities to be made available to individual staff when the need arises;
- making the necessary arrangements for staff to attend such training programmes, eg by providing designated time for staff development;
- bringing in specialist expertise to provide training on some aspects of disability provision and awareness;
- providing guidance notes for staff on disability awareness/equality and sources of support;
- ensuring access to appropriate continuing professional development for the designated contact(s) for disabled students.

Access to general facilities and support

16 Students with disabilities should have access to the full range of support services that are available to their non-disabled peers.

Institutions should consider ensuring that:

- support and welfare services (and information about these) are as accessible as possible;

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- where existing services cannot be made available, alternative services and arrangements should be readily accessible.

Additional specialist support

- 17** Institutions should ensure that there are sufficient designated members of staff with appropriate skills and experience to provide specialist advice and support to disabled applicants and students, and to the staff who work with them.

Institutions should consider ensuring that the designated staff:

- have sufficient administrative support;
- provide timely and accurate advice about appropriate IT equipment, academic and administrative matters, daily living and financial support;
- develop effective liaison with staff and student contacts;
- support students in a way that facilitates their becoming independent members of the academic and student community.

- 18** Institutions should identify and seek to meet the particular needs of individual disabled students.

Institutions should consider:

- means for establishing early contact with disabled applicants, especially those with complex academic and/or daily living support needs, in order to identify appropriate sources or systems of support;
- how best to ensure that all students who can benefit from the services available to them are aware of those services;
- ensuring that they have effective means of delivering the particular specialist support needs identified for each student;
- establishing regular and effective links with external statutory and voluntary agencies to provide appropriate support;
- putting in place arrangements to ensure the quality of the specialist support provided.

Institutions should consider regularly reviewing the support arrangements agreed with disabled applicants and students (precept 6 above) to ensure that these are being met and are responsive to their current needs.

- 19** Internal communications systems should ensure that appropriate staff receive information about the particular needs of disabled students in a clear and timely way.

Institutions should consider:

- the importance of ensuring that information about students' needs is communicated in good time to appropriate academic, support and residential staff;
- how to ensure effective communication, for example within or between academic departments, as students move from one year or one department to another.

- 20** Institutions should have a clearly defined policy on the confidentiality and disclosure of information relating to a person's disabilities that is communicated to applicants, students and staff.

Institutions should consider:

- informing all applicants, students and staff of institutional policies relating to the confidentiality and disclosure of personal information on disabilities, including information that is gathered for monitoring purposes;
- ensuring that procedures are in place which both protect an individual's privacy and permit necessary disclosure for the provision of effective support for disabled students or to ensure health and safety.

Complaints

(See also the QAA's code of practice on student complaints and appeals.)

- 21** Institutions should ensure that information about all complaints and appeals policies and procedures is available in accessible formats and communicated to students.
- 22** Institutions should have in place policies and procedures to deal with complaints arising directly or indirectly from a student's disability.

Institutions should consider ensuring that the policies established in relation to appeals, complaints, equal opportunities, harassment, disciplinary and grievance procedures cover disability issues.

Monitoring and evaluation

- 23** Institutional information systems should monitor the applications, admissions, academic progress and nature of impairment of disabled students.

- 24** Institutions should operate systems to monitor the effectiveness of provision for students with disabilities, evaluate progress and identify opportunities for enhancement.

Institutions should consider:

- creating a development plan, consistent with and informed by the disability statement, which can be used as a reference tool to evaluate progress;
- incorporating the views of disabled students in development planning;
- evaluating the outcomes of specific projects.

Appendix I

The precepts

(Note: The precepts are printed here without the guidance notes for ease of reference.)

General principles

- 1** Institutions should ensure that in all their policies, procedures and activities, including strategic planning and resource allocation, consideration is given to the means of enabling disabled students' participation in all aspects of the academic and social life of the institution.

The physical environment

- 2** Institutions should ensure that disabled students can have access to the physical environment in which they will study, learn, live and take part in the social life of their institution.
- 3** Institutions should ensure that facilities and equipment are as accessible as possible to disabled students.

Information for applicants, students and staff

- 4** The institution's publicity, programme details and general information should be accessible to people with disabilities and describe the opportunities for disabled students to participate.

The selection and admission of students

- 5** In selecting students institutions should ensure equitable consideration of all applicants.
- 6** Disabled applicants' support needs should be identified and assessed in an effective and timely way, taking into account the applicant's views.

