

**Scottish
Disability
Team**



**The Disability Equality Duty:
Implications and Opportunities for ICT
provision in Higher Education
Institutions and Colleges of Further
Education**

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Note on Language

In this document we use the language of “impairment” and “disability” as defined by the social model of disability. It is also the preferred language of the disabled peoples’ movement. Whilst people have impairments, e.g. deafness, blindness, muscular dystrophy etc, disability is the outcome of the interaction between a person with an impairment and the environmental and attitudinal barriers s/he may face. The Disability Discrimination Act 2005 (DDA), however, uses the term “disability” to mean what the social model defines as “impairment”, so it occurs in this way in this Guide when direct quotations from either the DDA or its associated Codes of Practice are used.

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Introduction

In 2005, the Disability Discrimination Act 1995 (the DDA) was amended to place a duty, known as the Disability Equality Duty, on public authorities to adopt a proactive approach to ensuring equality for disabled people. Higher Education Institutions (HEIs) and FE colleges (colleges) are included amongst the public authorities covered.

This report looks specifically at the impact of the Disability Equality Duty on the provision and use of information and communication technologies (ICTs) **by HEIs and Colleges in Scotland**. It considers the implications of the Duty on aspects such as accessibility considerations in ICT provision, including strategies and procurement; the impact of ICT decisions on disabled people; and the involvement of disabled people in prioritising ICT decisions.

The report also explores the positive potential of ICT in supporting HEIs/Colleges in meeting their obligations with respect to the Duty. This includes a discussion of how technology can be used to support the increased involvement of disabled people in public life and how technology can support the steps necessary to ensure that HEIs/Colleges promote disability equality in all aspects of ICT provision.

The document is organised as follows:

- A summary of the General and Specific Duties that are placed on institutions/colleges by the DDA 2005;
- Guidance on how the Disability Equality Duty relates to ICT provision and the relevance of this to the creation of an effective Disability Equality Scheme;
- Links to further information and useful resources.

Who is this Report aimed at?

It is hoped that the information contained in this report will be of particular use to:

- Institution-wide ICT managers and officers

- Faculty, School and Department ICT managers and officers
- Senior management;
- Disability support staff;
- Institutional web design/publishing staff;
- E-learning developers;
- Academics using ICT and e-learning in teaching and learning.

It will also be of interest to a wider audience with a general interest in disability equality and ICT. In particular, while the report is aimed at Scottish institutions and colleges, most of the information provided will be of relevance to readers elsewhere in the UK.

Disclaimer

This report presents an interpretation of the Code of Practice (The duty to Promote Disability Equality: Statutory Code of Practice Scotland), and is offered in good faith, but cannot be treated as legally binding advice. Where quotes and examples are taken from the Code, or from other published literature on the Duty, this will clearly be noted; otherwise interpretation must be treated as the opinion of author. Independent legal advice should be sought before any decision is taken in relation to compliance with the DDA.

Terminology

For brevity, in this report, some abbreviations are used:

- Higher Education Institutions are referred to as "HEIs" or "institutions".
- "Colleges" means Colleges of Further Education.
- The term "involving disabled people" is used to keep the text more concise. This term covers disabled staff, disabled students, other disabled people and disability organisations.

- “ICT” is used as a generic term to refer to information and communication technology – for example, software applications such as management information systems, student record systems, word processing systems, email systems, virtual or managed learning environments (VLE or MLE); web sites and web based applications; intranets; audio and videoconferencing facilities; and assistive technologies. The term also covers digital information in its many various formats.
- “DDA” – the Disability Discrimination Act 1995, as amended.
- “The Duty” – the Disability Equality Duty.

The Legislation

The Disability Discrimination Act 1995

Under the DDA 1995, Higher Education Institutions (HEIs) and Colleges are obliged to take reasonable steps to avoid discriminating against disabled people, under Parts II (Employment), III (Goods and Services) and, more recently, Part IV (Education).

These areas of the Act make no direct reference to ICT, but accompanying Codes of Practice strongly indicate that, if disabled people encounter discrimination resulting from accessibility problems present in ICT provided by an educational institution, this is likely to be unlawful under the Act.

