

Developing an inclusive curriculum for students with hearing impairments



INCLUSIVE • CURRICULUM • PROJECT

<www2.glos.ac.uk/gdn/icp/>

The Inclusive Curriculum Project (ICP) aims to develop, disseminate and embed resources for supporting disabled students studying geography, earth and environmental sciences in higher education and to transfer the generic lessons widely to subject-based academics, educational developers, learning support staff and disability advisers. Its primary outputs include:

- the ICP Guide series - Nine complementary guides, aimed primarily at staff in geography, earth and environmental sciences, and one guide aimed at students:
 1. Issues in developing an inclusive curriculum
 2. Developing an inclusive curriculum for students with mobility impairments
 3. Developing an inclusive curriculum for visually disabled students
 4. Developing an inclusive curriculum for students with hearing impairments
 5. Developing an inclusive curriculum for a) students with mental health issues; b) students with Asperger Syndrome
 6. Developing an inclusive curriculum for students with dyslexia and hidden disabilities
 7. Developing an inclusive curriculum: a guide for heads of departments and course leaders
 8. Developing an inclusive curriculum: a guide for lecturers
 9. Developing an inclusive curriculum: a guide for departmental support staff (i.e. administrators and technicians)
- 10. To a Degree: a guide for students with specific learning difficulties, long-term medical conditions or impairments
- a student survey report: 'The experience of disabled students in geography, earth and environmental sciences of teaching, learning and assessment in HE';
- a set of case studies on the experience of disabled students of teaching, learning and assessment in HE, and the experience of departments and disability advisory units of supporting the learning of disabled students.

All of these outputs are available via the GDN website at <www2.glos.ac.uk/gdn/icp/>. Both the Guide series and the survey report are also available in hard copy format via the GDN Publications Office. A complete set of the ICP Guides will be distributed in hard copy to all Higher Education institutions in England and Northern Ireland at the end of the project.

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Developing an inclusive curriculum for students with hearing impairments

Terry Wareham, Gordon Clark and Rosemary Turner
Lancaster University

Series edited by Michele Hills and Mick Healey
University of Gloucestershire

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Editors' Preface

This guide is one of a series of ten published by the Geography Discipline Network (GDN) as part of the **GDN Inclusive Curriculum Project** (ICP), a three-year initiative running from January 2003 to December 2005, funded by the Higher Education Funding Council for England's *Improving Provision for Disabled Students* programme.

The ICP Guide series is written primarily for academics, educational developers, learning support staff and disability advisers supporting disabled students studying geography, earth and environmental sciences in higher education. In addition, one guide is aimed at helping disabled students to optimise their experience of higher education. The project builds on the success of an earlier HEFCE-funded GDN disability project, *Providing Learning Support for Disabled Students Undertaking Fieldwork and Related Activities*. This project, unbeknown to us at the time, broke new ground. Adams (2002), the Director of the National Disability Team (NDT), subsequently stated that:

'The Geography Discipline Network project was, for a variety of reasons, an extremely important project:

- a. It was one of the first disability-funded projects that exclusively 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.'*

The project, as is the current one, was undertaken by the Geography Discipline Network, a consortium of old and new universities based at the University of Gloucestershire, whose aim is to research, develop and disseminate good learning and teaching practices in geography and related disciplines.

At the beginning of the Inclusive Curriculum Project, we wanted to capture the student voice. Accordingly, we undertook a survey of disabled students studying geography, earth and environmental sciences in the consortium institutions (Hall & Healey, 2004). The survey was supplemented by case studies of the learning experiences of disabled students and the different ways in which departments and tutors have supported them, which are also available on the GDN website at <www2.glos.ac.uk/gdn/icp/>.

Awareness of the need to develop inclusive practices, which provide equal opportunities for disabled students in various elements of their courses, is spreading throughout Higher Education Institutions (HEIs) in the UK. This has been stimulated by the Quality Assurance Agency (QAA) *Code of Practice - Students with Disabilities*, published in 2000, and the extension of the Disability

Discrimination Act (1995) to education through the Special Educational Needs and Disability Act (2001), later incorporated into Part IV of the DDA and the Disability Discrimination Act (2005).

The ICP project focuses on the fundamental principle of inclusivity, whilst addressing the day-to-day practical realities of supporting students with a wide range of specific physical and mental difficulties. Although the series is written from a disciplinary perspective and some guide titles address particular areas of disability, the project provides guidance which offers transferable lessons for what is good practice throughout teaching and learning in higher education.

Despite using medical categories for describing impairments, we are committed to emphasising a social model to exploring disability, which examines the barriers to disabled students which society creates. The distinction between the medical and social model is important because it shifts the responsibility for improving the provision for disabled students from the individuals themselves to society, and the strategies and policies that higher education institutions and their constituent departments develop and enact. However, we support recent modifications to the social model which emphasise the reality of the lived experience of disabled people, and we are sympathetic to calls to construct a more adequate social theory of disability which recognises that everyone is impaired (Shakespeare & Watson, 2002). The focus of this series of guides is on identifying the barriers that disabled students face to participating fully in the curriculum and the ways in which institutions, departments and tutors can help to reduce or overcome them.

The GDN ICP team comprises a well established group of discipline-based academics, educational developers and disability advisers. Each guide has been written by a specialist author or team of authors, based on outline content and structure discussed by the team as a whole, and has been reviewed in detail by nominated representatives from the team. Each draft was also circulated to the whole team and a panel of external advisers for comment before final editing.

Rather than adopt an imposed standardised format across the series, each authoring team was given freedom to develop their guide in the way they felt most appropriate. This also applied to the much-exercised question of appropriate language. Editing, therefore, has been intentionally a 'light touch' process, so individual guides in the series may vary from time to time in relation to language protocols adopted. In terms of layout and presentation for both printed and web-based versions of the guides, however, the editing team has attempted to follow nationally-established accessibility guidelines as set out, for example, by the National Disability Team <www.natdsteam.ac.uk/Accessible%20printed%20documents.doc> and TechDis <www.techdis.ac.uk/index.php?p=9_4>.

The project was undertaken in consultation with the Higher Education Academy Subject Centre for Geography Earth and Environmental Sciences (GEES). It has the strong support of the main professional associations and representatives of Heads of Department in the geography, earth and environmental sciences sector:

- the Royal Geographical Society with the Institute of British Geographers (RGS-IBG)
- the Geological Society (GeoSoc)
- the Conference of Heads of Department in Geography in Higher Education Institutions (CHDGHE)
- the Committee of Heads of Environmental Sciences (CHES)
- the Institution of Environmental Sciences (IES)
- the Committee of Heads of University Geoscience Departments (CHUGD).

We would like to thank the many individuals who have contributed to the ICP project and to making this series of guides possible. In particular, we recommend to our readers the stalwarts of the Geography Discipline Network project team, many of whom have over many years uncomplainingly devoted more of their time than we could reasonably expect to producing high quality materials and sound advice. We would also like to acknowledge the project Advisory Panel, the National Disability Team and the numerous colleagues who helped to keep the project on track and provided additional resources when necessary.

The net outcome of recent quality assurance and legislative changes is that HEIs 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 & 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.

Michele Hills and Mick Healey

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October 2005

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1 Setting the scene

John is profoundly deaf and so uses British Sign Language and can lip-read to an extent. Unfortunately:

- the departmental disabilities officer forgot to tell colleagues about John's needs;
- John's signer does not know where the Part 1 lectures are being held;
- one lecturer reads the PowerPoint slides off the screen, so their face is invisible to lip-readers (and the rest of the class);
- the announcement of the change in the arrangements for the field visit at the weekend goes unheard by John;
- in the IT practicals John finds it hard to work the computer, watch the display screen at the front of the class, grasp what is being said and take notes;
- his essay markers are unaware that BSL is John's first language and English his second;
- the assessment criteria for oral presentations do not seem appropriate for John;
- the oral safety briefing in the laboratory is poorly grasped by John.