Enrolment, registration and induction of students

- 7** The arrangements for enrolment, registration and induction of new entrants should accommodate the needs of disabled students.

Learning and teaching, including provision for research and other postgraduate students

- 8** Programme specifications should include no unnecessary barriers to access by disabled people.
- 9** Academic support services and guidance should be accessible and appropriate to the needs of disabled students.
- 10** The delivery of programmes should take into account the needs of disabled people or, where appropriate, be adapted to accommodate their individual requirements.
- 11** Institutions should ensure that, wherever possible, disabled students have access to academic and vocational placements including field trips and study abroad.

P L A N E T

- 12 Disabled research students should receive the support and guidance necessary to secure equal access to research programmes.

Examination, assessment and progression

- 13 Assessment and examination policies, practices and procedures should provide disabled students with the same opportunity as their peers to demonstrate the achievement of learning outcomes.
- 14 Where studying is interrupted as a direct result of a disability-related cause, this should not unjustifiably impede a student's subsequent academic progress

Staff development

- 15 Induction and other relevant training programmes for all staff should include disability awareness/equality and training in specific services and support.

Access to general facilities and support

- 16 Students with disabilities should have access to the full range of support services that are available to their non-disabled peers.

Additional specialist support

- 17 Institutions should ensure that there are sufficient designated members of staff with appropriate skills and experience to provide specialist advice and support to disabled applicants and students, and to the staff who work with them.
- 18 Institutions should identify and seek to meet the particular needs of individual disabled students.
- 19 Internal communications systems should ensure that appropriate staff receive information about the particular needs of disabled students in a clear and timely way.
- 20 Institutions should have a clearly defined policy on the confidentiality and disclosure of information relating to a person's disabilities that is communicated to applicants, students and staff.

Complaints

- 21 Institutions should ensure that information about all complaints and appeals policies and procedures is available in accessible formats and communicated to students.
- 22 Institutions should have in place policies and procedures to deal with complaints arising directly or indirectly from a student's disability.

Monitoring and evaluation

- 23 Institutional information systems should monitor the applications, admissions, academic progress and nature of impairment of disabled students.
- 24 Institutions should operate systems to monitor the effectiveness of provision for students with disabilities, evaluate progress and identify opportunities for enhancement.

Appendix 2

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Appendix 3

Related publications

Access to success for students with disabilities in higher education in Scotland (SHEFC, 1996).

Base-level provision for disabled students (HEFCE 99/04).

Disability statements. A guide to good practice (HEFCE 98/66).

Alan Hurst (ed), *Higher education and disabled students: international approaches* (Ashgate Publishing, 1998).

Resource directory of disability-related products and services (HEFCE/Skill/eQuip).

Students with disabilities: code of practice for Australian tertiary institutions (February 1998).

John Hall and Teresa Tinklin, 'Students first : disabled students in higher education',

Spotlights, The Scottish Council for Research in Education, Research Report 85 (1998).

The co-ordinator's handbook (Skill, September 1997).

Specific publications

Bridging the gap: a guide to the disabled students' allowances in higher education 1998-99 (DfEE, 1998).

Guidelines for accessible courseware (HEFCE 99/05).

Dyslexia in higher education: policy, provision and practice (National Working Party on Dyslexia in Higher Education, University of Hull, 1999).

Alan Hurst, 'Students with disabilities and opportunities to study abroad', *Journal of studies in international education*, 2: 2, Fall 1998.

Report to the European Commission DG XXII on...the participation of students with disabilities in Socrates 1996-98, Association for Higher Education, Access and Disability (May 1998).

Web sites

www.daras.co.uk

www.techdis.ac.uk

www.equipservices.hefce.ac.uk

www.skill.org.uk

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What is PLANET?

PLANET is the bi-annual publication of the LTSN Subject Centre for Geography, Earth and Environmental Sciences.

Its aims are to:

- Identify and disseminate good practice in learning and teaching across the three disciplines of Geography, Earth and Environmental Sciences and present examples and case studies in a "magazine" format.
- Provide a forum for the discussion of ideas about learning and teaching in the three discipline communities.
- Provide information for readers on Subject Centre activities and on related resources, conferences and educational developments.

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Illustrations:

All illustrations should be provided in a reproducible form (this may include reduction).

All articles with any accompanying figures, tables, diagrams and photographs, should be submitted in electronic format to:

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