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SUPPORTING THE DEVELOPMENT OF E-LEARNING ACCESSIBILITY PRACTICES: NEW AND EMERGENT ROLES FOR STAFF DEVELOPERS

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Abstract

In the United Kingdom, The 2001 Special Educational Needs and Disability Act (SENDA) made it an offence for educational institutions to discriminate against a disabled person by treating him or her less favourably than others for a reason relating to their disability. The Act covers all aspects of student services, but the particular aspects that are relevant to the work of learning technologists include e-learning, distance learning, examinations, libraries and computer facilities. This paper will explore learning technologists response to this legislation and their attempts to develop a clearly defined “e-learning accessibility practice. These attempts have involved adapting or re-framing generic accessibility tools and guidelines for more specific practices and involving disabled students or their advocates in the design of electronic material. The implications of these issues for the role of staff developers in supporting and encouraging the development of new “accessibility” practices will be discussed.

Keywords

disability, e-learning, accessibility, staff development

Introduction

In the United Kingdom (UK), The Special Educational Needs and Disability Act (SENDA 2001) was brought in as an amendment to the Disability Discrimination Act (DDA 1995) and is being implemented as Part 4 of that Act. From September 1st 2002, the Act made it an offence for educational institutions to discriminate against a disabled person by treating him or her less favourably than others for a reason relating to their disability. All aspects of student services are covered by the Act, including e-learning. Examples of the range of e-learning activities that are covered include:

- Information and resources hosted on general university web pages (e.g. prospectus and admissions information, library catalogues and literature databases);
- Virtual Learning Environments (VLES);
- Computer Assisted Assessments (CAA);
- Course material contained within departmental or school web pages;
- Computer workstations in libraries, laboratories and other study areas;
- Multimedia applications;
- Assistive technology.

Discrimination will be considered to have occurred if a disabled person is treated less favourably for a reason relating to their disability than a non-disabled person to whom that reason does not apply or if there is a failure to make “reasonable adjustments without which the disabled person is placed at a substantial disadvantage”.

The only widely accepted interpretation of “reasonable adjustment” relates to the accessibility of web based teaching material where it is generally considered that adhering to the accessibility guidelines of the World Wide Web Consortium (WC3) is a reasonable adjustment (Witt and McDermott, 2002). Other, less cited examples of what a reasonable adjustment might entail for other forms of e-learning, include (Wilder, 2003; Sloan, 2002; Wiles, 2002):

- Making lecture notes and handouts available in a digital or other alternative format;
- Providing adjustable desks to enable wheelchair access to PCs and workstations;
- Making word prediction software available on some or all public workstations;
- Making screen reading software available on some or all public workstations;
- Providing text alternatives for an audio or video file contained within a multimedia package;
- Allowing students to navigate between CAA questions using a keyboard rather than a mouse.

Despite these examples, Wilder (2002; p6) advises that whilst there is an imperative not to ignore the legislation, how educational institutions attempt to implement the law in practice is likely to vary greatly depending on their understanding and interpretation of what standards the law courts will use as benchmarks when judging reasonable adjustment. This reveals a huge difficulty for learning technologists. On the one hand it is very clear that they must respond to SENDA, but on the other hand a clearly understood and articulated practice that identifies a definitive set of “reasonable adjustments” does not yet exist. This paper will explore how learning technologists in the United Kingdom are attempting to develop more clearly defined “e-learning accessibility practices” in order to identify issues that are causing difficulty and that may therefore require input from those responsible for staff development within higher education institutions.

Emerging e-learning accessibility practices

A review of the learning technology literature published between 2000 and 2003 revealed that learning technologists were attempting to develop a more clearly understood and defined accessibility practice by adapting or re-framing generic accessibility tools and guidelines for more specific practice(s). They were also beginning to recognise that interpretation of “reasonable adjustment” might be helped or advanced by the involvement of disabled people or their advocates in the design of electronic material.