Mary is a mature student whose hearing has gradually deteriorated over the last ten years and she uses a hearing aid to assist her. Her childhood experience of education was badly affected by undiagnosed dyslexia and she left school with no qualifications. In adult life she has returned to study and is now far more aware of how to cope with her dyslexia, with the result that she has achieved well on her access course and embarked on an undergraduate programme of study, which includes courses in environmental science. Having had the earlier experience of trying to learn whilst also coping with a disability, she is very keen to make arrangements with her new institution well in advance so that her hearing impairment does not also hinder her learning. She has been in contact with the Disability Officer about her needs and what support is available. As soon as possible she has also spoken with the teaching staff in the departments concerned. They have come up with the following Individual Student Support Agreement:

- where possible, Mary's courses will be taught in rooms with induction loops. Lecturers will be advised that there is a loop user in the group;

- staff teaching Mary's courses will be given a briefing sheet on teaching students with a hearing impairment, with simple indications about good practice: e.g. facing the students when speaking; managing discussions to minimise occasions where several people will be speaking at once;
- staff will provide notes for lectures and other classes a week in advance, either on the web or in hard copy, to minimise the need for note-taking. The notes will be provided in a simple font, such as Arial or Comic Sans, and on coloured paper, both of which will aid reading;
- if it proves the case that note-taking remains a problem, then her Disabled Students' Allowances will be used to employ a note-taker;
- for fieldwork modules there will be a meeting with the tutors well in advance to discuss the programme, check whether there are likely to be any difficulties relating to her hearing impairment and plan how to deal with these. The department already offers a choice of parallel field courses to allow for different levels of physical ability;
- Mary will have, in common with all students on this degree programme, access to web-based materials for self-study and self-testing. These materials can be studied in the students' own time and the self-assessment tasks are not time-limited.

These two students will have had very different experiences of learning at university. Some of these differences will relate to their abilities, prior experiences and attitudes to life. Many, however, will result from the different approaches taken by those who teach them and who provide the learning infrastructure for their courses. Whilst we can have very little influence over how students will cope, we do have considerable power to make learning accessible to students. Many of the improvements we might make in response to students with particular needs could also benefit other students. This guide will take you through issues concerning students with hearing impairments or who are deaf and who are following courses in earth or environmental science or geography. All institutions are different and so some of the ideas offered here may sound more or less possible in your own environment. However, many problems can be foreseen and responded to with awareness and imagination on the part of both staff and students.

Most students with hearing difficulties have become hearing-impaired; they have not been deaf since birth. They can cope well with hearing aids and T-loop systems. Information written down is fully accessible to the hearing impaired, and this helps also the fully hearing whose attention has wandered or who are forgetful. Many of the problems for John (above) could have been avoided with better communication. None of this is costly in time or money, nor

does it require more than common sense in most cases. D/deaf and hearing impaired students can often be helped quite easily to participate in university life.

2 What is deafness?

People with a hearing-related disability range from those with a slight hearing loss through a substantial hearing impairment to complete deafness (although this is relatively rare). Hearing loss may be of particular areas of sound (e.g. higher frequencies) or may be exacerbated by tinnitus (ringing or other continuous noise in the ears). For many people, a hearing impairment will have developed at some point during their lives; for some it may be something they were born with. Those people born deaf are likely to have British Sign Language (BSL) as their first language rather than English and to be members of a particular cultural group centred on visuality and a shared experience of Deafness, with its own traditions, humour, folk-lore and art forms, including wonderfully expressive poetry. Deafness or hearing impairment may often be an invisible disability since there are no outward signs that the person cannot hear well. The table below outlines some different categories of deafness.

'Categories' of d/Deaf people	General information
Deaf with capital D is used (after the convention first described by Woodward, 1972) to define people with severe to profound d/Deafness, who regard themselves as belonging to a cultural and linguistic minority.	Most likely born deaf or became deaf in infancy before acquiring language skills; communicate in BSL, using interpreters to facilitate communication with hearing people; may wear hearing aids, but only to raise sound levels generally - they would not help in distinguishing speech or other precise sounds. Profound difficulty in spoken conversation.
deaf with lower-case d refers to people with severe to profound deafness, who choose to speak and lip-read (also known as 'Oral deaf').	Probably born deaf or became deaf in infancy; communicate orally; may use Sign-Supported English (spoken English supported by BSL), interpreters, and hearing aids/loop systems. Extreme difficulty in spoken conversation.

'Categories' of d/Deaf people	General information
deafened refers to those who experienced severe/profound hearing loss after maturity.	Lost all useful hearing after having grown up as hearing people; use hearing aids/loops; may use Sign Supported English interpreters; extreme difficulty in spoken conversation.
Partially-deaf people have moderate to severe hearing loss.	May benefit from hearing aids/loops; use English and may use BSL/SSE; great difficulty in spoken conversation.
Hard of Hearing means those with mild to moderate hearing loss.	Can benefit from hearing aids/loops; some difficulty in spoken conversation.

3

Medical and social models of deafness

The Medical Model emphasises dependency, a focus on the medical condition from which the deafness results and the failure of medicine to rectify it. It focuses on passivity, helplessness and the d/Deaf person being a victim of their 'unfortunate' situation. The Social Model of d/Deaf disability, on the other hand, focuses on the integrity of the d/Deaf person, on enhanced self-knowledge, on the fact of belonging to a defined cultural community which has, for some, its own language, norms and identity. This model sees the difficulties that d/Deaf people experience as potentially a form of discrimination and more of an issue of equal opportunities rather than of personal inadequacies. The medical model may be seen as limiting, the social model as liberating.

Most people would not think of themselves as discriminating against particular groups. Indeed in the UK and in many other countries it is illegal to discriminate on the grounds of race, gender, sexual orientation and disabilities. For many academics, having a d/Deaf or hearing impaired student is a rare occurrence. However, a much larger proportion of academics will regularly teach students who are non-native speakers of English. There are many useful parallels that could be made between these two groups which may help in developing an approach to teaching which is constructive. Both may need:

- attention paid to linguistic communication;
- more time than speakers of English as a first language to assimilate the spoken word;
- more support from interpreters and friends;
- some negotiation of tasks;
- a recognition that many activities may be more demanding than for other students, and that breaks and rests are important;
- different, mutually supportive media of communication;
- a recognition of the value of their difference as well as acknowledgement of their specific needs;
- a feeling of being 'one of the crowd' rather than always feeling they are different and 'special'.

4 How can I communicate more effectively?

When you are communicating with d/Deaf students, whether in the classroom, one-to-one or in the field, remember their differences in coping strategies.

4.1 Students who lip-read

- Make sure you are not standing in front of a window or light – no-one can lip-read a silhouette.
- Ensure there is adequate light so the student can see your face.
- The student needs to be able to see your mouth – don't cover it with scarves, whiskers, hands or food.
- Face the student and maintain eye-contact – don't turn away to point at anything when speaking.
- Speak normally – don't exaggerate lip movements or slow down unnaturally; don't gabble; don't mumble; don't shout.
- Lip-readers can pick up only about 30 per cent of what people say.
- Stick to the point – don't start to talk about one thing then wander off onto another subject: context is an important clue in lip-reading.
- Keep at a distance of between 1 and 2 metres for one-to-one communication.
- Don't expect d/Deaf students to lip-read at a distance, in group work or in large lectures.
- Only one person at a time can be lip-read. Control group discussions so that people speak in sequence. It is useful if people raise their hands before they speak in discussions. The d/Deaf or hearing impaired person can then turn to look at the speaker, rather than trying to locate the sound and then losing the first part of the speaker's comment.