The Disability Discrimination Act 2005

The DDA 2005 came into effect on 5th December 2005. It amends the DDA 1995 by placing a **General Duty** on all public authorities, including HEIs/Colleges, to have "due regard" to the need to (Chapter 2, paragraph 2.2):

- Promote equality of opportunity between disabled persons and other persons;
- Eliminate discrimination that is unlawful under the Act;
- Eliminate harassment of disabled people that is related to their disability;
- Promote positive attitudes towards disabled people;
- Encourage participation by disabled persons in public life; and
- Take steps to take account of disabled persons' disabilities, even where that involves treating disabled persons more favourably than other persons.

The phrase "due regard" is regularly used in the Code, and in this report. "Due regard" is defined in the Code (paras 2.33-2.43) as consideration of:

- proportionality – the impact on disabled people of positive changes to a particular decision or function, and
- relevance - the relevance of disability equality to a particular decision or function.

The concept of “impact assessment”, discussed later, helps institutions ensure that due regard is paid to disability equality.

In addition to this General Duty, some named public authorities, including HEIs/Colleges, are subject to **Specific Duties**. The main thrust of the specific duty regulations is that, by 4th December 2006, all HEIs/Colleges must have produced and published a Disability Equality Scheme. They must also follow the Scheme – by carrying out the actions specified, and evaluating the success of the scheme over time.

In more detail, the Scheme:

- Identifies how disabled people were involved in production of the Scheme;
- Describes how the institution/college will assess impact of decisions and functions with respect to disabled people;
- Describes how information relating to employment and delivery of education and functions will be collected and used; and
- Describes how the effectiveness of the actions presented in the Scheme will be evaluated.

The Scheme and reports on evaluating an institution’s/college’s effectiveness in following the actions set out in the Scheme must be published in a publicly accessible place – and, of course, should be published in accessible formats.

The Code of Practice also identifies the need for prioritisation of steps to ensure that those with the greatest positive impact on disabled people are addressed first.

Implications and Opportunities for ICT Provision in HEIs/Colleges

Under the DDA 1995, institutions/colleges should already be active in taking steps to reduce or remove accessibility barriers present in existing ICT and to avoid introducing new ICTs with unjustified accessibility barriers. The General and the Specific Duties in the DDA 2005 have potential further implications relating to ICT provision and ICT has a potentially valuable role in helping HEIs/Colleges meet their obligations.

The General Duty to promote Disability Equality

Promoting equality of opportunity

The Code explains the concept of equality of opportunity as ensuring that disabled people have:

“full opportunities and choices to improve the quality of their lives, and be respected and included as equal members of society”. (Paragraph 2.7)

It is widely documented that there is enormous potential for the use of ICT to help promote equality of opportunity for disabled people, through enhanced access to information and services, and improved communication. However, there is also a danger that exclusion can be introduced or exacerbated by particular decisions. For example, some disabled people may be unnecessarily excluded if a job specification requires the use of specific ICTs which have inherent accessibility problems, such as software that cannot be used with a screen reader, when the job could be done in other ways, without using that ICT.

NB Screen readers are dedicated text-to-speech software applications which enable blind people to use other software, such as word processing, database, spreadsheet and email applications, and web browsing software.

Screen readers can also work with Braille display devices to allow the output of on-screen content in Braille.

In particular, there is an obligation to ensure that ICTs, including generic software, web sites and e-learning applications, are designed with accessibility in mind. The positive duty under the DDA 2005 requires this to be a proactive and anticipatory approach, rather than a reactive one. This means ensuring that accessibility considerations **are of the highest prominence** in specification, budgeting, procurement, development, evaluation, support and maintenance of ICTs provided by institutions for use by staff and students.

Treating disabled people more favourably

The General Duty places a responsibility on public authorities to take account of disabled persons' disabilities "even where that involves treating disabled persons more favourably than other persons" (Para 2.13). In other words, the amended DDA "does not prohibit or restrict positive discrimination in favour of disabled people in any way" (Para 2.15).

As such, amendments to existing practice may need to be supplemented by "additional dedicated services" (Para 2.16). For example, in addition to encouraging attendance of general ICT induction programmes, HEIs/Colleges may need to provide specific training for disabled staff and students on use of the assistive technologies provided by the HEI/College.

The Code also states that, where an alternative dedicated service is provided for disabled people, this should be provided as a choice, not as an "enforced, segregated provision".

Harassment

The General Duty sets out obligations of organisations to have "due regard to the need to eliminate harassment of disabled persons that is related to their disabilities" (para 2.22). At first glance, it may be difficult to establish the

relevance of this aspect of the duty to ICT provision. However, there is potential relevance in that an institution's/college's ICT support staff should ensure that disabled staff and students do not encounter undue harassment, regardless of the nature or frequency of any requests they make for assistance.