Adapting or re-framing generic accessibility tools and guidelines for more specific practice(s)

A number of accessibility and guidelines were in existence prior to SENDA and the literature review revealed a large number of articles that attempted to suggest how they could be used to help comply with SENDA. The most commonly cited guidelines are those that focus on web accessibility, for example those produced by WC3, most specifically the Web Content Accessibility Guidelines (WCAG). There are 14 guidelines (World Wide Web Consortium, 1999):

1. Provide equivalent alternatives to auditory and visual content;
2. Don't rely on colour alone;
3. Use mark-up and style sheets and do so properly;
4. Clarify natural language usage;
5. Create tables that transform gracefully;
6. Ensure that pages featuring new technologies transform gracefully;
7. Ensure user control of time-sensitive content changes;
8. Ensure direct accessibility of embedded user interfaces;
9. Design for device independence;
10. Use interim solutions;
11. Use W3C technologies and guidelines;
12. Provide context and orientation information;
13. Provide clear navigation mechanisms;
14. Ensure that documents are clear and simple.

For each guideline, there is a list of checkpoints and each checkpoint is given a priority level from one to three, where priority one provides a minimum level of accessibility. The general consensus seems to be to design for priority one and two (Wilder, 2002) where for priority two the needs of most but not all disabled students will be addressed.

Whilst many learning technology practitioners make reference to these guidelines, very few provide a detailed description or explanation as to how these guidelines can be applied in practice. Witt and McDermott (2002) begin to address this by describing their experience of attempting to design a Web Site to priority three of the WCAG. They outline how they chose Dreamweaver as the design tool, Bobby as a validator to check completed pages and the LIFT plug-in to check ongoing progress. Their experience led them to report how they needed to produce their own simplified version of the WCAG because “extracting the desired information can be confusing”. For example, in simplifying guideline thirteen (provide clear navigation mechanisms), which has ten checkpoints, Witt and McDermott’s simplified version states:

Provide clear and consistent navigation mechanisms, such as orientation information, navigation bars, a site map, etc., to increase the likelihood that an individual will find the desired information in a site (Witt & McDermott; p45).

Of the few people like Witt and McDermott, who have attempted to produce their own interpretations of accessibility guidelines, some have produced very general guidelines (e.g. Sloan, Rowan, Booth & Gregor, 2000) while others have produced more technology or disability specific guidelines. An example of technology specific guidelines is the WebCT guidelines produced by Pearson and Koppi (2001), who evaluated the accessibility of WebCT (a VLE) and then distilled their findings into a set of guidelines for academic designers of online courses:

- Ensure consistent and appropriate use of graphics, icons and other visual cues;
- Ensure all graphics, figures and other illustrations include a text equivalent;
- Organise content to take account of the transitions to an online environment;
- Use the features provided by WebCT to organise and structure course content;
- Make PDF and other read only formats accessible;
- Be aware of the limitations of screen readers in interpreting unusual text, characters and abbreviations;
- Ensure that tables are carefully and appropriately used;
- Ensure appropriate use of colours and contrasts in screen design;
- Provide alternative sources of information for video or audio;
- Use style sheets to format text and control layout.

The work of Stiles (2001) however, would suggest that all the content inside a VLE will be rendered inaccessible if VLE manufacturers do not address the accessibility of the VLE itself. Examples of disability specific guidelines include those produced by Lockley (2002) and Blankfield (2002) who give some advice on making web based course materials accessible to dyslexic students. Whilst Lockley (2002) offers five simple design guidelines, there is no indication of whether these guidelines are grounded in practice and experience:

- Foreground and background colours should contrast well. Text should be clear and easy to read, especially over colourful backgrounds;
- Try to avoid putting too much information on one page;
- Try to plan out your web page before you begin to write it;
- Provide alternative text for any graphics;
- The inclusion of a site map is essential.

Blankfield (2002) on the other hand based what she calls “good practice” guidelines on interviews that she had conducted with dyslexic students who were using WebCT:

- Visual elements are important;
- Put key information instructions and tasks towards the top of a page;
- Post lecture slides in advance of lectures;
- ‘Chunk text appropriately’;
- Space lists of links.

