Creating Accessible Teaching & Support

CATS

... for students with hearing impairment ▶

ABOUT CATS

The Creating Accessible Teaching & Support (CATS) project was funded by the Carrick Institute for Learning and Teaching to improve the quality of teaching and support for students with a disability.

The project team consulted widely with university teachers, disability practitioners and students, identifying a number of issues that are faced regularly by them. In response to these consultations, we have developed a range of resources that can contribute to more consistent and systematic approaches to addressing the needs of students with a disability and for supporting the staff who teach them.

This booklet is designed primarily for academics and focuses on the needs of students with hearing impairment and the staff who teach them. Suggested strategies are presented within a broad framework of inclusive teaching for all students. The booklet is designed to introduce the more comprehensive information available through the web resource, webCATS.

webCATS provides information for academics, administrators and support staff and has been structured around a series of good practice indicators with accompanying benchmarks. It includes references to a range of useful resources and case exemplars to assist you to maintain and enhance the quality of teaching and support for students with a disability.

> webCATS: http://www.adcet.edu.au/cats

HEARING IMPAIRMENT

About hearing impairment

There are two main types of hearing loss: sensorineural, or nerve deafness, which involves impairment of the auditory nerve; and conductive deafness which usually involves a disruption of the conduction of sound through the outer and middle ear affecting hearing before the sound reaches the cochlea and the nerve receptors of the inner ear.

People with hearing impairment (or who are hard of hearing), are not an homogenous group. Students who are deaf from birth have very different needs to those who lose some hearing later on. Support will need to be tailored to the nature and degree of the hearing loss as well as the timing of its onset. Hearing loss can also affect speech development and students will have varying degrees of speech depending on when they lost their hearing.

Hearing loss can range in degree of severity from mild to profound with the loss of some or many frequencies of sound. Sounds with the lowest frequency, such as vowels, are easier to hear for many people than consonants sometimes making it difficult to understand normal conversation. Students who can understand one-to-one conversation may not follow the flow of rapid verbal exchange between a number of people. The more severe the loss, the more the student will rely on visual cues such as lip-reading or a sign language interpreter to supplement oral communication.

Hearing aids and/or cochlear implants will improve the situation for many but they may not be helpful when a lecturer is speaking a number of metres away. Background noise in a large lecture theatre, tutorial space or laboratory can be an issue even for those who can hear adequately in one-to-one communication. Some students have a high-pitched ringing in the ears called tinnitus that can exacerbate these problems. Amplification systems that include FM transmitter/receiver systems with a clip-on microphone for the lecturer can be useful in the classroom situation.

Students who are profoundly deaf from an early age may have limited or no spoken language and often use a sign language known as Auslan. This is a complex language like any other and enables Deaf people to communicate the full range of concrete and abstract concepts. These people prefer to be known as Deaf (with a capital D) and share a rich culture and history. Many Deaf people will be familiar with English grammar and syntax but for others English is a second language and must be learned in the way that other non-English speakers do. Deaf students may have needs in common with students for whom English is a second language.

> 'I have severe nerve damage in my ears and I usually get new hearing aids every five or six years. I hear male lecturers better than I do females, so my marks change all the time. Everyone's different, but it helps if the technology is consistent in all my classes.'

Some facts

- Only thirty to forty percent of words can be lip-read clearly even for those skilled in this technique.
- Not all people with a hearing impairment can lip-read well.
- Deaf or hearing impaired students in lectures and tutorials may rely on a notetaker and/or an interpreter in AUSLAN or Signed English, hearing aids, a radio frequency system or a cochlear implant.

Orientation Monash University

The impact of a hearing impairment on learning

Isolation within the learning environment can be a problem for students with hearing impairment. Social contact and interaction with other students is often limited, and this may have an impact on learning. These students may also suffer from a lack of confidence or low self-esteem resulting from previous negative experiences. Students who are hard of hearing may have speech difficulties and may use assistive listening devices that are not as effective in group situations. Students who use sign language may also have difficulties in understanding written information if the language is particularly abstract or complex. It is important to realise that these problems are not intellectual weaknesses but limitations caused by the fact that for them English is a second language.