4.2 Students who use an interpreter

- When working with a Sign Language Interpreter many of the above points also apply. The student must be able to see your face, and the interpreter can interpret only one person at a time.

- Use a registered qualified Sign Language Interpreter or a registered trainee – relying on the student’s pals just will not do.
- Ensure the student can see the interpreter and any visual aids.
- Ensure the interpreter can hear you speak.
- While you are speaking, the student will look at the interpreter; however, if the student is signing and the interpreter is ‘voicing’ his/her comments, do not look at the interpreter - look at the student. S/he is the one who is commenting.
- When speaking to the student, don’t speak to the interpreter. Look at the student and address your comments to him/her.
- Never say to the interpreter, ‘Tell him...’. Always speak directly to the student.
- Remember that the interpreter can only interpret one person at a time. Control group discussions so that people speak in sequence.
- Remember that there is a few seconds lag or delay in interpreting – allow time to catch up.
- Don’t ask the interpreter to comment or participate in discussions. S/he is there to facilitate communication between you and the student/s. S/he will not communicate with you other than to clarify meaning.

4.3 d/Deaf or hearing impaired students

- It really is impossible to watch an interpreter or lip-read and take notes/read handouts at the same time. Where possible, students should be provided with overhead transparencies and handouts in advance, either from a website or in hard copy. Interpreters should be briefed in advance of what will be required.
- Relax and be natural with d/Deaf or hearing impaired students.

5 Curriculum design

Most of the traditional learning styles in our subjects are reasonably accessible to most d/Deaf students because they tend to be visual (often text or map based) or practical (in the laboratory or the field). Sadly, the d/Deaf students who would find this challenging often do not progress as far as undergraduate higher education, let alone postgraduate study. What staff need to do is envisage how to modify their teaching and assessment practices when a d/Deaf student takes their courses. Since most staff and their colleagues are not deaf, this is more difficult than it seems. And perhaps what is even worse than staff who have no understanding of deaf students are staff who think they know instead of taking the trouble to find out:

'...there is nothing worse than dealing with people who have very little idea or who have preconceived notions about what should be done to help deaf or hard-of-hearing students to participate fully and equally...'.

hence this guide.

When curricula are being redesigned, the drivers of this process are often connected with research time, financial constraints, subject matter or distance learning. One must also ensure that the needs of d/Deaf students are not overlooked when, for example, Virtual Learning Environments are being set up.

6

Academic issues

6.1 General points to note

It helps greatly if students disclose their hearing problems as soon as possible and those who need to know are told the relevant details. A culture of trust smoothes this. If d/Deaf or hearing impaired students trust both the staff and other students then this may boost their performance at university.

It is possible that some d/Deaf or hearing impaired students will suffer from low self-esteem or a greater than normal worry about their ability to cope with higher education. Offer assistance with respect and sensitivity. If the offer is refused, do not insist. Seek feedback from d/Deaf students so you can monitor how well you are meeting their needs.

Not all d/Deaf students have the same degree of hearing impairment or loss, nor have they the same technical and personal coping strategies. Some were born deaf while others became deaf after they had learned to speak. This will affect how they communicate with the hearing world. Avoid stereotyping d/Deaf students; explore the needs of each individual, undergraduate or postgraduate, full time or part time.

For d/Deaf students who rely on signing, British Sign Language is their first language and English is their second. To them, English is a foreign language with a very different structure and grammar as well as vocabulary. The sign languages used in other countries are not mutually comprehensible with BSL; they are different languages in their own right. Sign Supported English is a half way house – English supported by some signs from BSL. A few d/Deaf students will find the use of English, written or spoken, very difficult. Some people, profoundly deaf from birth, may speak in a way that is difficult for hearing people to understand, though you can quickly 'tune in'. Some d/Deaf students may need an interpreter to translate their signing into spoken English, though there is a shortage of these highly skilled people. The interpreter translates what the tutor says into BSL; and the student's questions, expressed in BSL, are translated into English for the tutor to respond to.

The possibilities opened up by speech recognition software could be very helpful for d/Deaf and hearing impaired students since it has the potential to produce an accurate, real-time, verbatim digital record on a laptop of all that was said in class. However, the reliability of such software is not yet as high as one would wish, especially when there are several speakers with different accents and enunciation, recorded in far from ideal conditions.

Digital hearing aids can out-perform analogue ones by boosting the signal-to-noise ratio. The lecturer wears a radio microphone which transmits a signal to the radio receiver worn by the student. This can work well in a lecture where most of the talking is done by the lecturer. In a seminar a radio microphone could be passed around among the speakers, which helpfully limits who is speaking to one at a time.

6.2 Information and informed choices

The most successful students are arguably the ones who start by making wise and well-informed choices amongst potential courses. Like all other students, those who are d/Deaf or hearing impaired need full information on the content and assessment of modules so they can check courses' suitability and how they will fit with their career path. It is even more important for students with additional needs, such as d/Deafness, to make the best choice so that difficulties at a later stage are minimised. Of course, d/Deaf students' choices will also be affected by all the usual criteria students use, not just by issues of hearing. In order to make these choices students will need:

- chances to meet admissions staff at open days;
- opportunities to discuss their individual needs with a tutor, to sort out issues in advance;
- details of the desired learning outcomes and the teaching and assessment methods they are likely to encounter on a course, and details of the fieldwork, particularly in terms of communication;
- information in advance, so it can be studied carefully;
- to know something about the learning environment and support facilities;
- different routes to this information – textual in handbooks and on websites, visual, diagrammatic and photographic;
- clarity of language is paramount since d/Deaf users of BSL may have English as their second language;
- tried and tested methods of information presentation (test that your use of language is accessible to, say, a non-native speaker of English);
- access to advice (in person with staff; to Frequently Asked Questions sections of web pages; to students who have done the course before; to reports of fieldwork activities and to photographic records);
- information that is consistent between departmental and institutional material and between various support units;

- assurance that a degree of flexibility is built into the design of the curriculum.

6.3 Course induction

Institutions and individual academics make many assumptions about student knowledge and experience. Yet many students may not be familiar or at ease with the conventions of higher education and spend considerable time learning about university norms. This will be particularly true of students from backgrounds where going to university is not the norm. What exactly is a lecture? What do you do in a seminar? What does fieldwork at university entail? For d/Deaf and hearing impaired students it is much more difficult to get these cues since much is picked up through overheard remarks and chance comments – precisely what d/Deaf students have difficulty with. It therefore becomes the responsibility of the lecturer to find ways of helping d/Deaf students to access this information. A handbook and website will help – with some basic rules and principles of university education, and descriptions of the range of courses. It could also provide some informal reports of previous students' experiences.

Do remember here the part-time students (undergraduate and postgraduate) who need the same levels of course information, induction and one-to-one discussion of needs and coping adjustments, but may not be as readily available for these to take place as the full-time students. Their needs must also be met.

7

Lectures

7.1 Room requirements

Check the room where you will be lecturing to d/Deaf and hearing impaired students. Is the room suitable?