Positive Attitudes

The General Duty requires public authorities "to have due regard to the need to promote positive attitudes towards disabled people" (para 2.25).

In an ICT context, this could be translated as the involvement of disabled people as advisors throughout the design and development stages of ICT projects, such that not only does the advice provided by disabled people inform the project, but that others involved in the project develop an awareness and understanding of the capabilities and opinions of disabled people with respect to ICT. For example, a positive step would be to ensure that disabled people are included in user personae and scenarios when developing specifications for a new ICT.

The Code also points out that conformance with the DDA should not be cited as the reason behind closure or withdrawal of a service, noting that: "the Disability Discrimination Act would not require the closure of any service, as the duty to make adjustments requires only what is 'reasonable'". This would apply to any ICT that institutions/colleges might have previously considered withdrawing on accessibility grounds.

NB The Disability Rights Commission (DRC) provides more information on definitions of "reasonable" in the context of service provision, in: *What are Reasonable Adjustments?*

<http://www.drc-gb.org/businessandservices/bizdetails.asp?id=190&title=bs>

Participation in public life

The General Duty requires institutions “to have due regard to the need to encourage participation by disabled people in public life” (para 2.27).

An ICT-related example might be to ensure that committees responsible for devising and implementing ICT-related strategies include at least one disabled person, who has an influence on decision making at least equal to the other committee members.

Specific Duties

Disability Equality Scheme

As explained previously, HEIs/Colleges are required to publish their first Disability Equality Scheme by 4th December 2006. The use of ICT can have a significant positive role to play throughout the life cycle of the Scheme. There are also areas in which institutional decisions and actions relating to ICT will need to be considered with respect to their impact on disabled people.

This section considers the relevance of ICT in each of the areas which are to be covered by the Scheme.

Involving disabled people and gathering information

One of the key requirements of the new legislation is the responsibility placed on institutions/colleges to ensure that disabled people play an active role in the formation of the Disability Equality Scheme. This requires early, regular, meaningful and appropriate involvement, through accessible mechanisms.

More in-depth discussion on involving disabled people and strategies relating to the type of information that needs to be gathered, the relevance and completeness of existing information held by institutions and analysis of the information, can be found in the Equality Challenge Unit's Briefing Paper 3: *Disability Equality Schemes: Collecting and improving baseline data and the importance of involving disabled people*. Available at <http://www.ecu.ac.uk/publications/pamphlets/>

ICT can play a major role in supporting the involvement of disabled people. In particular, it can significantly improve the communication process, mainly for people whose impairment(s) may limit their ability or willingness to communicate in more traditional ways and situations, such as verbally in a large meeting. It may be necessary or convenient for some people to be able to present input in written form through email or electronic documents, or

converse with others in the consultation process through email, instant messaging software or web-based discussion fora. This may be particularly relevant for some disabled participants from external organisations - people whose involvement may be potentially valuable, but who may be physically located away from the institution/college and thus find it difficult to travel to the campus.

Research into computer-aided interviewing has suggested that it can be a particularly effective way of eliciting information of a sensitive nature from respondents. This is potentially vital in helping to ensure that the information gathered relating to current institutional practice with respect to disability support is truly reflective of respondents' views.

While there are many benefits of electronic communication for disabled people, there are also accessibility problems with some instant messaging, bulletin board and chat room software applications and interfaces, which can make them difficult or impossible to use for some people. Care should be taken to ensure that communication software used, and materials provided as part of the consultation process are themselves as accessible as possible. (Policy relating to accessibility and ICT provision is discussed separately).

For more information, see: Smith J. (2004) *Accessibility of online chat programmes*. Web Accessibility in Mind project (WebAIM):

<http://www.webaim.org/techniques/articles/chats>).

There is an obvious role of ICT in the process of gathering information relevant to promoting disability equality and informing and monitoring the Disability Equality Scheme. As the Code of Practice and other resources point out, institutions/colleges should already have conducted similar processes as part of obligations under the Race Relations (Amendment) Act 2000.

The Equality Challenge Unit reminds institutions/colleges that they must include in their Disability Equality Schemes

information on how data is gathered about the effects of policies and practices on disabled people, including:

- “the effect of its policies on the recruitment development and retention of disabled people”, and
- “the effect of its policies on the educational opportunities of disabled students.”