In order to be able to learn effectively in the university environment, students with hearing impairment may need:

- reserved seating at the front of lecture theatres and seating arrangements in smaller rooms that afford vision of the tutor and other participants
- written and oral material delivered in clear English to compensate for any stylistic idiosyncrasies and limitations in range of vocabulary
- flexible delivery of material including captioned videos and visual accompaniments to verbal deliveries
- support staff such as note-takers and interpreters, and adaptive technology equipment and software such as audio loops and FM transmitters
- access to a dictionary, thesaurus and interpreter during exams and additional time to interpret information.

Students with hearing impairment will also need to develop:

- strategies to validate the conversion of voice to text and the possible inaccuracies that might occur
- effective time management and organisational skills in order to study independently
- recognition of the importance of asking questions and taking an active part in tutorials and group work in order to remain engaged in the process of learning
- assertiveness and self-advocacy skills

- awareness of the code of ethics that governs the work of interpreters in higher education. (Interpreters in higher education must convey the message that is given not provide their own explanations of it)
- strategies to deal with the potential for increased isolation that could occur for those accompanied by support staff.

INCLUSIVE PRACTICE IN TEACHING AND LEARNING

Higher education students come from a wide range of backgrounds with an equally wide range of skills, challenges and individual learning preferences. Using inclusive teaching practices not only reduces discrimination and inequity within higher education but also provides opportunities for all students to achieve successful outcomes. Inclusion is about providing learning experiences that take into account the learning styles and needs of the diverse student cohort (disability, race, socio-economic status, gender, language, ethnicity, sexuality etc.). It is about teaching in such a way as to meet the learning requirements of all students in the class and thus possibly avoid having to deal individually with the needs of those with disability.

While some students with disability may learn or perform in ways different from others they are still part of the whole student body and have the same rights and responsibilities as other students. As discussed earlier, students with hearing impairment are not an homogenous group. It is not the disability itself, but the effect the disability has on the student's ability to access, learn and demonstrate knowledge and skills that is relevant. Flexibility of design, delivery and assessment as well as including the teaching of learning within the

teaching of content is good pedagogical practice for all students and will benefit everyone not just those with a disability.

> Improving teaching practice to accommodate the needs of students with disability will serve to increase academic standards, not lower them.
>
> A wide range of students with or without disabilities will benefit from:
> - receiving up-to-date book lists well prior to the beginning of term
> - using a variety of presentation methods such as speaking directly toward the class, and writing key lecture points and assignments on the board or overheads.
> - repeating any questions asked by students in the lecture or class before giving a response
> - ensuring that lists of the subject-specific jargon and technical terms which students will need to acquire are made available early in the course.

The quality of teaching and learning opportunities available to students with hearing impairments needs to be assured in the same way it is for other students. The impact of the disability can be moderated when environments and practices are designed to be inclusive.

For example, a student with hearing impairment who relies on a combination of hearing aids and lip-reading to communicate can be completely independent if the physical environment is accessible, teaching practices are inclusive and assistive technology is available. The same person will experience significant disability when the acoustics and lighting in lecture theatres are poor, sound systems are inadequate and there is distracting background noise. If all teaching and learning experiences are conducted orally and/or in groups and students are unable to participate fully in the learning process, they will be disadvantaged academically and socially.

Over the years, students with hearing impairment have been disadvantaged in the education system by lack of access to Auslan sign language interpreters. The fact that the educational achievement for these students has generally been low is more a result of non-inclusive teaching practices than a lack of ability on the part of the student.

Lecturers or tutors who move around and speak from different parts of the room as they lecture or lead discussion, effectively exclude those who supplement their hearing with visual cues. Similar problems arise in computer laboratories, for example, where students are required to put verbal instructions into place while watching the monitor and listening for further information.

> **Universal Design for Learning** (UDL) is a philosophy of education that aims to design and deliver education services and learning environments that are accessible and that accommodate a range of functional capabilities of students. UDL reduces the need for specific kinds of individualised services or remedial supports by connecting the quality of the education program with a capacity to be accessible, equitable and accommodating to diverse student needs. UDL is achieved by means of flexible materials and activities that provide alternatives for students with differing abilities. These alternatives are built into the instructional design and operating systems of education materials. They are not simply added on.

PRACTICAL STRATEGIES FOR TEACHING STUDENTS WITH HEARING IMPAIRMENT

Communicating with students with hearing impairment

Remember that a student who lip-reads or who requires a signing interpreter will not be able to take notes at the same time. In most cases they will also require a notetaker. Interpreting requires a great deal of concentration and interpreters will need a break or will need to work in tandem in long sessions. A number of strategies for facilitating communication with students who have a hearing impairment are outlined below. The disability service of your university will be a very good place to start if you have questions or you need assistance in putting some of these strategies into practice.

