

# Teaching students with special learning needs (disabilities)

## Information for lecturers

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### 1. General guidelines for the handling of students with disabilities and students with special learning needs

#### 1.1 Background

Each year the number of students with disabilities at tertiary establishments increases. It is, therefore, crucial that a supportive and inclusive culture, embracing all aspects of such students' university experience, be created and developed in both academic and social spheres.

The National Plan for Higher Education of 2001, establishing the framework for the implementation of the policy of inclusive education throughout all schools and tertiary establishments, was announced on 26 July 2001 with the publication of White Paper 6 "Building an inclusive education and training system". Key aspects of this paper include the following statements, as quoted from p. 9:

*The acceptance of the policy of inclusion recognizes that all youth have the potential to learn and that they require support at some point. Establishing an inclusive education and training system will require changes to the mainstream education system.*

*The entire education system must be changed to accept all learners – quality education for all.*

In terms of such a policy, higher education clearly needs to make more adequate and appropriate provision for students with barriers in regards to learning and development, specifically in cases where such barriers incorporate disabilities.

Stellenbosch University is committed to the promotion of equal opportunities for all. The University (within reasonable limits) protects the rights of individuals with disabilities, as well as their right to participate in higher education activities. The University aims to serve as large a spectrum of the South African population as possible by:

- including students with disabilities who meet the required academic requirements into the student community as equal and integrated members of such a community;
- where needed, and in such cases as is practically viable, to cater for the academic needs of such students, without impeding other students' rights; and
- ensuring the academic accessibility of, and the granting of support to, students with disabilities.

#### 1.2 Definition of disability

According to Stellenbosch University's policy on students with disabilities, the term 'disability' refers to any person with one or more provable physical or psychological limitations that negatively affects such an individual's quality of life in any way.

Such a definition includes consideration of students with, amongst others, physical, sensory, neurological, psychological and motor disabilities. Due to the possibility of such disabilities detracting from the quality of life enjoyed, such students may require specific tools, environmental adjustments or special personal skills to be enabled to function on par with other students.

Such a definition must be seen within the context of the social model of disability, which focuses on the environment, rather than on those factors that potentially limit participation in activities, or on diagnostic entities with regards to the disability as such.

This definition encompasses the following categories of students with disabilities:

- students with hearing disabilities;
- students with visual disabilities;
- students with learning disabilities;
- students with speech disabilities;
- students with mobility/cerebral disabilities;
- students with medical disabilities;
- students with psychological conditions; and
- students with neurological disabilities.

Though students falling into any of the above categories are not required to disclose their disability to the University, they should have the assurance that, if they do decide to notify the University of such disability, the University will be able to implement the appropriate accommodation strategy that will give them maximal support. It must be kept in mind by all those involved in such strategising, including the recipients thereof, that the University at all times regards student information, including information about disabilities, as confidential.

### **1.3 Strategies for accommodation**

The strategising of the University, in terms of the policy regarding students with disabilities and students with special learning needs, is aimed at providing for the needs of such students in the most cost-effective way possible, by means of:

- securing access to specially adapted academic modules and programmes, as well as to academic support;
- providing up-to-date facilities specifically designed to accommodate the needs of such students;
- ensuring the ongoing confidentiality of personal details regarding these students; and
- improving communication between staff and students with disabilities through, among other measures, converting all relevant information, including academic, into an appropriate format.

### **1.4 Available support services**

The following support services are available to students with special learning needs within the mentioned divisions:

- The Division for Academic Counselling and Career Development at the Centre for Student Counselling and Development (CSCD), specifically the Office for Students with Special Learning Needs (Disabilities), coordinates all activities for students with such needs.
- Among its many duties in this regard, the Office facilitates the orientation of first-year students with special learning needs, directs the personal therapy and career development of all such students throughout their academic career on campus, regulates exam and test concessions, as well as promoting a positive and accepting campus climate by means of conducting regular awareness initiatives throughout the University and consulting with lecturers of such students, when necessary.