(Equality Challenge Unit, 2005: Briefing Paper 3: *Disability Equality Schemes: Collecting and improving baseline data and the importance of involving disabled people*, p6)

Thus, data gathering may include analysis of existing data that is already gathered as part of institutional/collegial procedure, as well as gathering additional data necessary to measure impact on disabled people.

Impact assessment

A key part of an institutional Disability Equality Scheme is impact assessment of policies and practices which, according to the Code of Practice (Section 3.29), includes all current and proposed activities which the authority carries out. It also relates to the impact upon disabled staff, disabled students and disabled visitors and/or service users, both existing and in the future.

The Scottish Disability Team publication “*Disability Impact Assessments – A Brief Guide*” provides valuable information on carrying out impact assessments, in terms of what should be subject to an impact assessment, and how to go about carrying out assessments. The guide is available at

<http://www.sdt.ac.uk/resources/ImpactAssessmentGuidanceDec05.doc> (Word version)

The critical areas of relevance to this report are:

- **ICT provision and support** – referring to technology as tools to allow staff, students and others to do their jobs, receive education or other services as defined in the legislation.

- **Digital information creation and publication** – the nature of the information produced by ICTs, for use by staff, students and others.
- **ICT in learning and teaching** – the specific role of ICT in supporting students and staff in an educational context.

These areas cut across all general areas of institutional activity, although policy, practice, procedure and criteria may variously be set at institutional, faculty, departmental or school level.

ICT Provision

Disabled staff, students and service users may require, or be required, to use computing equipment as part of their work, study or access to services. They may also require additional assistive technology to enable them to use their computer. This may be hardware (such as alternative input devices replacing the mouse or keyboard) and/or software (such as screen reading or screen magnification software), or adjustments to the standard desktop computing system provided by HEIs/Colleges.

For example, if an assistive technology or access solution is available at only specific locations, this may have an adverse impact on a disabled student if the student is involved in collaborative coursework that requires group discussion at a computer terminal, and it is not possible for the discussion to take place at a terminal where the assistive technology is available.

There is also a need to monitor the impact of changes made to out-of-the-box systems that may have been procured from a third party supplier, but enable a degree of customisation to be made by the institution. If the impact of change on the level of accessibility of the system is not considered, disabled people may be placed at a significant disadvantage.

The storage of a disabled person's specific access requirements, and the ability of an e-learning resource to respond to those requirements, is the focus of ongoing work led by the IMS Global Learning Consortium. This is of

potentially significant impact – and is discussed further in the **Standards, Guidelines and Best Practice** section of this document.

ICT Provision - Areas for impact assessment:

- Any policy or practice relating to a baseline provision of computing equipment (hardware and software) will need to be assessed for its impact on disabled staff, students and service users, particularly in terms of availability of assistive technologies required by particular groups.
- Any policy or practice relating to customisation or changes made to out-of-the-box systems that may lead to a reduction in accessibility of the systems.
- Particular areas of focus will include those that cover:
 - Assessment of users’ access requirements and matching of appropriate assistive technology or access solutions to those requirements;
 - Education and training of users in effective use of their particular access solution;
 - Monitoring of users’ needs and re-assessment of their access solution as required;
 - The physical availability (around campus) of assistive technologies and access solutions.

ICT Support

Given that many disabled people will require additional support in finding and using the most appropriate assistive technology or access solution, this should also be subject to an impact assessment. The level of support provided by the institution’s ICT department to disabled staff, students and service users will, therefore, be highly relevant.

Of particular importance will be the availability of knowledge amongst ICT support staff of the assistive

technology provided or likely to be provided by the institution, both in terms of number of support staff with the knowledge and the time they are available. The support required will include provision of advice both on use of accessibility features of operating systems or specific software applications; and on configuring and operating dedicated assistive technologies.

For example, disabled people may be placed at a disadvantage if ICT support includes only one staff member with detailed knowledge of the assistive technology provided by the institution, and that staff member is not available to provide full-time cover.

There is also a need to assess general training materials and programmes provided by HEIs/Colleges, whether in-house or third-party, for their consideration of accessibility issues. Material that makes assumptions about a person's abilities or fails to cover accessibility issues is likely to place disabled people at a disadvantage.

ICT Support - Areas for impact assessment:

Any policy, practice or procedure relating to provision of support to disabled staff and students, in terms of:

- Influence of knowledge and experience of assistive technology in defining recruitment strategies for ICT support staff.
- Training of ICT support staff in assistive technology and access solutions (hardware and software) and any known or potential issues with other ICT provided by the institution.
- Availability of ICT support staff with the appropriate training.
- Suitability for people with specific disabilities of generic ICT-related training materials and programmes provided by or used by the HEI/institution.