To optimise communication when teaching students with a hearing impairment, consider using the following strategies:
- Use an overhead projector or real-time captioning to display notes on a screen or board to reinforce spoken presentations and continue to face the student whilst speaking and writing at the same time.
- Use hand and facial gestures when you are about to speak, as you speak and during questions to indicate the person who is asking the question. Repeat questions or remarks of others in the room before responding.

- If a student is using an interpreter, speak to the student not the interpreter.
- Speak in a natural tone at a normal rate. Recognise that interpreters will need a brief amount of extra time to convert information from one language to the other, thereby slightly delaying the student's receipt of the message.
- Often students would prefer to hide the fact that they use assistive technology. You can assist students by being sensitive to this and not drawing undue attention to them.

Technology issues

Many users of computer technology who have severe hearing impairment may need a combination of hardware such as volume controls and headphones or hearing jacks, as well as visual display of auditory information.

Therefore, the accessibility of software to users with hearing impairment can increase when:

- all auditory information is also provided in a visual form
- all visual cues are noticeable if one is not looking directly at the screen
- a ShowSounds feature is supported (a ShowSounds feature allows a user to specify that all sound should be accompanied by a visual event, including a caption for any spoken text). In addition, product support people must be reachable via text telephones (TTYs).

IMS Global Learning Consortium

Teaching students with hearing impairment

Some useful strategies for teaching students with hearing impairment are outlined below. All students will benefit from these inclusive teaching strategies:

- Prior to the class, provide the student with class outlines, lecture notes and lists of new technical terms.
- Make available study materials in ample time for their conversion to accessible formats such as printed transcripts of audio and audio-visual materials.
- Provide important information for students such as assessment dates, timing and exam advice in writing (email is effective), and use written communication if there is some doubt of the student's having understood an answer to a question.
- Explain new concepts as you come to them and write key terms on the board. Provide a summary of key points at the end of the lecture.
- Pace your delivery style to facilitate notetaking, pausing to allow clarification.
- Identify and remove barriers that might limit student participation in class. Students who rely on visual cues such as lip-reading or an interpreter require an unobstructed view of the speaker or signer. Make sure your face is adequately lit even when using videotaped material as part of the lecture or presentation. (Note that moustaches, beards, hands, books or microphones in front of your face could block the line of sight for a student who communicates through lip-reading.
- Invite students to approach you if they have particular learning requirements that can be met through adjustments to class practice.
- Early in the semester provide an opportunity for students with hearing impairment to provide feedback on their learning experience.

Practical strategies for working with small groups

To enable students with hearing impairment to fully participate in the tutorial, consider the following strategies:

- consider seating arrangements - for example form chairs in a semi-circle so that students who lip-read can see everyone's face
- only allow one individual to talk at any one time
- repeat what the student has said
- rephrase what the student has said if it isn't particularly clear
- use a flipchart or whiteboard to aid what the student has said and allow them to follow
- put the main ideas of discussion on a board or a chart
- provide a discussion paper prior to the tutorial - this will enable students to prepare for the discussion and potentially increase their confidence levels
- have breaks if the tutorial is particularly long so students remain active participants.

Inclusive assessment practices

Inclusive assessment policies and practices potentially benefit all students and can reduce the need for, and cost of, adjustments for those with disabilities. The same academic requirements and standards should be applied to all students whether or not they have a disability. The objective in providing alternative assessment strategies is simply to accommodate the functional differences that exist because of the student's disability, not to give them any additional advantage.

All information (including information about room changes or due dates for assessment) should be provided in a variety of modes: on-line notes, on notice boards, via email and on the subject website.

Depending on course objectives and learning outcomes, the following assessment adjustments may allow students with hearing impairment to compete on equal footing:

- Alternative assignments to those which are based on interviews or questionnaires
- Assignments instead of examination
- Short-answer examination instead of multiple choice examination

- Different styles of assessment which vary question and response modalities (for example a signing interpreter or the provision of a transcript included in listening tasks and aural examinations)
- Flexible assignment deadlines, particularly if students have had to wait for taped material to be transcribed
- Use of a separate venue with minimal background noise or alternative date or time of examination
- Additional time in examinations, particularly extra time for reading questions especially if using an interpreter (some students will prefer to have questions and instructions 'signed' to them)
- Use of computers, amanuenses/scribes, readers and other support in examinations.