- HUMARGA provides a range of software programmes and Braille facilities that are of key importance to the successful pursuit of an academic career by students with visual disabilities.
- The Department of Sport Sciences and the Institute for Sport Science provide for participation in special sports, as well as integration into existing University clubs.
- The Centre for Teaching and Learning (CTL) offers academic support programmes on an ongoing basis.
- The association for students with disabilities, Dis-Maties, serves as a forum for the discussion of campus-related issues and aims to promote their integration into university life.
- The Department of Student Affairs coordinates all the above-mentioned, as well as facilitating any accommodation arrangements.

## **Specific disabilities**

This goal-directed document is set out in the following way:

A brief description of each disability is followed by an explanation of the challenges involved, the strategies adopted to accommodate students with those specific needs during lectures and practical classes, and the procedure followed as regards the effective handling of assignments and other assessments. The document thus aims to make lecturers more aware of the learning needs of students with disabilities, as well as of the strategies adopted by the University to promote accessibility to lectures and courses for all students. Strategising is aimed at promoting the quality of specially directed teaching, while upholding the established academic standards of the University as a whole.

### **2.1 The visually-impaired student**

The terms 'blindness' and 'visual impairment' exist on a continuum that serves to describe the full range of visual disability, from total blindness, through tunnel vision, double vision, colour blindness and disturbed vision to poor vision. Some visually impaired students may need strong lighting in order to be able to see clearly, while others may have difficulty with estimating distance and speed or may experience extreme discomfort, or even pain, in the presence of sharp or very bright lighting – some may only be able to discern between light and dark. While certain individuals will have been born blind, others might have developed blindness later in life, due to having been involved in an accident or due to having contracted a debilitating illness. The cause and age at which someone becomes disabled influence the degree to which it affects the person, as well as the way in which he/she adapts to life with a visual disability. The needs of visually impaired students, as regards the adjustments that they have to make to coping with the academic environment, therefore clearly differ. Students with limited vision usually find it difficult to read notes in standard font size, as well as to discern the minutiae of detailed illustrations. Other students may only be able to perceive objects within a particular field of vision. While some may be able to read large-print text extensively, others may opt for Braille, audio-cassette or computer-generated sound versions of the same material. Adjustment to a visual disability occurs in different ways, depending on individual circumstances, and embracing the utilisation of a variety of alternative techniques and tools. Due to these individual differences, it is only by establishing a collaborative relationship with the visually disabled student that one can ensure the effective planning and implementation of strategies aimed at accommodating such students within the course.

### **2.2 Barriers to learning**

As much course content is presented by way of visual aids, the visually disabled student tends to be disadvantaged from the start, with the following presenting as barriers to learning:

- the inaccessibility of course material, such as written text, diagrams, practical observations and electronically formatted material;
- the inability to maximise the utilisation of library-based resources;
- the difficulty in taking notes while a lecture/seminar is in progress;
- the limitations imposed on being able to participate fully in practical laboratory work and field research; and
- the challenges pertaining to the lack of mobility on campus and other unknown terrains.

### **2.3 Strategies for accommodation**

#### **General**

In order to overcome the barriers already described, handouts should, as far as possible, be provided in large print with a font size of between 16 and 18.

Braille is a system of tangible points that are used to represent letters and words. As fluency in Braille can only be acquired by practice over a number of years, only those students who have been blind since childhood are likely to have mastered the technique through appropriate schooling. A scanning and Braille-production service is available from HUMARGA. (Contact Mrs C Park at 021 808 3518 or [cdp@sun.ac.za](mailto:cdp@sun.ac.za), or Mrs Pippa Louw at 021 808 3518 or [phlouw@sun.ac.za](mailto:phlouw@sun.ac.za) in this regard).

