Physical Disability Issues for the Physical Sciences

SENDA regulations

In 1995 the Disability Discrimination Act (DDA) was passed, preventing discrimination against disabled people in employment, the provision of goods and services and the selling/letting of property. Although education was exempted from the original DDA the Special Education Needs and Disability in Education Act (SENDA) 2001 removed this exemption. Although known as SENDA it is really just Part IV of the DDA.

SENDA came into force in September 2002 and made clear that it was illegal to discriminate directly or indirectly against disabled people in the provision of education, training or related services. Although additional time was allowed to implement SENDA, since 2005 all educational institutions must make 'reasonable adjustments' so as not to discriminate unreasonably against current or potential students (or staff) or prevent them from working and studying.

The DDA was amended again in 2005 (DDA Part V) and updates some of the original 1995 legislation, including extending the definition of disability to cover intermittent conditions from the point of diagnosis. The DDA V also imposes on public bodies a duty to **actively promote** equality of opportunity for disabled people. From 4th Dec 2006 all HEIs will have to produce a Disability Equality Scheme (DES) to specify what actions they intend to take over the next three years to improve their provision for disabled people.

The legal definition of disability is a very broad one: it includes "hidden" chronic medical conditions (e.g. asthma, diabetes, epilepsy) and specific learning difficulties such as dyslexia and dyspraxia, as well as the more evident sensory, dexterity and mobility impairments. For the purpose of this publication however, attention will mainly focus on physical disabilities in relation to undertaking laboratory work.

Reasonable adjustments

The DDA states that 'reasonable adjustments' must be undertaken to support disabled students. Perhaps the first consideration is the physical access to a building and laboratories. People often think of supporting wheelchair users for physical access and reasonable adjustments can be fairly straightforward. This might include ramp access to rooms and laboratory benches but as laboratories are re-fitted, many institutions are integrating this sort of provision routinely by building some laboratory benches specially designed for easy access (e.g. with height adjustment controls) and designing fume cupboards with the needs of wheelchair users in mind. Whilst these adjustments are welcome improvements for wheelchair users, such structural adjustments can help other students. For example, one institution made similar provision for a student with exceptionally short stature.

Health and safety issues

Some individuals may take a cautious approach and consider declining disabled students access to a laboratory on grounds of safety issues. However, health and safety concerns should not (and cannot) be used as a blanket reason to refuse access to laboratories. The DDA is over-ridden by health & safety regulations, provided that the health and safety issue being raised is relevant to that specific individual in those precise circumstances. This means that there must always be an appropriate risk assessment, involving the disabled person as they are best informed about their own needs and any limitations. If, ultimately, the risks identified cannot be managed adequately, then this could possibly be legal justification for refusing the person access to that activity. However adjustments such as provision of a helper should be considered as possible ways to manage the risk. Your institution's disability officer and your legal team should provide advice on specific cases before refusing access to an activity is considered.

Maintaining academic standards

There is some concern that unless disabled students are able to undertake practical work themselves then they cannot fulfil all the requirements of their course. This is complicated further if the course is accredited by a professional body that cites practical skills as a competence requirement. Part II [Employment] of the DDA addresses this issue and states that there is a difference between a *competence* in terms of *standards attainment* and competence *in terms of ability*. This means that there is scope for supporting students and ensuring they get equivalent learning experiences, even if they cannot physically undertake practical work themselves. This topic is clarified in more detail at the Teachability website (see links below), which also offers specific advice about laboratory work.

SENDA does acknowledge that academic standards and "other standards" such as professional body requirements must be maintained. Therefore ultimately the student must be able to achieve (personally or with appropriate support) the learning outcomes specified in your course's validation documents. If your course requires laboratory work, this should be specified in the publicity material (which should also contain information about access to the course for disabled people).

Ultimately, it may be appropriate in some very rare cases to consider whether a reasonable adjustment *might* be to permit a modification of the course for an individual, e.g. such that they are asked to undertake an additional theoretical unit (or other activity and assessment) in place of a practical unit. However, this might only need to be considered after all other possible reasonable adjustments have been explored.

Wheelchair users

The most common physical disability reported by physical science departments (from a "straw poll" by the Centre) is students who use wheelchairs. In all cases cited, the host department was able to offer good provision for such students by making reasonable adjustments to the learning environment, especially laboratories. However, it should be noted that wheelchair users only account for 2-4% of all disabilities, with dyslexia being the most common disability.

One student with a mobility impairment has successfully gone on to do a 12 month placement undertaking an analytical chemistry project. On their return they indicated that they would want to do another laboratory project. This could potentially cause some difficulties due to the requirement for this student to work in a research laboratory, but this is being made possible through dialogue with the student to assess their needs and to make adequate provision for them in the laboratory.

Several institutions report that some students have had difficulties physically undertaking practical work themselves due to accessing the equipment. This may have been due to not being able to reach the equipment from their wheelchair (one student had to keep both legs horizontal) or they did not have the capability of controlling the equipment because of dexterity issues resulting from quadriplegia or physical tremors or weakness in the arms.

In all cases cited the host departments were able to support the students by providing a 'helper' who undertook the actual laboratory work but under the instruction of the student. Your institution's disability officer can assist with obtaining funding to pay for such helpers and any other adjustments.