Working with students with hearing impairment in the field

It is important to anticipate requirements in all aspects of the learning program including access to field trips and industry sites, ensuring audiovisual resources are accessible and appropriate for students with hearing impairments.

When briefing students with hearing impairment in the field, consider utilising the following techniques:

- include in a handout as much as you can of what you will say in the field, so the oral briefing is a reminder rather than the sole medium for obtaining information

- do as much briefing as you can before you get into the field, in a place where the acoustics will be better
- ensure the hearing impaired students are close to you and in front of you as you speak so that lip-reading is as easy as possible
- if necessary, check that the hearing impaired students have understood you and, if not, give them a separate briefing
- wear a transmitter during the briefing if that will help those with hearing aids (as one would in a lecture).

Supporting students with hearing impairment in their university study

For students with hearing impairment to participate in academic and campus life, learning resources and environments need to be accessible. Along with all students, students with hearing impairment require opportunities to develop the skills necessary to ensure that they are able to independently study and access information after graduation.

This means that:

- conversion of learning resources to accessible formats is completed in a timely fashion
- support personnel such as interpreters and note-takers have appropriate skills and qualifications and receive adequate training and remuneration
- up-to-date assistive hardware and software are available

at multiple locations and that orientation and training are in place to facilitate its efficient use

- captions have been included on any video clips that are being used as part of the course. If these are not available, alternative ways of making the material accessible to students with hearing impairment have been sourced (these might include using an interpreter or providing text alternatives or transcripts)

Transition to university can be a daunting process for any student. The inclusive and flexible practices that drive course design and delivery should also underpin transition processes. Orientation programs should take into consideration the needs of students with a disability.

- Provide accurate information about courses, subjects, how they will be taught, topics to be covered, and reading required including elements that might make participation difficult for students with some disabilities. This will allow students to make informed choices or seek adjustments before the commencement of the semester. For instance, some language courses with high oral/aural components might be difficult for students with hearing impairment.
- Opportunities should be provided for prospective students with hearing impairment to meet with lecturers to discuss aspects of the course that might create difficulties for them and develop strategies to address these.

- Orientation for students with hearing impairment who will be using assistive technology and for the staff who teach them will mean that time is saved when classes commence.

What about postgraduate students?

People with hearing impairment are more frequently undertaking postgraduate study. It is important that research policies, practices and procedures provide people with hearing impairment with the same opportunities as their peers to complete research programs successfully. When the research environment is designed to anticipate the requirements of researchers and students with a disability, access will be improved for all.

It is good practice to ensure that:

- postgraduate application and selection processes are non-discriminatory, and promotional and recruitment materials are accessible to prospective students with a disability
- postgraduate promotion and recruitment strategies actively encourage participation by students with a disability and students receive the support and guidance necessary to secure equal access to research programs
- faculties, departments or any research centre accepting postgraduate students is adequately resourced to provide adequate accommodations

- supervision policy identifies the responsibilities of the supervisor in relation to the diversity of students, and training includes consideration of the learning needs, of and appropriate responses to, students with hearing impairment
- supervisors and students negotiate alternative research and communication methods that accommodate the needs of students with hearing impairment.

What about international students?

Included in the diverse international student cohort will be students with a disability whose needs must be recognised and addressed. To exclude these students could constitute discrimination. Universities need to make an accurate assessment of support requirements and promote the benefits to students of timely disclosure for assistance. Students should be appropriately informed through international recruitment processes thereby developing clear and reasonable expectations.

International students will inevitably experience cultural differences even if English is their first language. For students with a disability, this cultural difference will be compounded by the added necessity of dealing with the cultural aspects of disability. Different cultures and countries will provide different levels of support and students might find that services provided by universities in their home country are not available here. In Australian universities, the provision

of support usually relates directly to academic activities and the educational experience. Whilst universities might be able to provide advice about avenues to follow in finding outside requirements, technical equipment and other amenities not linked directly to academic course are generally regarded as being the student's own responsibility.

Students with hearing impairment may expect captioning or other real-time text provision in lectures and tutorials. This is available nowadays in some Australian universities but many students will also find themselves reliant on interpreters and notetakers. Even for those who identify as members of the Deaf community, this can be problematic as Auslan differs significantly from American or British Sign Language. The student may need to spend some time initially developing expertise with a language which is unfamiliar.