- Has it got an induction loop for students with hearing aids? If not, could the lecture venue be altered to a room which does?
- Check the microphone is working correctly; remember to switch on the microphone and ensure the student is getting a clear signal. Try not to touch the microphone when in use. Remember to go over all this with guest speakers.
- Has the room got power points for students with tape recorders or laptops (though from a health and safety viewpoint, batteries are preferable to avoid trailing wires)? Are these power points near the centre of the room which is the optimal location for a student who wishes to lip-read the lecturer?
- Is the room going to be overcrowded and is there background noise? If so, a microphone and several loudspeakers will help the whole class.
- Ensure lighting is adequate and correctly positioned for lip-readers and interpreters, and that secondary lighting is available if the room is darkened (e.g. for slides or videos) so your face remains lit.
- A room with a significant degree of echo is difficult for those with hearing aids.

You may need to liaise with both your institution's estates department and disabilities officer if additional features are required in lecture theatres.

7.2 Lecturing techniques

- Be clear, well directed and follow a logical pattern so that the lecture is easy to follow, which will help all your students but particularly d/Deaf ones who will not be able to lip-read everything.
- It is impossible to lip-read (or watch an interpreter) and take notes at the same time. So it helps if you can provide information about the lecture and copies of the handouts and overheads in advance, before the lecture or on a website.

- Do not speak too quickly, shout or over-enunciate (which distorts sound and lip patterns).
- Ensure your lips are visible, and not covered with hands, clothing or beards/moustaches.
- Re-iterate key points, re-phrase information; repeat questions asked from the body of the class to make sure everybody hears the question.
- Don't move about the room; lecture to the students, so lip-readers can see your face.
- Resist the temptation to keep speaking when you turn away to write on the blackboard/whiteboard or read material from an OHP, slide or PowerPoint display.
- Turn off the OHP when not in use because the noise of the fan can affect hearing aids.
- If the lecture uses audio material (e.g. video or DVD or an audio recording), ensure you provide a transcript or that material is captioned or sub-titled. Tools for captioning computer-based video and multi-media material can be downloaded from <http://ncam.wgbh.org/webaccess/magpie>.
- If the lecture is long, remember that d/Deaf students find following a lecture very tiring, even with a loop and lip-reading. Their interpreter may also need breaks.
- Ensure that lecture notes and copies of OHTs or PowerPoint slides are available (as a handout or on a website) in advance of the lecture if possible, so the student can become aware of the material and its vocabulary.

If students wish to tape-record lectures for later transcription, ensure they sit at the front and that there is a plug for their machine. Battery-powered machines are preferred to avoid the need for trailing wires which can be a health and safety hazard, as noted earlier.

8

Seminars and tutorials

For the d/Deaf or hearing impaired student, the main difference between a lecture and a seminar/tutorial is the larger number of speakers, the more multi-directional nature of the teaching situation and the more varied the range of activities which can take place. One hearing impaired student said:

'I felt the lecturer was thinking "she is not really present, she is away in another world, she is not contributing." I knew that was what he was thinking. But I couldn't hear! I was trying to hear, but I was getting lost all the time in what everyone was saying'.

Here are some practical things which can allow full participation in a seminar or tutorial.

- If possible, choose a room in a quiet location rather than one, for example, overlooking a busy road. This will reduce background noise, and soft furnishings may also assist by reducing echo.
- Think about the seating arrangements, e.g. put chairs into a semi-circle so students who lip-read can see everyone's face. This is very difficult if the seminar is in a lecture theatre where the seating cannot be re-arranged.
- Allow only one individual to talk at a time. Only one person at a time can be lip-read, so get people to speak in sequence. Students could be asked to raise their hand before speaking, so the d/Deaf student knows where to look.
- Repeat or paraphrase the discussion. Tutors can often make student contributions clearer by summarising comments on a flipchart or board. This benefits all students but can greatly aid d/Deaf students.
- Provide a briefing paper before the tutorial. This lets students prepare for the discussion and potentially increases their confidence. Prior notice of the topic and main ideas provides the context for successful lip-reading and students who use an interpreter will need notice of any new terms.
- Have breaks if the tutorial is particularly long so students remain active participants. Lip-reading is tiring and if a BSL interpreter is used, s/he should have a break every hour. If an interpreter is needed for more than half a day, two should be employed in turns.

- For students with hearing aids, the use of a radio microphone will assist them in participating fully in the tutorial, particularly if there is external noise. However, if talking individually to other students, remember to switch off the microphone, otherwise your voice will be sent needlessly to the d/Deaf ones.
- Give d/Deaf students time to relax and feel confident enough to speak in a group situation, before requiring them to do so.
- Ensure guest speakers are informed about the needs of d/Deaf students in a tutorial or seminar.

In some seminars or tutorials, students may have to give an oral presentation, and this can be a source of considerable anxiety. d/Deaf students may be anxious about group participation or carrying out a presentation. They may be sensitive about how their voice sounds. Be sensitive and encourage the student to be honest about any issues, so that there is room for discussion and resolution of the problem. Discuss the use of an interpreter to translate the d/Deaf student's BSL.

9

Practicals

Here is what one hearing impaired student said about his practicals:

'We carried out experiments in a huge lab. That was very noisy. I have a hearing impairment and on my very first class I found it very stressful that I could not hear the lecturer. I spoke to my lecturer who offered to give me typed instructions at the very next class. He did! It was so much easier'.

Generally d/Deaf students pose no greater safety risk than any other student. Indeed their awareness of their limitations may lead them to a more cautious and safer way of working.

Whereas many lecture theatres and seminar rooms will have induction loops, many laboratories will not and acoustically they are often large and echoing. Here are some useful ideas for effective practical classes with d/Deaf students.

- Use written information for any instructions, and captions or a transcript if video material is used.
- Distribute in advance a printed outline of the laboratory tasks so the student is prepared and can discuss with you any problems they think they may face.
- Provide an individual orientation to the laboratory including equipment and health and safety procedures.
- Always discuss procedures and any special safety issues before the experiment begins.
- Arrange and discuss evacuation plans for fire and other emergencies and ensure visual fire alarms or a vibrating pager system are available.
- Use equipment with lights or other visual rather than aural means of indicating their status. Alarm systems should also be visual with flashing lights. In practice, expensive changes to equipment are seldom needed for deaf students. For example, they can feel a timer ringing if they hold it.
- Ensure that the d/Deaf student's working partner is happy to be the ears for both of them but does not take over all the work.
- Text messages by mobile 'phone can be used for prompts or brief safety reminders.

The laboratory sessions in the physical geography degree course at the University of Urbantown are rather noisy occasions. The laboratory is rather large and is sited on a busy arterial road. It is a particularly difficult place to work in summer when the windows are open and it is impossible to keep noise levels down. When a task has been designed that students can simply get on with, there is less of a problem. However, sometimes there are a series of experiments in between which the lecturer likes to gather students round to reflect on what they have been doing and to look at the outcomes of that particular stage of work. **Carly** is Deaf and has a BSL interpreter with her in these sessions. However, even the interpreter often experiences difficulties in coping with these reflective interludes. This leads to difficulties in the next stage of the work. Carly, her interpreter and the lecturer meet to discuss how the problem can be overcome. The lecturer acknowledges that it is difficult for everyone to work in this environment but does not want to give up the staged approach to the work as it aids reflection and learning. Between them, they come up with the idea of using the networked computers that are in the room to have an ongoing discussion using the university's Virtual Learning Environment. As each person or group finishes their task, they go to a terminal to make comments and read others' ideas – as well as those of the tutor.

10

Web-based learning

In general the web provides a very effective learning medium for the d/Deaf student because it is so visual. However, one area to watch is training in the use of the web. This will need to focus on instructions and support which can be read. It is impossible to lip-read a web trainer, operate a keyboard and mouse, and look at a PC screen all at the same time.