See information on how to prepare effective reading material for conversion into braille: [http://sun025.sun.ac.za/portal/page/portal/Staff\\_Personeel/Portaal\\_Tuisblad/Beleid\\_Pros\\_Vorms](http://sun025.sun.ac.za/portal/page/portal/Staff_Personeel/Portaal_Tuisblad/Beleid_Pros_Vorms)

The electronic on-screen enlargement of software is also available at the Lombardi Braille Centre at HUMARGA. Computers at the Centre are also programmed to transform text into spoken language, making them accessible to use by blind users, in terms of the 'Jaws' programme. The transcription of lectures onto tape also facilitates access to such materials.

Visually impaired students can make use of either of the following facilitators of learning:

**The mobility instructor:** The mobility instructor can assist the visually disabled student with his/her orientation to his/her surroundings by physically guiding the student around campus in order to allow him/her to become accustomed to the terrain. The most easily accessible routes from residence to lecture hall can also be pointed out by the instructor.

**The note taker:** A note taker, who may be doing the same course as the visually impaired student, may accompany the student to lectures and seminars in order to take notes verbatim for later transcription into an accessible medium.

## 2.4 Lectures

**Reading material:** Reading material (including the list of textbooks and other reading materials) should be available well before the material is dealt with in class – if possible, before the commencement of the course. Sufficient time will then be available for transcribing the text to large print or Braille, which tends to be very time consuming. Where possible, the material should be made available to the student in electronic format, which reduces the amount of time required to adapt the material for student use.

**Handouts:** Handouts for use during a lecture should be made available either in electronic copy or large print in order to ensure the full participation of the student in the lecture concerned. Please note that the assistive software provided, like JAWS which people who are blind often use, do not support electronic formats such as PDF, PowerPoint and other graphic file types.

Please also ensure that coursework (whether in the form of tutorials or reading material) designed for online use (such as in the case of WebCT) is also accessible to visually disabled students. Please note that the assistive software provided do not support electronic formats such as PDF, PowerPoint and other graphic file types.

**Visual aids:** Annotations of visual aids should all be clearly explained in order to facilitate understanding of the material by all students.

**Reserving of front-row seats:** Students who are partially sighted may well derive maximum benefit from the use of visual aids by the lecturer if they are able to sit as close as possible to the board or screen employed for such purpose. The front row of all lecture venues should therefore be reserved for the use of such students.

**Communication:** E-mail is a common form of communication for visually disabled students, as it is fully accessible, especially when supplemented by speech or enlargement programming – it is, therefore, an ideal medium by means of which to submit tasks and assignments. All announcements and notices of interest to the student body as a whole should be e-mailed to such students as well.

## **2.5 Tests and examinations**

Students with visual disabilities customarily use the computers in the Lombardi Braille Centre at HUMARGA to input their exams. The relevant examination papers are made available to the students in an accessible format, with their answer sheets being e-mailed to the lecturers concerned. Due to the relatively slow speed at which such papers can be read, the students who sit their exams in this way are also allowed extra time in which to conclude the exams.

Alternatively, and depending on the content of the module concerned, the administration of an oral examination may be preferred.

In such cases, an amanuensis (a person employed to take dictation or to copy manuscripts) may be employed to read the content of the examination paper to the student concerned, and to record the student's responses verbatim.

## **2.6 Practical / fieldwork**

The expectations attached to successfully completing such practical or fieldwork should be explained to the visually disabled student. Provision should be made for alternative supportive measures, such as the provision of a description of the terrain. Project planning should be thorough and should include the timely implementation of appropriate safety regulations.

The assistance of a classmate may be sought by a visually impaired student during certain practical classes, such as in order to explain a graph that the student cannot see.

In brief, the establishment of a collaborative relationship with all visually disabled students is necessary for the effective implementation of strategies aimed at accommodating their special educational needs. As each student is the expert on his/her own learning needs, his/her own awareness of such needs should serve as the starting point for determining what these needs entail. While it is important that the lecturer encourages an open and candid relationship with each such student, the responsibility to disclose the nature of his/her disability to the lecturer or the departmental head concerned lies with the student him/herself.