Digital Information

The use of digital information in a variety of forms is the other crucial area requiring attention. There are many formats in which electronic information may be provided, including popular documents formats like Microsoft Word and Adobe PDF, as well as HTML web pages and multimedia such as video, audio and animated content (see **Standards, Guidelines and Best Practice** for further links to accessibility for each format). Decisions relating to the format and production of digital information, and availability of alternatives, are likely to have an impact upon a disabled person who is trying to access that information

For staff, digital information likely to be of importance will be diverse in nature, but may include:

- Contract-related information – information on benefits, pay scales, pensions, codes of practice, grievance procedures, regulations;
- Administrative information – staff and student records, management or planning-related information; minutes of meetings; consultation documentation;
- Information relating to expense claims; travel documentation;
- Health and safety related information;
- Research-related information – funding opportunities, information regarding research grant submission procedures; costing procedures; research commercialisation procedures;
- Information relating to the purchase of equipment; fault-reporting of existing equipment and estate;
- Career development information – information on personal development courses, internal employment opportunities;
- Announcements - important documentation for all staff or for individual.

For current and potential students, digital information likely to be of importance may include information on topics as diverse as:

- Accommodation;
- Entry requirements;
- Course availability and syllabi;
- Registration and matriculation;
- Timetabling;
- Reading lists; advance work;
- Codes of conduct, institution regulations; disciplinary procedures;
- Assessment and examination;
- Careers;
- Counselling and advice;
- Societies, clubs and union-related activities and opportunities.

Digital material used in teaching and learning is also critical - this is discussed separately.

Much of the information specifically aimed at staff and students will be provided on the institution's web site; some information may be available through an intranet, extranet and/or virtual learning environment; and access may consequently be restricted. Other electronic information may be circulated by email. On the institution's public web site, there is also likely to be information of interest to other individuals on topics such as:

- Library facilities;
- Conference hosting facilities;
- Travel directions;
- Consultancy services;
- Procurement and contracting;
- Job vacancies;

- Learning programmes available to the general public;
- Press and publications;
- Events and functions open to the public;
- Research activity, including investment, commercialisation and collaboration/partnership opportunities;
- Research expertise within the institution, both at a faculty/department/school level and at individual level;
- Quality assurance – including performance in research and teaching assessment exercises;
- Public statements of performance, action and intent as required under legislation such as the Race Relations Amendment Act and Disability Discrimination Act. (Note that requests for information from members of the public are likely to have increased in frequency and variety since the introduction of the Freedom of Information (Scotland) Act 2002).

In considering impact assessment of digital information on disabled people, it is important to focus on both the creation and publication of the information.

Digital Information Creation

Accessible information creation requires the appropriate software and training on the part of the author.

Software may be a dedicated application or part of a more complex suite of tools, and includes, for example, word-processing software, databases, spreadsheets, presentation software, web site creation software, content management systems, management information systems, and student records systems. The facilities for generating accessible output may therefore vary from application to application.

To ensure optimal accessibility, software should:

- Generate optimally accessible output when output is automated;

- Prompt authors to include accessibility features where it would be impossible for the software to add them manually. This includes provision of text alternatives to graphical or audio content, and indication of document structure (identification of document headings, for example).

In particular, any software that enables the publication of HTML-based web content (including content management systems and publishing tools of other systems) will require to be assessed for capability of outputting accessible material – including automated generation of documents and prompts for authors to include features to improve accessibility. See **Standards, Guidelines and Best Practice** for more information.

Digital information creation - Areas for impact assessment:

Policy, practice, procedure and criteria relating to:

- Procurement and provision of tools for creating and publishing optimally accessible electronic information, including web content;
- Circulation of digital material that may be for restricted audiences and therefore not published online, and provision of the information in alternative accessible formats if required;
- Staff training relating to publishing accessible electronic materials.

Digital Information Publication

There is a need to monitor the accessibility of digital information that a disabled staff member, student or member of the public is likely to encounter. In this area, institutions may already be active, given their responsibilities under Parts II, III and IV of the Disability Discrimination Act by, for example, specifying baseline

levels of conformance of Web pages with accessibility guidelines.