Occasionally, a website will have an audio clip or even audio streaming of, say, a speech, interview or radio station. This purely aural material will need interpreting for the d/Deaf student using a BSL signer or a note-taker or through a summary prepared by the tutor, if possible, provided in advance.

11

Virtual learning environments

A Virtual Learning Environment (VLE) can be configured in various ways, but features common to many such systems are the use of websites, synchronous or asynchronous email, video-conferencing and telephone support to tutors, along with paper-based learning materials. The users of VLEs tend to be distance learners, though they could also be people near the university who need to time-shift their learning to times which suit them but not the lecturer.

Many elements of a VLE pose no particular problems for d/Deaf students – the paper-based materials, emails and websites, for example. Indeed these might be their learning methods of choice.

Video-conferencing poses difficulties for the hard of hearing. By and large, captioning the spoken word is not feasible, though including a BSL signer in the frame may allow one-way communication at the minimum. If a low-bandwidth (i.e. cheap) line is used, then the image of the speaker will move in a very jerky fashion (maybe only five frames per second instead of the 25-30 frames per second which gives a smooth image of movement). Without the latter, lip-reading is impossible and even then only if the speaker faces the camera all the time.

As always, check with the d/Deaf student before they start within a VLE and talk through how they can use this style of delivery most effectively. The rhetoric about VLEs is that they bring into higher education those otherwise excluded – d/Deaf and hearing impaired students should not be the exception to this rule.

12 Fieldwork

12.1 General issues

Fieldwork presents a new set of challenges for both d/Deaf and hearing impaired students and staff. Not all d/Deaf students are the same, indeed generalisation as to their needs and capabilities is dangerous. As one d/Deaf geography student wrote:

'the needs of each deaf or hard-of-hearing individual will inevitably be different and those who are organising and participating in field trips should be made aware of exactly what those needs are'.

So the onus is on staff to find out what the students' abilities and needs are, particularly because fieldwork may present unfamiliar situations to d/Deaf students for which they may not have worked out coping mechanisms. The T-loop systems and electronic aids which assist working in a classroom may be missing or not feasible in the field, and people unprepared for helping d/Deaf students study may be involved in the teaching.

Students may not know what is expected of them and may be unwilling to ask for help:

'...I have to admit that I was quite reluctant initially to discuss any needs I had within the department as regards to fieldwork. This may seem strange because I'm sure that most lecturers would do anything to help, but I wasn't keen on being treated any differently than others doing the same fieldwork and I wasn't sure that there would be much in the way of helping me anyway'.

Perhaps the best way round this impasse is to ensure that staff actively seek out d/Deaf students well before the fieldwork starts and talk to them about what is going to happen and check that they are happy with this. If they are not, discuss ways around the situation. The aim is a negotiated and mutually acceptable way of ensuring the fullest possible participation while avoiding d/Deaf students seemingly being singled out for special treatment.

What is the best single thing we can do to help d/Deaf and hearing impaired students? Perhaps it is:

'...having written information on the field trips, especially the instructions on actually carrying out the work was great because I knew what I was doing and I wasn't panicking about having missed vital information'.

A close second in valuable advice from d/Deaf students themselves would be for departmental staff to seek out the students, explain activities in advance, negotiate actions and generally check that the student is comfortable with the work and following what is going on. After all, you and your colleagues will have been teaching these d/Deaf students for some time before the fieldwork starts, so (as one deaf student said)

'...staff should [...] have already been made aware, or made themselves aware, of how they should communicate with the student according to their needs'.

12.1.1 Briefing students before going into the field

Because the essence of fieldwork is the practical application of skills, the very detailed advice given is vital to the fullest exploitation of the learning opportunities. Such briefings are very similar to a lecture and so the d/Deafness issues will be comparable and quite familiar to both staff and students. Coping strategies should already have been worked out. However, it may be that the briefing room away from campus is not equipped with an induction loop system, so hearing aids will not operate as effectively as in a purpose-built lecture theatre. When you have a large group spread around you in the field, even a modest amount of wind, traffic noise or the sound of running water or waves can create acoustic dead zones around the person speaking to an extent unimaginable in a lecture theatre.

- As good practice for all students, you should provide important aspects of the briefing in a handout and take the students through this document, allowing time for them to read it and ask questions.
- Do as much briefing as you can before you get into the field, in a place where the acoustics will be better, and distribute handouts well in advance.
- Interpreters must be briefed beforehand and check their positioning.
- Ensure that d/Deaf students who lip-read are in the optimal position for this.
- Check after the briefing that all the students are clear on what is happening and perhaps go over the key points separately for the d/Deaf students, if they want this.
- Wear a transmitter during the briefing if that will help those with hearing aids (as one would in any lecture for them).

12.2 Group work in the field

Nearly all fieldwork is done in groups – safety concerns alone will require this, reinforced perhaps by a lack of equipment, the need for many hands to do the task (e.g. land surveying) and a belief in the educational value of experiencing team work. The supervision of students in the field may be easier if they work in groups. Potentially the tutor can enlist the alertness and support of the other students in the group, provided the d/Deaf student is comfortable with this.

But group work is a tricky area. In a lecture theatre there is one professional speaker who stands more or less in one place. In the field people talk from all round – the downside of student participation is not knowing where to look to lip-read, particularly if several people are talking at the same time in a heated debate. The many regional accents of students and their different lip-shapes make life difficult for lip-readers.

'There also seemed to be an epidemic of turning around and facing the other way when they [staff] were pointing at or showing me something, so that meant I couldn't read their lips'.

Particularly in physical geography and earth/environmental science, the success of the fieldwork may depend on communication among the group of students. Examples of such communication would include discussing where to take environmental samples or measurements, how to operate equipment, carry out field measurements and record the results, and discussing what the field measurements and observations mean. Such discussions will be an integral part of, for example, geological field mapping, botanical surveying, till-fabric analysis, taking stream-flow measurements, and soil coring. It is easy for staff to overlook just how much informal but vital inter-group communication there is in such activities. The hearing students in the group need to be briefed to ensure that the d/Deaf student (and his/her interpreter) can understand all that is going on, are fully involved in the discussions and can participate in the work of the group. The only exceptions would be in special cases where a d/Deaf student could not be expected to operate as a hearing one would, e.g. a lip-reading student working with equipment which has only audible warning signals or response modes, or taking verbatim notes of an interview.

12.3 Post-fieldwork de-briefing and reporting

After you have returned from the field with your students, you will want to de-brief them and get them to report back on what they did and have discovered. The centre of attention is unlikely to be just the member of staff; students all round the de-briefing room will be reporting back on their fieldwork results. This makes it more difficult for lip-reading students to place themselves correctly to see clearly all the interventions. You may want most of the

students to speak during the de-briefing but they cannot all wear transmitters to help those with certain hearing aids. Reporting back may also take more elaborate and structured formats such as mock public enquiries or other forms of role-play and debate.

- Allow the d/Deaf or hearing impaired student to start off the debriefing so that their contribution does not get overtaken by the flow of the discussion.
- Find a way of providing a summary on paper or online of the results from the debate or role-play. This will help d/Deaf students to catch up with anything they have missed, and equally will help all the students to understand the full results and deeper conclusions from the field exercise.
- Wear a transmitter during the de-briefing if that will help those with hearing aids.
- Ensure that d/Deaf students who lip-read place themselves in the optimal position for this in the room.
- If d/Deaf students are working with others in reporting groups or role-play teams, ensure their group includes them fully and they are not sidelined. Indeed their d/Deafness might become an element in the role play if the student is happy for this to happen.
- Check the positioning of any interpreter.
- Ask students to raise their hand or make some other appropriate visual signal before they speak so that lip-readers can turn to face them.
- Repeat contributions from the floor so the d/Deaf student can catch up on what is said.