### **3. The student with a hearing disability**

DEAFSA, previously known as the South African National Board for the Deaf, classifies hearing disabilities as follows:

- hard of hearing;
- minimal to moderate loss of hearing, with the hearing being used as the primary mode of communication with regards to spoken language;
- later deafness (post-lingual deafness);
- reasonably heavy to complete hearing loss after having learned the spoken language and where visual information is used for communication in both spoken and written language; and
- deafness – complete hearing loss before the spoken language has been learnt. In such cases, sign language is the primary mode of communication and the person is regarded as a full-fledged member of the deaf culture.

#### **3.1 Kinds of hearing loss**

##### **Conductive loss**

Conductive loss is the result of chronic middle ear infections, or a deformed middle ear or ear canal. Hearing sensitivity may fluctuate sufficiently to cause misunderstanding.

##### **Unilateral loss**

Unilateral loss consists of loss of hearing in only one ear, so that stereo perception is skewed. A student with such a loss may turn his/her head to one side in order to use the normally functioning ear.

#### **3.2 Obstacles to learning**

Detecting hearing disability in others may be difficult. The student with a hearing disability usually experiences a language- or communication-related developmental delay, which has a far-reaching effect on his/her way of life, hampering the ability to establish meaningful relationships, to learn, to develop and to become a full-fledged member of a wider community. Within the higher education learning environment, such students' learning experience may be negatively influenced in a variety of ways. Such students find it especially difficult to follow a lecture while in a large lecture hall with poor acoustics that cause an echo, or in the case of a lecturer speaking unclearly, too fast or too softly. Group discussions may be hard to follow, especially if such discussions are conducted at a fast tempo and are relatively disorganised. Practical demonstrations may also be difficult for such students to follow, as they require listening to explanations at the same time as watching set procedures.

Students with hearing disabilities may:

- have a limited vocabulary, in the sense that certain words may only carry meaning to them within a specific context;
- misinterpret ambiguous information;
- err in their use of syntax, such as use incorrect sentence structure or either insert additional, or omit necessary, words; and
- submit incomplete written work, due to the difficulties that they encounter with absorbing information via the spoken word, when compared to the performance of hearing students.

##### **Problems with speech**

Those who are hard of hearing or who are deaf may develop problems with speech, either because they cannot hear fully, or because they cannot hear their own or others' voices at all. This may lead to:

- poor self-expression, due to the development of only a limited vocabulary, poor articulation and/or language skills;
- difficulty in learning a second language;
- a limited ability to understand abstract concepts; and
- poor listening skills.

Poor communication skills may lead to low social self-confidence and skill which, in turn, may result in emotional and behavioural problems. Such inadequacies may compromise the student's ability to reach his/her full academic potential and may lead to the student attaining a lower educational level than he/she is truly capable of.

### **3.3 Supportive measures**

The following supportive measures are available to students with hearing disabilities:

#### **Speech-reading**

Most hearing-disabled individuals use lip-reading, especially in noisy environments, or in combination with their residual hearing ability, which they may support with hearing aids or natural hand gestures. Students who are hard of hearing will often use lip-reading, while students with a severe hearing loss will tend to prefer to use sign language. Lip-reading may be difficult to use during lectures, as the student then has to focus on the projected image, television or other visual aid, as well as to look at the lecturer in order to follow what is being said. A student may want to use a laptop during lectures, as well as make use of lip-reading. A note taker can also take notes for such students during lectures, while a hearing disabled student may be able to follow what is said using lip-reading.