Involving disabled people or their advocates in the design of electronic material

Maureen Piggott, a regional director of a disability charity in the UK called MENCAP challenges learning technologists to be user or student centred in their design approaches:

The W3C guides to web design...are an example but the reality is that information providers, designers and developers are too remote from people with cognitive disabilities to produce person-centred solutions. (Piggott, 2002; p23)

Some learning technologists have taken up Piggott's call to involve disabled students in the design of accessible web sites. Pearson and Koppi (2001) for example, argue that the key to accessible courseware is to take a learner-centred design approach. While Smith (2002; p53) emphasises the involvement of dyslexic students in his design of a VLE Interface and makes a plea for a wider deployment of user testing:

If user-testing were more widely deployed in both the academic and commercial world, the potential would exist to produce better all round interfaces...This should produce a more satisfactory product from the user's viewpoint.

In addition to the call to involve disabled students there is a call to engage in a dialogue with people who are knowledgeable about the needs and concerns of students with disabilities (disability officers or co-ordinators). For example, Phipps (2002) urges staff and educational developers to give serious consideration to using "non-traditional facilitators" such as disability officers for workshops in this field. In describing how a computation department attempted to deliver an inclusive curriculum using specialist software, Conroy (2002) describes how the internal drivers for this initiative were the departmental disability co-ordinator and the university's disability and learning support advisor.

Developing e-learning accessibility practices: a role for staff developers?

The findings of the literature review suggest that whilst e-learning accessibility practices are emerging, they need to be developed further so that there is less difficulty in interpreting or applying accessibility guidelines and a clearer understanding of what adjustments are reasonable to make in order to meet the needs of most disabled students. This suggests two key roles for staff developers, that of pathfinder and broker.

Pathfinder: A role in developing a clearer interpretation and application of accessibility guidelines

The results from the literature review suggest that there are occasions where learning technologists are finding difficulty responding to SENDA. This would appear to be due primarily to difficulties in interpreting guidelines and the consequential "steep learning curve" that learning technologists are experiencing. Staff developers may approach this issue in a number of ways. They may develop training materials similar to the WebCT module developed and described by Peacock, Ross and Skelton (2002). Alternatively they may choose to run workshops or distribute guidelines (on how to interpret the guidelines!). Staff developers may also play an important role in pointing staff to the information that may be available from:

- National campaigning organizations such as TechDis [1] and RNIB [2];
- Local "champions" of accessibility and inclusivity who can cascade and disseminate their knowledge to others within their areas or departments (Seale, 2002);
- Local or national "case studies" or descriptions of how others have attempted to interpret or apply guidelines;
- Related areas of practice e.g. Usability and Design for All guidelines (Banes & Seale, 2002).

Broker: A role in developing a clearer understanding of what adjustments are reasonable to make

The results from the literature review suggest that there are occasions where learning technologists have identified that it would be useful to involve disabled students or their advocates in helping them develop

a clearer understanding of what adjustments are reasonable to make. Learning technologists, disabled students and their advocates each belong to very different communities within higher education. It may be that staff developers can play a role in helping these different communities to connect in some way. Seale (2003) used Wenger's Communities of Practice framework to explore the development of e-learning accessibility practices in the UK. She particularly focused on Wenger's concept of a 'broker'.

Wenger (1998) argued that when people transfer from one community of practice to another- or have multi-membership, they can transfer some element of one practice into another through brokering. Brokers are able to make new connections across communities of practice, enable coordination, and open new possibilities for meaning. This notion of "brokers" who can create connections between communities is reflected in the accessibility literature that discusses the role of staff developers. For example, Middling and Bostock (2002) describe how in response to SENDA legislation their institution has begun to develop staff development programmes jointly between Disability Services, Staff Development teams and departments. While Phipps (2002) argues that developers must act in a brokerage role with all the staff providing perspectives that can inform strategic policy and decisions.

A coercive or encouraging role?