12.4 Students interviewing key officials

You may ask your students to interview key people in the community. Such interviews are often carried out by groups of students within which the tasks of asking the questions and recording the replies are shared out. In a fixed setting (e.g. everyone sitting down around a table), the d/Deaf or hearing impaired student can position him/herself so as to make lip-reading or hearing as easy as possible. They should be able to take part in the questioning as normal but may not be able to take full and accurate records of what was said. If the interview is on site (e.g. while touring a factory or farm, with people talking while moving around), positioning to allow lip-reading and hearing may be very difficult in practice. If the interview is in a very noisy environment (e.g. a factory), a lip-reading student may understand more of what is said than the

hearing ones. If the fieldwork is in a non-English-speaking country, the d/Deaf student's ability to lip-read and their knowledge of foreign languages may be problematic.

- Ensure the d/Deaf student is part of a group of students who will allow him/her to participate as fully as possible in all elements of the interview.
- Allow the d/Deaf student to position him/herself optimally for the interview.
- Check that all the students get a copy of the interview notes.
- Ask the interviewee to wear a transmitter if that will help those with hearing aids.
- Perhaps get the d/Deaf or hearing impaired student to ask the first question, so as to set the agenda and in case they are not able to follow precisely all aspects of the subsequent discussion.

12.5 Students interviewing members of the public

Students are often required to carry out interviews with members of the public in the street, on doorsteps, or in car parks or shopping centres. For BSL users and lip-readers, this may present a number of difficulties. It would be unacceptable if they were sidelined, watching the hearing students doing the task. Discussing with the students what they can manage will be essential. The aim is for them to do as much as a hearing student can. If done overseas, the foreign-language issue may again be a problem.

- Ensure the d/Deaf student is part of a group of students who will allow him/her to participate as fully as possible in all elements of the interviewing.
- The face-to-face and close-quarters nature of much street interviewing helps lip-reading.
- Background noise from passers-by, muzak, wind or traffic may make the use of hearing aids problematic – a quiet venue for the interviewing will help.
- In the UK Disabled Students' Allowances can be used to fund a specially-trained note-taker. In some circumstances it might be appropriate for a fellow student to act as an amanuensis, recording the answers to the questions posed to the interviewees by the d/Deaf student, although care and sensitivity should be used in selecting such a student.

12.5.1 Giving students (emergency) warnings of actually or potentially hazardous conditions while in the field

It may be necessary to give reminders or emergency warnings of safety-critical information to students while they are carrying out fieldwork. The difficulty is that the information may have to be given immediately and in person; time may not permit pre-prepared handouts. A shouted warning will be ineffective for the wholly d/Deaf and cannot be relied on for those with partial hearing or hearing aids. The wearing of hats or hoods when the weather is bad will further diminish the amount that can be heard and will render some hearing aids ineffective. These points may also apply to hearing students.

- Ensure the d/Deaf or hearing impaired student does not work alone in the field (neither, of course, should any other student).
- Write down the warning on a pad so the student can read it.
- Learn emergency warning signs in your national sign language.
- Arrange for the d/Deaf student's group to be accompanied by a 'watcher' who can alert students to dangers.
- Equipping a d/Deaf student with a vibrating pager is a good back-up for communicating emergency messages.
- Text messages could be sent by mobile 'phone.

12.6 Overseas fieldwork

Fieldwork outside your home country may pose additional problems. If the d/Deaf student relies on mains-powered devices to assist their learning, these will have to be checked in terms of the shape of electrical plugs, voltage differences and the ability to operate with current at 50Hz and/or 60Hz. If mobile 'phones are to be used, will they work in the foreign country? Locally-hired interpreters may use a different sign language to that known by your students. Planning in detail in advance will be essential.

13 Assessment

It is clearly essential that disabled students are assessed in a way that does not disadvantage them and, equally, in a way that does not give them an advantage over other students.

With increasing numbers of disabled students in higher education there are more students needing special examination arrangements. In some universities this is an impetus to thinking about adopting different methods of assessment.

Students entering a degree programme or a single module should have detailed information regarding the assessment strategies in operation throughout the different stages and levels of that programme. All students benefit from being informed of the criteria against which their work will be judged and the distribution/weighting of marks/grades against various criteria. They also need to know, in good time, that the university has a policy for requesting modifications to assessment and examinations, and whom to contact to make such requests.

For d/Deaf and hearing impaired students very few assessment methods will need modifying. Essays, practical write-ups, computer-based assignments and the dissertation can probably continue much as normal.

For examinations, you need to ensure that oral instructions at the start or end of the examination are relayed to the d/Deaf student by a signer or in writing, particularly the rubric and any last-minute changes to the paper. If the student needs to use a signer, amanuensis or note-taker throughout the examination or special IT equipment, then the examination will need to be held in a separate room and extra time may need to be allowed. If any equipment is used in examinations or other assessments, check the equipment is in working order and that nothing 'illegal' has been loaded. If an amanuensis is used they should be aware of the subject s/he is transcribing. This is especially true with terminology and symbols unfamiliar to most people. Working with an amanuensis takes practice on both sides because agreements are needed on spelling, punctuation and, especially in an examination, the maximum speed of dictation. An interpreter need not have specialist knowledge but should see the examination paper in advance to familiarise themselves with the terminology used. The interpreter should interpret nothing except the student's paper or the invigilator's instructions. BSL interpreters have a code of practice that they have to adhere to. There is some debate on whether a video-recorded BSL presentation could be used instead of a written examination, with a subsequent translation into English for the use of the markers.

Clearly an oral examination (an assessed presentation, for example) will be particularly challenging for many d/Deaf students. D/deaf students should not be let off an oral presentation if a BSL interpreter could be used, but equally an interpreter should not be used unless they are given time to familiarise themselves with the topic and its vocabulary. A question-and-answer session after a presentation could be handled through the medium of a signer.

If a d/Deaf student's work is produced in a distinctive format because of the use of certain IT equipment, this may mean that it cannot be marked anonymously. If anonymity is to guard against marker bias, then a second marker should be used.

A *viva voce* examination is possible for a d/Deaf student but room layout is important – a d/Deaf student who lip-reads will be unable to do so if the examiners are sitting in front of a window with the lighting behind them. Written questions or use of a signer may help a *viva* proceed. Check with the student what changes are needed.

When peer assessment is used summatively you need to ensure that appropriate guidance on deafness and hearing impairment is given to the other students.

With computer-based assessment, check on 'automated transition' (i.e. moving on from one question to the next automatically after a certain length of time) as this could disadvantage d/Deaf students if questions require interpretation. Online discussions pose obvious problems for the d/Deaf, especially if students respond quickly; in addition, assimilating the threads in a synchronous discussion can be difficult. But overall, computer-based assessment which can be done in the student's time or at their preferred pace is liked by d/Deaf students.

13.1 Use of English

Some d/Deaf students for whom BSL is their first language and English their second – and particularly the pre-lingually d/Deaf (that is, those born deaf) – may find writing good English quite challenging. In particular, they take longer to adjust to unfamiliar words, or words in a new context or ambiguous phrases. The finer points of English grammar and syntax may be missing.