#### **Sign language**

Those who use sign language as a full-fledged language regard the use of spoken language as their second language of choice. Sign language is a visual language, in terms of which the systematic use of hand and facial expression communicates meaning, while adhering to its own grammar and punctuation rules. National sign languages differ from one another, with, in South Africa, separate types of sign language being used for Afrikaans and English. A deaf student uses an interpreter who signs what is communicated by way of speech.

#### **Technical support**

##### **Hearing aids**

Students with minimal or moderate hearing loss should be equipped with hearing aids in the initial stage of hearing loss, in order for them to maximise the remaining hearing that they have. The upkeep of such hearing aids is the responsibility of the student and/or the student's parents.

A hearing aid enhances all sound, so that it fails to discern between relevant or irrelevant sound stimuli. As a hearing aid also enhances background noise, such support is of little use in noisy environments.

##### **FM systems**

During a typical day, the hearing-disabled student will find him/herself in many situations which hinder communication due to environmental factors, such as background noise, distance from the person speaking and poor acoustics. FM systems provide a means of following speech where most hearing aids are incapable of effective assistance, but unfortunately are very expensive. An FM system consists of a small microphone that is worn by the speaker and which is connected to a small radio signal generator which emits radio waves. The radio waves are



received by the radio receiver, which, in turn, is connected to the student's hearing aid. Such systems are useful in a variety of environments, such as:

- during a lecture, in which the microphone is either held in the speaker's hand or worn around his/her neck;
- in group sessions (such as during group work, meetings or family gatherings), where it can be placed at a central point, in order to enhance the sound of the surrounding conversation; and
- when connected to other sound systems, such as televisions and computers.

## **Cochlear implants**

A cochlear implant involves the implanting of an electronic device into the ear, thus enabling a degree of hearing and of communication for those with severe hearing loss. Such implants are a medically accepted procedure used in the treatment of adults and children with extreme neuro-sensory hearing loss. The implant replaces the function of the damaged hair cells in the cochlea by directly stimulating the nerve endings in the cochlea. Consisting of both an internal and an external component, while the former serves as the receiver/stimulator and the electrode-configuration, the latter acts as a speech processor, microphone and headset (in effect, as a transmitter coil and magnet). While a hearing aid enhances sound, a cochlear implant replaces the functions of the hair cells by its stimulatory action.

Increasingly more students who enter higher education are likely to make use of cochlear implant technology.

## **Interpreters**

Persons with little or no speech ability, and who consider themselves an integral part of the deaf culture, communicate using sign language interpreters.

An interpreter interprets spoken language by way of specific gestures. Interpreting is a specialised skill that takes many years to master and to apply successfully in the higher education setting.

## **Method**

### **The role of the interpreter**

An interpreter does not participate in the communication as such, but merely facilitates the communication process. If the student does not understand any aspect of the work, he/she has to personally follow up with the lecturer.

## **Group discussions**

During group discussions, two or more persons should not talk at the same time, as the translator is only able to interpret what one person is saying at any one time. The group facilitator should, therefore, inform the group of such an arrangement before the discussion starts.

## **The interpreter**

The interpreter needs to be given a few seconds in which to conduct any specific instance of interpretation. Speech should take place at a natural tempo, neither too fast nor too slow.

## **Preparation**

As interpreting is very hard work, the interpreter should be given a rest period after every 30 minutes of interpreting, with the lecturer concerned structuring his/her lectures accordingly. The interpreter has to position him/herself so that the student has him/her in full view, and so that the interpreter can clearly hear what the lecturer is saying.

### **Providing information beforehand**

The interpreter should have access to the relevant lecture material well in advance of when the lecture takes place, in order to ensure a high quality of interpretation.

## **3.4 Strategies for accommodation**

### **Lecture halls**

The first two rows of any lecture hall should be reserved for students with hearing disabilities. Hearing-impaired students are responsible for using the first rows that are made available to them in order to facilitate their lip-reading.

Good lighting of lecture halls is essential to the student who has to compensate for hearing loss by way of maximisation of his/her vision.