Given that documents may have originally been authored with accessibility in mind, but then amended to a point where accessibility barriers have been introduced, it is important that these barriers in published electronic information are identified and addressed as soon as possible. At the same time, there are opportunities for extending the accessibility of information or experiences for specific groups of disabled people through the use of alternative formats, such as podcasts or multimedia presentations.

Obviously, given the enormous amounts of digital information likely to be present within an institution's 'digital environment', regular checking of every resource is likely to be impractical. However, an effective strategy needs to ensure that there are clearly identified roles and responsibilities for monitoring and compliance, including strategies for addressing problems found, and action taken by the institution against the resource and author if accessibility barriers are not adequately addressed.

For example, if an institution's policy is to circulate important or time-critical announcements by emailing scanned copies of a paper document, there are adverse implications for blind and visually impaired people if the text of the scanned document has not been made available in screen reader accessible format.

If security measures are implemented in order to limit the likelihood of malicious capturing and use of institutional resources, such as email addresses, disabled people may be at a disadvantage if the security measure also prevents people with specific access requirements from accessing or using the resource. For example, an online registration facility that requires users to enter the characters shown in a distorted image (sometimes referred to as a "captcha") may be unusable by anyone who cannot read the image (e.g. due to a visual impairment)

More information on accessibility and security measures is provided in the W3C document *Inaccessibility of CAPTCHA*

- *Alternatives to Visual Turing Tests on the Web*, available at: <http://www.w3.org/TR/turingtest/>

Digital information publication - Areas for impact assessment:

Policy, practice, procedure and criteria relating to:

- Current baseline levels of accessibility to be met by digital information provided to staff, students and service users;
- Methods for providing information in alternative, accessible formats when required;
- Accessibility-focused evaluation and repair strategies for published digital information, including:
 - programmes of accessibility evaluation of existing material – scope, nature and frequency;
 - delegation of responsibility for carrying out evaluations and for making necessary repairs to documents found not to meet accessibility standards;
 - policy for dealing with failure to repair an inaccessible resource or provide an accessible alternative, with regard to the responsible staff member and to the resource itself;
- Nature and impact on accessibility of any security measures aimed at limiting or preventing access to information or resources by malicious software.

ICT in Learning and Teaching

The impact of the use of ICT to support teaching and learning can have a significant impact on disabled staff and students - whether learning on-campus or at a

distance. In particular, the use of e-learning resources can have a positive or negative impact on disabled people.

Although HEIs/Colleges may already be addressing some of the issues under the DDA 1995, impact assessment is still required to ensure that appropriate steps are being taken to ensure that e-learning resources actively enhance the accessibility of the learning environment rather than introduce new barriers.

Current approaches to developing, procuring and providing e-learning resources and other ICTs in teaching and learning activities will need to be assessed in terms of their impact on disabled users.

ICT in learning and teaching – areas for impact assessment:

Policy, practice, provision and criteria relating to:

- **Baseline provision** of ICTs for teaching and learning – both at institutional and at faculty/school levels. This may include institutional policy and practice in selecting a VLE or MLE.
- Assessment of the **accessibility of a teaching and learning resource**. This will require to be assessed from a user perspective (is the learning objective accessible to a student with a specific impairment? Can a disabled member of teaching staff configure the resource as appropriate? Has the resource been designed and evaluated for accessibility following appropriate methods (see Standards, Guidelines and Best Practice section)?)
- The **provision of alternative accessible routes to achieving the equivalent learning experience**. If it can be demonstrated that the resource cannot be made accessible to people with a particular impairment, what alternative provision, if any, exists for that group?

The resources provided by the Teachability project (<http://www.teachability.strath.ac.uk>) will be helpful in establishing appropriate strategies for ensuring that e-learning resources are used to enhance, rather than reduce, accessibility of the curriculum.

Procurement

While some ICT may be developed in-house, institutions are likely to procure ICTs from external agencies, which may have varying levels of expertise in and commitment to accessibility in the work they produce. Policy, procedure and practice relating to procurement of ICT will therefore require to be assessed for impact on disabled people.