Absorbing text may be a little slower. Abstract terms may be more difficult for them to grasp than real objects. A language support tutor may work with the student to improve his/her English and ensure that the written presentation is acceptable for the tutor to read. Language support tutors help students with understanding and presenting written English; they do not do the academic work itself. If written English is a problem you could consider:

- replacing a long essay by short questions (maybe with an oral examination in BSL);
- replacing a dissertation by more practical or visual tasks;
- a signed presentation using a BSL interpreter instead of an oral presentation;
- the assessment being signed by the student, and video recorded and translated by a BSL interpreter, in place of a written examination.

14 Dissertations and projects

Just as the dissertation is often seen as a test of the student's all-round ability to put together all they have learned, so the dissertation requires the department and the supervisor to use all the advice given here.

Induction and general training in how to do a dissertation may be given during a lecture or tutorial. Having generic dissertation guidance in a handbook or website will ensure the d/Deaf student does not miss anything vital.

One-to-one supervision requires the tutor to allow for lip-reading or wearing a microphone or making best use of an interpreter. Advice by email is particularly useful.

The normal safety assessment for any dissertation needs to take account of the hearing impairment as well as any other issues.

The choice of topic will need to consider the hearing impairment but with appropriate provision of signers, interpreters, note-takers and lip-reading, the student should be able to tackle most topics.

Advice on fieldwork and practicals will obviously be central to the d/Deaf student's dissertation progress.

If a *viva voce* examination on the dissertation is held (or an oral presentation made on a research proposal), the advice on encouraging and supporting d/Deaf students to speak in public needs to be followed. During a dissertation *viva* the student should be allowed whatever arrangements are normally made for them (a signer or note-taker, for example).

15 Group work

Clearly much of the careful preparation for teaching d/Deaf and hearing impaired students in the section on Fieldwork will apply equally in any form of group work. Additionally, the hearing members of the d/Deaf student's group need to be primed to act as sensitively as you would if you were the sole teacher, with particular regard to including the student in all activities, allowing them to work together and communicate clearly.

Greenfield University uses a lot of problem-based and case study approaches in the teaching of its Environmental Studies degree programme. As a result there are considerable amounts of group-work. **Hassan** has a severe hearing impairment and finds it difficult to integrate into his group. Although the group were initially happy to have him as a member, the pressure of work and frayed nerves have meant they have become impatient with him and he is being increasingly excluded. When the lecturer became aware of this problem, she discussed with Hassan and with other members of this group how the difficulty could be resolved. The group agreed that they might use more 'virtual' ways of communicating (which would also mitigate the general problem of trying to find mutually convenient meeting times). Roles within the project would be more clearly defined so that each could have a role which suited their abilities and preferences better. The assessment was also adjusted so that each group had, as part of their report, to discuss how the group had operated and how difficulties had been dealt with. Finding ways of including Hassan better was seen as an advantage for the group rather than a chore.

16 Work placements

In a work placement the d/Deaf or hearing impaired student will come into contact with various work colleagues who will need to be briefed by you and the student on the reasonable steps which can be taken to allow them to work with the outside agency/firm. The prevalence of national legislation for all disabled people should mean that the agency/firm is well aware of its responsibilities and attuned to making the necessary modifications. Smaller firms may be less geared up than larger ones. It is essential that the employer is informed of the disability because the university could face legal action by the employer if they claim they lost business due to a student's undisclosed disability.

Any work placement must be prefaced by a safety assessment of the place of work and the academic/work tasks to be undertaken during the placement. Adding to this assessment a review of the student's needs and the firm's ability to meet them is a small additional amount of work. It may be useful to have the d/Deaf student accompany you during your workplace assessment visit.

Your normal written guidelines and agreements for students and placement providers should be supplemented by any special arrangements needed, clearly indicating:

- respective roles and responsibilities;
- mechanisms for evaluation and feedback;
- health and safety aspects;
- if overseas, socially and culturally specific disability information;
- procedures for ending a placement (bearing in mind concerns over actual or perceived discrimination);
- the continuing support provided by the institution.

Be aware of cultural differences in the non-university world. The ability to use the telephone may be a critical work skill. Can you set up a textphone service (such as BT's Typetalk) or use email or mobile 'phone texting? Taping lectures may be acceptable; taping client meetings may not.

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Research students

The increased level of work from undergraduate study to a research degree is important and notable in academic terms, but less so for d/Deaf students and how they cope. The formal training element of a research degree will need the same negotiated adjustments already discussed in terms of lectures, seminars and practical work. The fieldwork for the research may not be conducted with a group of fellow students, as at undergraduate level. Hence the arrangements for field assistance will have to be discussed separately and the adjustments recorded in the student's risk assessment form.

18

How would you cope?

Here are three mixed teaching situations; some lecture-type teaching and some field based. How would you deal with them if you were the member of staff in charge and a d/Deaf or hearing impaired student was a member of the group?

18.1 In the Cairngorms

You are leading a well established field course for second-year students on a field visit to the Cairngorms in April to map various geological and geomorphological features. One of your students has developed progressive hearing loss since her early teens and now has significant impairment. A hearing aid allows her to follow lectures quite well using the hearing loop but situations where there is a lot of background noise give her some difficulties, since her hearing aid amplifies all sounds indiscriminately. In these situations she has tended to rely on lip-reading. A friend in her year helps her out normally, but she is not taking this course. The other students are not particularly responsive to her needs.

18.2 In the factory

You are planning a field trip one Saturday to a local engineering works on the new industrial estate, just off the bypass. This is part of your environmental management module. First, there will be a tour of the factory to obtain case-study material on their waste-management strategies in practice, followed by a presentation in the canteen by their new Press Officer who will explain the company's environmental strategy. Finally there will be a question-and-answer session with the Managing Director, the location of which has not been decided. In the class is a Deaf student whose first language is British Sign Language, although he can also lip-read to some extent. He has an interpreter for all weekday teaching situations based at the university although this may not always be the same person as there are a number of BSL users in the university.

18.3 In the street

On a social and economic geography field course to Paris, there will be a period of fieldwork in which surveys will be conducted of people's choices of transport mode. These surveys are intended to gather data on individuals' decision making and also to compare different methods of data collection in the field. The students will be working in pairs, interviewing the public in various transport-related sites, including a bus station, railway station, riverside cycle

path and city-centre car park. One of your students is profoundly deaf, the hearing loss having also resulted in a loss of clarity in speaking, so it often takes people some time to get used to the student's speech.

How would you prepare for these situations?

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What is good for d/Deaf students is good for all students

There are strong arguments which suggest that following principles of good learning, teaching and assessment for d/Deaf students will bring tangible benefits to all students. This is particularly the case where the student has chosen not to self-declare their deafness or hearing impairment, or where this has worsened significantly during the period of the degree scheme. Students who are taking short courses (e.g. postgraduate taught courses) need to have their learning environment helping them from Day 1 of the course; the time for mutual adjustment is short. Part-time students at any level in higher education also need immediately supportive environments as they tend to miss out on induction and acculturation.

1. Clear and effective information-giving and advice helps all students select degree schemes and modules appropriate to their interests and needs.
2. Good induction into degree schemes and modules clarifies requirements and culture, and responds to students' learning needs.
3. Verbal and written communication ought to be good between academic staff and all students, where the staff are as sensitive to 'message received' as they are to 'message sent'; where a variety of media is used to communicate with students and where the communication is respectful of students and their differences.
4. Teaching and assessment have been carefully thought through as occasions for creative learning with attention paid to all students' learning needs, interests and abilities, and to important key skills such as supportive and co-operative group work.
5. The design of much teaching may well be a collaborative, problem-based experience as staff and students try to help each other realise their full potential.
6. D/deaf students who are also part-time students need particularly careful attention to ensure they do not miss out on training and assistance.