In developing their roles as pathfinders or brokers, staff developers may choose to employ a strategic approach that involves both imperatives and incentives. For example, the Disability Rights Commission (2002) in partnership with the Bureau for Students with Disabilities (SKILL), The Higher Education Staff Development Agency (HESDA), Universities UK, Universities Scotland, Higher Education Wales and the Standing Conference of Principles (SCOP) has published a Staff Development Good Practice Guide in which they suggest a range of strategies for encouraging training to take place: some of which may be interpreted as quite coercive:

- Make it clear in contracts what standard of behaviour or practice is expected;
- Make certain aspects of training compulsory;
- Involve the vice chancellor, principal or director in inviting people to attend, or introducing speakers;
- Charge training to departmental budgets (this encourages their attendance).

Other suggested strategies are more cooperative or encouraging in nature:

- Provide encouragement and recognition of development in this area through review and/or appraisal processes;
- Take training to departments by adding short sessions on to existing departmental meetings
- Provide a free lunch;
- Target staff who are about to receive a disabled student into their department;
- Make sure disability issues are incorporated into all appropriate training, not just disability-specific sessions;
- Ask staff what training they would like, and tailor development to their needs;
- Involve departments in auditing their services and training needs.

Middling and Bostock (2002; p9) offer an alternative approach, which involves less coercion and the development of more collegial working relationships:

..by working with colleagues in a department to allow them to develop their approach to inclusion with support, advice and guidance, the speed of development increases. As anyone working for change in an HEI will recognise an imposed or blanket solution will not be well received by academic departments.

This approach is suggestive of a partnership approach to staff development. In discussing the changing role of staff developers in the field of learning technology generally, Littlejohn and Peacock (2003) identified what they called an emerging partnership era and argued that staff developers have to find a way of working towards a common vision whilst acknowledging different staff perspectives. They suggest the use of a 'Roundtable' methodology for encouraging a holistic approach in which groups of staff interact and debate their individual understandings of learning technology. This approach has been applied to the accessibility field by Peacock, Ross and Skelton (2002) who developed WebCT training material designed to introduce e-learning accessibility issues across the whole of their institution.

Conclusion

In the United Kingdom, the introduction of the disability discrimination legislation, SENDA, in 2001 has meant that learning technologists now have a responsibility to provide e-learning opportunities and services that are accessible to all students. Whilst the disability legislation made it clear what learning technology should do, it did not make it clear, how they should do it. Learning technologists therefore have therefore struggled to respond quickly to SENDA and develop a clearly and widely understood accessibility practice. This has had major implications for both learning technologists and staff developers. For learning technologists the implications have been:

- That they need to adapt existing accessibility guidelines so that they can be easily interpreted and applied within the specific contexts that they are working;
- That they need to work with disabled students or their advocates in order to develop a clearer interpretation of what reasonable adjustments can be made to e-learning material.

For staff developers the implications have been:

- That they may need to act as a path-finder: pointing learning technologists in the direction of useful sources of information and descriptions of practice;
- That they may need to act as a broker: forging strategic partnerships and promoting connections between different parts of the learning technology community.

SENDA has been introduced by politicians, in response to lengthy and effective lobbying by disability rights campaigners. The implications of SENDA for the practice of learning technologists and staff developers cannot be viewed in isolation from this political arena. Learning technologists are operating in an arena in which they fear that they if they cannot fathom the seemingly unfathomable they or their institutions will be dragged through the law courts. Staff developers are operating in an arena in which they may feel pressure to adopt coercive staff development strategies and find it difficult to counterbalance this with more partnership building strategies. If SENDA has charged learning technologists with the responsibility of developing accessible e-learning material, it has charged staff developers with the responsibility of *impacting* on the e-learning accessibility practices of their institutions, by *interacting* with key stakeholders and working to *integrate* the individual practices of these stakeholders into the practice of their institution as a whole.

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Notes

[1] TechDis: <http://www.techdis.ac.uk>

[2] Royal National Institute for the Blind (RNIB):

http://www.rnib.org.uk/xpedio/groups/public/documents/publicwebsite/public_webaccesseuro.hcs

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