The Code of Practice gives specific examples of such a scenario:

“A Scottish Executive Department that is planning to procure a new IT system should ensure that its action plan includes the work it will do to ensure that the new system is suitable for use by disabled employees. The action plan should also indicate the way it will develop the specification so that the system delivers the right products for disabled customers. This might include having a means of identifying those customers and their requirements, which could lead to being able to, for example, print notifications and letters in accessible formats for visually impaired people.” (pp68-69)

“The Head of Information Technology of a Scottish Executive department is overseeing the redesign of the department’s website, which is being contracted out to a web designer. The head of IT ensures that the tender documents include reference to the Disability Equality Duty and in particular the need to ensure that the web site is fully accessible to disabled people. The standard terms of contract are revised to reflect the fact that any updating and/or maintenance work on the website must ensure access for disabled people, in order to ensure that

the department is meeting its disability equality duty.” (pp117-118)

There is a clear need to ensure that accessibility is influential at all stages of the procurement process. In particular, institutions need to establish the level of accessibility which the system in question will meet, how that will be assessed once the system is delivered, and the action to be taken should the specified level of accessibility not be met.

There is also a need to ensure that the supplier is suitably qualified to deliver the desired level of accessibility, and has a demonstrable commitment to developing accessible systems – including due mention of accessibility in supporting documentation and training materials. This may be established at an early stage during assessment of candidate systems and suppliers, or by seeking references or third party comment on their commitment and track record with respect to accessibility.

HEIs/Colleges should also be aware of their potential obligations under the Public Procurement Regulations, the Public Contracts (Scotland) Regulations 2006. Where a procurement by a public authority is subject to these regulations, the authority is obliged to “whenever possible, take into account accessibility criteria for disabled persons or the suitability of design for all users” when laying down technical specifications for the procurement. Similar obligations exist for public authorities in England and Wales.

The *Public Contracts (Scotland) Regulations 2006* are available online at:

<http://www.opsi.gov.uk/legislation/scotland/ssi2006/20060001.htm>

Procurement – Areas for impact assessment

Policy, practice, procedure and criteria relating to:

- The extent to which disabled people are involved in the drawing up of requirements to be specified in any invitation to tender or system description;
- The extent to which minimum standards of accessibility are included within other baseline requirement specifications or invitations to tender for ICT systems or products, and in contracts between the institution and supplier;
- Assessment of candidate suppliers with respect to their commitment to, capability and track record of supplying accessible solutions and supporting documentation and training material;
- Strategies for considering alternatives should no product or tender meet the baseline for accessibility;
- The extent to which accessibility of ICT delivered by third parties is evaluated against the specified baseline standard, and the actions to be taken should the delivered solution be deficient.

Standards, Guidelines and Best Practice

The process of commissioning ICTs that meet acceptable levels of accessibility has been eased by the publication of a number of standards and guidelines, some of which specify basic levels of accessibility, and others that specify a development process for ensuring optimally accessible ICT.

When creating their Disability Equality Scheme, institutions/colleges should therefore investigate adopting these standards and guidelines in minimum specifications, invitations to tender, and other key documents that set out basic requirements of ICT.

Standards

Relevant standards related to ICT accessibility include:

- ISO 16071: *Ergonomics of human-system interaction -- Guidance on accessibility for human-computer interfaces*. This standard provides advice on issues related to designing software and interactive systems for people with varying sensory, mobility and cognitive impairments.
- ISO 13407: *Human-centred Design Processes for Interactive Systems* is not directly focused on accessibility, but does describe a process of involving end users throughout the design and development of ICT.
- The process for **commissioning** accessible web sites has also been standardised in the UK – the Publicly Available Specification (PAS) 78 *Guide to good practice in commissioning accessible websites* was published by the British Standards Institute (BSI) in March 2006. It addresses issues such as specifying appropriate levels of accessibility to be met by the web site to be developed, identification and selection of a suitably qualified organisation to carry out the work, and accessibility validation and assessment methodologies.

ISO standards can be ordered from the International Standards Organisation web site: <http://www.iso.org>

BSI standards can be ordered from the British Standards Institute web site: <http://www.bsi-global.com>

Guidelines

The World Wide Web Consortium's (W3C) Web Accessibility Initiative (WAI) has developed three important sets of accessibility guidelines.

- The *W3C Web Content Accessibility Guidelines (WCAG) Version 1.0* considers the accessibility of **web sites**. Conformance with WCAG can be specified at three levels (Single-A, Double-A or Triple-A). In theory Triple-A conformance indicates the highest level of accessibility, although in practice conformance levels may not always be true indicators of a site's accessibility and usability to disabled people. At the time of writing, Version 2.0 of the WCAG is in draft. Publication is anticipated towards the end of 2006.