One institution even provided a non-scientist helper so the student had to provide the full direction and scientific advice for the practical work. Another institution explained that students always worked in pairs so this was another opportunity for a non-disabled student to work with a disabled student, encouraging integration. Some institutions recruit science post-graduates as helpers in these circumstances, as their technical expertise helps with any potential health and safety issues in the laboratory (the helper is instructed to follow the student's instructions unless it would be unsafe to do so).

Other disabilities

A number of physical science departments reported their experience of supporting partially sighted or blind students. In the former case, there was extra provision of resources such as large font scripts and extra demonstrators to help in the laboratory. In the case of blind students Braille notes were provided and laboratory work was undertaken by helpers under the student's instruction. Again, your institution's disability officer can assist with access to funding for any extra costs.

One current example is a physics department that supports two blind students. In another example it was pointed out that a blind student wanted to undertake a PhD and there was a potential safety concern of working in a research laboratory - as opposed to the general access laboratories for teaching. However, it was possible to circumvent this potential problem by undertaking a formal risk assessment and identifying appropriate adjustments to equipment / access / procedures thus making "reasonable adjustments" in the laboratory.

Getting advice for disability support

Most institutions will have an in-house disability specialist – usually called the Disability Officer / Advisor although some have other titles concerned with Learner Support or Additional Learning Needs or Diversity. These specialists are the first port of call for academic and technical staff supporting disabled students.

There is also national support: HEFCE's widening participation (WP) agenda now covers disability issues and the Action on Access activity replaces the former National Disability Team. The Higher Education Academy and the HEFCE Equality Challenge Unit are also involved. The Scottish Funding Council (SHEFC) has a disability toolkit to provide advice and the Welsh Funding Council (HEFCW) provides direct funding to HEIs to support disabled students. TechDis is another organisation that offers help and support through the use of technology including highlighting many pieces of adaptive software which can be used to support students or students can use themselves (see links below).

There are a number of organisations that provide specific advice on supporting disabled students. The government website, Directgov (see links below) provides a range of valuable information for disabled students in higher education, including information for students about funding opportunities such as the Disabled Students' Allowances. Another organisation that provides disability support and advice for students is Skill, the National Bureau for Students with Disabilities. Skill is an independent charity that promotes opportunities for people with any kind of disability in learning and employment.

Tips for supporting students with physical disabilities

It is difficult to prepare in advance for all potential eventualities when it comes to supporting disabled students. However, there is a clear legal requirement to support disabled students by making reasonable adjustments wherever practicable. Only in exceptional *bona fide* cases such as on the grounds of safety, can a university refuse to admit a disabled student. However, with a little consideration and forward planning it is possible to support most, if not all, disabled students – both with physical and other disabilities.

A number of organisations are able to provide extensive support, advice and even funding for disabled students. In order to support students on an individual basis there are a few simple pointers that can help avoid potential problems arising:

- Contact disabled university applicants
- Invite them to your department
- Discuss their needs with them (this may be the responsibility of the institutional disability specialists)
- Develop a mutually agreed plan for their support
- Involve external help (e.g. disability officers)
- Seek advice from other departments with disabled students
- Provide an opportunity to meet other students – especially any with visible impairments who are willing to be role models
- Try not to make the whole process too focussed on the negatives – aim to adopt a "can do" attitude
- If you have a concern, raise it beforehand or as soon as possible with the disability specialists who may know the answer or will know where to find out. The student should not hear those concerns unless they cannot be addressed any other way - coming to university can be daunting enough for any student, having to also answer all of the academics' queries and concerns might be a bit much to expect.

Try not to make any assumptions until you have the chance to find out from prospective students what their needs

will be. The student will then be able to discuss any potential support that may be required. By considering these tips a mutual plan of support can be drawn up in such a way as to minimise any unnecessary adjustments the department needs to make, whilst ensuring students get support specific to their needs.

Links

SENDA Act 2001

<www.opsi.gov.uk/acts/acts2001/20010010.htm>

HEFCE section on support for disabled students

<www.hefce.ac.uk/widen/SLDD/>

SHEFC toolkit for improving equality for disabled students

<www.sfc.ac.uk/library/06854fc203db2fbd000001082e659bc0/>

HEFCW section on support for disabled students

<194.81.48.132/Widening_Access/disabled_students.htm>

Directgov government section on support for disabled students

<www.direct.gov.uk/DisabledPeople/EducationAndTraining/HigherEducation/fs/en>

Action On Access section on disability

<www.actiononaccess.org/index.php?p=1_3>

Teachability project

<www.teachability.strath.ac.uk/teachabilityintro.html>

Skill: National Bureau for Students With Disabilities

<www.skill.org.uk>

Royal Society of Chemistry section on supporting disabled people in the laboratory

<www.rsc.org/pdf/ehsc/disabled.pdf>

Institute of Physics section on supporting disabled people

<www.iop.org/activity/diversity/Disability/Guide/page_31593.html>

TechDis

<www.techdis.ac.uk/>

Higher Education Academy section on supporting disabled people

<www.heacademy.ac.uk/ourwork/learning/disability>

Supporting students with Asperger's syndrome in the physical sciences

<www.heacademy.ac.uk/physsci/projects/detail/development_projects_2007/hughes_dp_2007>

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