Principles of good teaching from the general literature on learning and teaching in higher education support this idea that good learning for d/Deaf and hearing impaired students is to a large extent a subset of good learning for all.

Consider Ramsden's 'important properties of good teaching' (1992, p.89):

- a desire to share your love of the subject with students;
- seeing your teaching also from the viewpoint of those you are teaching;
- an ability to make the material being taught stimulating and interesting;
- a capacity to explain the material plainly;
- a commitment to encouraging student independence;
- an ability to improvise and adapt to new demands;
- using teaching methods and academic tasks that require students to learn actively, responsibly and co-operatively;
- using valid assessment methods;
- a focus on key concepts, and students' misunderstandings of them, rather than just 'covering the ground';
- giving the highest quality feedback on student work;
- a desire to learn from students and other sources about the effects of teaching and how it can be improved.

Accommodating the differing needs of all students is an obligation on all teachers. Teaching and learning can be enriched for all concerned when this is done creatively and in partnership with students. d/Deaf and hearing impaired students are one group amongst many with distinctive needs, but they are not the only such group. Any group of students will include people with a range of abilities and disabilities and with particular needs. The best teaching will seek to uncover and work with those needs.

When you review your courses (perhaps annually), do you check how students with a disability (e.g. d/Deaf students) would cope with the course? We are all now required to anticipate the reasonable adjustments we would make to our teaching to prevent 'substantial disadvantage' to d/Deaf students. Your course review process is a good opportunity to think ahead. Accumulating a 'library' of d/Deafness expertise which staff can tap into when needed is a good idea.

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References and useful links

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Lancaster University (2000) *Handbook for students with disabilities, dyslexia and other special needs 2000-2001* (Lancaster: Lancaster University Disabilities Service).

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LTSN Subject Centre for Geography, Earth and Environmental Sciences (2002) *Planet: special educational needs and disabilities – learning and teaching guidance for Geography, Earth and Environmental Sciences (Special Edition Three)* (Plymouth: LTSN Subject Centre for Geography, Earth and Environmental Sciences).

McCarthy, D. & A. Hurst (2001) *A briefing on assessing disabled students* (York: LTSN Generic Centre, Assessment Series No. 8).

Mississippi State University (1996) *College students with disabilities: a desk reference for faculty and staff* (Mississippi State, USA).

Phipps, L., A. Sutherland & J. Seale (eds) (2002) *Access all areas: disability, technology and learning* (Bristol: Joint Information Systems Committee (TechDis Services) and Association for Learning Technology).

Ramsden, P. (2002) *Learning and teaching in higher education* (London: Routledge). 2nd edition.

Royal National Institute for Deaf People (RNID) (2003) *Facts and figures on deafness and tinnitus* (London: RNID) <www.rnid.org.uk/information_resources/factsheets/>.

Science Signs: An online British Sign Language (BSL)/English glossary for Science Education. 'This project aims to develop science reference materials for British Sign Language (BSL)/English. Developing such reference materials will not only benefit Deaf students and interpreters, but will also provide an

important baseline from which academic staff will be able better to evaluate their learning, teaching and assessment strategies in the context of supporting students with disabilities. The project will also develop an online BSL glossary for science and engineering.

<www.gees.ac.uk/projtheme/projtheme.htm>

Sutherland, J. (no date) *Guidelines for working with deaf and hearing impaired students* (Sheffield: Sheffield Hallam University). A guide to good practice when teaching d/Deaf and hearing impaired students. It includes some background information on d/Deaf history and sign language and, although initially aimed at lecturers working at Sheffield Hallam University, it can be adapted for use in other institutions.

SWANDS project <www.plymouth.ac.uk/pages/view.asp?page=3243>.

University of Strathclyde and Scottish Higher Education Funding Council (2000) *Teachability: creating an accessible curriculum for students with disabilities* (Glasgow: University of Strathclyde).

Wareham, T., Clark , G. & Laugesen, C. (2001) *Providing learning support for d/Deaf and hearing impaired students undertaking fieldwork and related activities* (Cheltenham: Geography Discipline Network, University of Gloucestershire) <www2.glos.ac.uk/gdn/disabil/deaf/index.htm>.

Waterfield, J., & West, B. (2002) *SENDA compliance in Higher Education: an audit and guidance tool for accessible practice within the framework of teaching and learning* (Plymouth: South West Academic Network for Disability Support and University of Plymouth).

Woodward, J. (1972) *Implications for sociolinguistics research among the deaf. Sign Language Studies*, 1, pp.1-7.

Accessible Assessment

<www.shu.ac.uk/services/lti/accessibleassessments/>.

Handbook for staff on deaf issues, Access Summit, University of Manchester Institute of Science and Technology.

Welcome pack for deaf students, Staffordshire University. Email l.lewis@staffs.ac.uk.

Breakthrough Trust - Deaf-Hearing Integration

Alan Geale House, The Close, Westhill Campus, Bristol Road, Birmingham,
B29 6LN.

Tel/min: +44 (0)121 472 6447. Fax: +44 (0)121 415 2323

Email: bkthudhi@aol.com.

British Deaf Association (BDA)

1-3 Worship Street, London, EC2A 2AB

Tel: +44 (0)207 588 3520. Min: +44 (0)207 588 3529. Fax: +44 (0)207 588
3527

Email: info@bda.org.uk

Website: <www.signcommunity.org.uk/>

>>Provides information and advice.

The City Literary Institute

FHE Support Unit, Keeley House, Keeley Street, London, WC2B 5LJ

Tel: +44 (0)207 430 0548. Fax: +44 (0)207 405 3347

>>Provides support for d/Deaf and hard of hearing students in London.

**Council for the Advancement of Communication with Deaf People
(CACDP)**

Durham University Science Park, Block 4, Stockton Road, Durham, DH1 3UZ

Tel/min: +44 (0)191 383 1155. Fax: +44 (0)191 383 7914

Email: durham@cacdp.org.uk

Website: <www.cacdp.org.co.uk/>

>>Keeps a register of trained sign language interpreters.

**CHESS (Consortium of Higher Education Support Services for Deaf
Students)**

Tel: +44 (0)115 968 6163

Website: <www.shu.ac.uk/services/ssc/disability/chess.html>.

Hearing Concern

7-11 Armstrong Road, London, W3 7JL.
Tel: +44 (0)208 743 1110. Min: +44 (0)208 742 9151.
Fax: +44 (0)208 742 9043
Helpline: +44 (0)1245 344 600
Website: <www.hearingconcern.com/>

>>A national organisation for people who are d/Deaf or hard of hearing.
Publishes rates of pay of lipspeakers.

National Deaf Children's Society (NDCS)

15 Dufferin Street, London, EC1Y 8UR.
Tel: +44 (0)207 490 8656. Fax: +44 (0)207 251 5020
Tel/Min/Helpline: +44 (0)207 250 0123
Email: ndcs@ndcs.org.uk

>>Information on all aspects of childhood deafness, including advice on equipment and education. Runs family support groups. There is also a youth officer.

Royal National Institute for Deaf People

19-23 Featherstone Street, London, EC1Y 8SL
Tel: +44 (0)207 296 8000. Min: +44 (0)207 296 8001.
Fax: +44 (0)207 296 8199
RNID Scotland (tel/min): +44 (0)141 332 0343
RNID Northern Ireland (tel/min): +44 (0)2890 239 619
Email: helpline@rnid.org.uk
Website: <www.rnid.org.uk/>

>>Deaf awareness training, information on equipment, where to get interpreters etc.

NB

All web addresses in this Guide last checked and accessed 25.08.05