The WCAG are available at
<http://www.w3.org/TR/WCAG10/>

- The *W3C Authoring Tool Accessibility Guidelines (ATAG)* is also a relevant accessibility standard for **authoring tools** – software that enables development and publication of web content – for example, web site design tools, content management systems and authoring tools provided by virtual learning environments. Institutions should strive to ensure that authoring tools they provide staff and students meet the ATAG in order to maximise the accessibility of the online material published.

The ATAG are available at
<http://www.w3.org/TR/ATAG10/>

- The *W3C User Agent Accessibility Guidelines (UAAG)* covers **Web browsers**, including assistive technologies used to allow access to web content. Institutions should provide web browsing

technologies that conform as far as possible to UAAG.

The UAAG are available at
<http://www.w3.org/TR/UAAG10/>

NB Unfortunately, at the time of writing (February 2006) it must be noted that conformance levels with the UAAG and ATAG amongst market-leading browsing and authoring tools is disappointing. As a result, institutions mandating conformance in tools they procure and provide may find their choices limited. It is to be hoped that the demands of public authorities to meet their obligations under the Duty will act as a driver for browser and authoring tool manufacturers to improve efforts at meeting the accessibility standards set by these guidelines.

Additionally, institutions should be aware of ongoing work in creating a framework for capturing and storing a disabled student's accessibility preferences as part of a wider learner profile, and the development of e-learning resources that can adapt in format and delivery based on a learner's profile. This work, led by the IMS Global Learning Consortium, has produced the *ACCLIP* (*Accessibility for Learner Information Profile*) and *ACCMD* (*Accessibility for all Metadata*) specifications and supporting resources, and is in the process of evolving into recognised international standards.

More on accessibility activities of the IMS Global Learning Consortium can be found at:

<http://www.imsglobal.org/accessibility/>

Best Practice in Accessibility for specific formats

Technology vendors provide a wealth of accessibility information relating to widely used formats for digital information and applications in educational institutions:

Adobe Accessibility – information on Portable Document Format (PDF) and accessibility:

<http://www.adobe.com/enterprise/accessibility/>

IBM Developer Accessibility Guidelines, including advice on general software and hardware development, plus specific guidelines on web, Java and Lotus Notes accessibility: <http://www-306.ibm.com/able/guidelines/>

Macromedia Accessibility Resource Center (while Macromedia is now part of Adobe, this separate resource exists to cover Macromedia technologies such as Flash and Shockwave as well as authoring software such as Dreamweaver):

<http://www.macromedia.com/resources/accessibility/>

Microsoft Accessibility – advice on Windows accessibility and on specific Microsoft products:

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

Resources and Tools

Some resources and tools that institutions might find useful include:

- The DRC Code of Practice on the Disability Equality Duty (Scotland) (PDF): http://www.drc-gb.org/thelaw/docs/32246_tso_DRC.pdf
- Disability Rights Commission resources on the Disability Equality Duty: <http://www.drc-gb.org/thelaw/publicsectordutycodes.asp>
- Equality Challenge Unit (<http://www.ecu.ac.uk>) – advice and publications relating to the Disability Equality Duty, including:
 - Briefing Paper 3: collecting & improving baseline data and the importance of involving disabled people (PDF): http://www.ecu.ac.uk/publications/pamphlets/e_briefing3.pdf
 - Disability Equality Duty Update 06/05 – initial HEI responses to the new duty (PDF): <http://www.ecu.ac.uk/publications/updates/06-05.pdf>
- Scottish Funding Council (SFC) Disability self-evaluation tool: improving equality for disabled people in Scotland's colleges and universities: <http://www.sfc.ac.uk/library/06854fc203db2fbd000001082e659bc0/>
- An 8-Step Web Accessibility Implementation Model (Web Accessibility in Mind project) – this concentrates on web accessibility but has advice of relevance to ICT provision more widely: <http://www.webaim.org/coordination/implementation/>
- Disability Impact Assessments – A Brief Guide <http://www.sdt.ac.uk/resources/ImpactAssessmentGuidanceDec05.doc>

Other sources of useful information:

- Techdis – E-learning and accessibility – Advice for Learning and Teaching Practitioners:
http://www.techdis.ac.uk/index.php?p=6_2
- The RNIB Software Access Centre - information on creating and procuring accessible software:
<http://www.rnib.org.uk/softwareaccesscentre>.
- Scottish Disability Team: <http://www.sdt.ac.uk>
- Teachability: Creating an Accessible Curriculum for Students with Disabilities:
<http://www.teachability.strath.ac.uk/>