Are prospective students with hearing impairment informed about:

- Disability services and how to obtain them?
- The availability of oral and sign language interpreters, notetakers, real-time captioning and other assistive listening devices?
- The availability of TDDS (telecommunication devices for the deaf - also known as TTYS or text telephones) and their location?
- The provisions for safety in the halls of residence in case of fire or other emergency?

Rights and Responsibilities

Disability legislation

Federal and State legislation including the Disability Discrimination Act (DDA) require universities not to discriminate against people with disabilities. These obligations are further defined in the Disability Standards for Education (2005).

Through the DDA and the Disability Standards for Education students with a disability have a right to (on the same basis as those without disabilities):

- be consulted about their needs
- enrol in courses and programs
- participate in courses and programs (including relevant supplementary programs)
- use services and facilities provided by the university including student support services.

They also have the right to:

- the specialised services without which they would not be able to participate
- be assisted by independent advocates or others nominated for the purpose
- the reasonable adjustments necessary to meet their needs
- an environment which is free from discrimination, harassment and victimisation.

But students also have a responsibility to:

- make early contact with the university and be willing to discuss their specific requirements (with assistance if necessary)
- be proactive in advising institutions of any difficulties encountered with accessing aspects of the life of the institution
- use the services provided in a fair and effective manner, e.g. observing conditions placed on adjustments made, advising of absences to prevent unnecessary attendance of service personnel such as sign interpreters.

RESOURCES

Vicdeaf (The Victorian Deaf Society)
http://www.vicdeaf.com.au/
This site also provides a series of fact sheets including a Student Kit that give facts and figures about hearing impairment in a clear and concise format.

The Australian Disability Clearing House on Education (ADCET) provides information about inclusive teaching and assessment practices. Fact Sheets exist for individual disabilities.
See Teaching and Assessment Sheet: Teaching students who have hearing impairment
http://www.adcet.edu.au/uploads/documents/TA_Teach_st_who_hearI_03.doc

Towards Success in Tertiary Study series has a study skills booklet for university students who are deaf
http://www.services.unimelb.edu/ellp/publications/towards.html

IBM ViaScribe
http://www-306.ibm.com/able/solution_offerings/PDF_ViaScribeV2.pdf
IBM ViaScribe is a voice recognition software package that has been specifically designed for use in lecture theatres to provide real-time captioning from the lecturer's voice. This software has been trialled in the Liberated Learning Project at St Mary's University Nova Scotia, Canada and has been expanded for further trials in Australia.

The Higher Education Academy
Engineering Guide: Working with students with a disability
Case Study 5
http://www.engsc.ac.uk/er/dis/cs5.asp
The Engineering Subject Centre is a national centre delivering support for learning and teaching for the UK higher education engineering community.

Providing Learning Support for d/Deaf Students Undertaking Fieldwork and Related Activities - Geography Discipline Network
http://www2.glos.ac.uk/gdn/disabil/deaf/ch7.htm#7.1

A-Z of Learning Activities - deaf students - University of Leeds
http://www.equality.leeds.ac.uk/dis-serv/staff/academic/lt/deaf/

Strategies for Teaching Students with a Hearing Impairment - University of Southern Queensland.
http://www.usq.edu.au/studentservices/disabilityresources/strategies/hearimp.htm

Teachability web site - University of Strathclyde
Accessible Curriculum for Students with a disability - a series of suggestions on making lecture, tutorials, laboratory work, fieldwork and examinations and assessment inclusive.
http://www.teachability.strath.ac.uk/teachabilityintro.html

Learning, teaching and assessment good practice guides for staff teaching d/Deaf students in art, design and communication and science and engineering.

University of Wolverhampton
http://www.wlv.ac.uk/teachingdeafstudents/

Premia Resource Base - includes a range of awareness and development materials for research supervisors, administrators, examiners and others designed to make the research environment more accessible.
http://www.premia.ac.uk

Visit the CATS website for a wide range of resources for maximising teaching and learning experience for students with hearing impairment.
http://www.adcet.edu.au/cats/

Creating Accessible Teaching and Support (CATS)... for students with hearing impairment is one of a series of booklets that provides information and resources to assist universities to create equitable access for students with a disability and to comply with the Disability Discrimination Act and the Disability Standards for Education.

Others in the series are:
• Creating Accessible Teaching and Support (CATS)... for students with vision impairment
• Creating Accessible Teaching and Support (CATS)... for students with mental health conditions

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