Generally, the larger a room, the more likely the chances of prevailing noise levels being high and of the student with a hearing disability losing out on some information. A relatively quiet environment is crucial for maximisation of residual hearing in students with hearing loss.

### **The lecturer**

The student who is hard of hearing is dependent on lip-reading for his/her understanding and communication. The lecturer concerned should thus note that he/she should not turn his/her back to the class during lectures. The student should have full view of the lecturer, including his/her facial expressions, emotions and body language, in order to facilitate the student's understanding. Objects, such as microphones or overhead projectors, should not obstruct the student's view of the lecturer.

In order to draw the student's attention, in the absence of eye contact, the lecturer can touch the student on the shoulder to draw his/her attention to what is being said.

Understanding the hearing-impaired student is a skill that develops over time.

The body movements, including lip and hand movements and facial expressions, of the lecturer should be limited during presentation.

Lecturers should speak to the student after writing on the board or overhead transparency. A normal pitch should be used at all times when addressing hearing-impaired students.

### **The lecture content**

Subject-specific terminology should be explained to the student. The terms should first be written down for the student and then contextualised within different settings, should the student fail to grasp them. As abstract concepts are difficult for the hard-of-hearing student to understand, they need to be explained in full. Key concepts should be repeated throughout a lecture.

Should a lecture be presented in a second language, the notes for the lecture must be made available to the student in his/her first language.

Visual aids will help a student to grasp the content covered, as such aids are a key method of assimilating information by the hearing impaired.

Lectures should be kept as short and to the point as possible. Clearly written and structured synopses of lectures, as well as assignment and laboratory instructions, should be made available to the student ahead of time. A brief overview of the material covered in a specific lecture should be provided on a transparency before the lecture starts.

As the hearing-disabled student cannot usually follow questions or comments made by other students, it is necessary to repeat such comments and questions before continuing with the lecture.

Information concerning cut-off dates and test and examination times should be e-mailed to all hearing-impaired students.

The student has the responsibility to keep up the maintenance of his/her hearing aid and to stay up to date with the newest technological advances with regards to his/her ability to hear.

### **Written text**

The following pointers should be kept in mind when preparing text for a hearing-disabled student:

- Avoid use of complicated language and vocabulary.
- Do not introduce too many new concepts at the same time.
- Explain any new or difficult concept.
- Use new terminology in a variety of contexts in order to clarify both the meaning and the use of the new term(s).
- Split up any work presented by way of multimedia resources into subsections under clear subheadings.
- When using videos, films or slide shows, ensure that the written text appears at the bottom of the screen and is legible – otherwise, provide the student with a transcript or a framework of the content covered by the audio-visual medium.
- When viewing videos, films or slide shows without subtitles, the lights should be kept switched on, so that the hearing disabled student can follow what the lecturer is saying.

### **Computers**

The use of a laptop computer enables hearing-impaired students to follow, by means of lip-reading, what the lecturer is saying, while also making notes.

### **Auditory material**

Auditory material can be used with the FM system.

### **Personal support**

It is crucial that students who are hard of hearing have effective note takers available to them.

Carbon paper can be used to duplicate notes, provided that the note taker (whether voluntary or paid) gives the hearing-disabled student the original copy of such notes.

Tutors can be used to explain lectures to the student after hours, with the specific arrangements being made between the specific department and the particular student concerned.

## **Group work/tutorials**

Hearing-disabled students may find it especially difficult to become involved with group work or tutorials.

Small groups are ideal. Structuring seating in a circle or U-shape best enables such students to see all participants clearly, enabling them to lip-read. The student should sit next to the group leader/facilitator. In order for the student to be able to lip-read, the facilitator should ensure that only one person in the group speaks at any one time. The facilitator should also encourage all other students to speak clearly. The hearing-impaired student should be encouraged to participate in any discussion by addressing him/her by name and asking specific questions about the topic under discussion.

The topic of the group work/tutorial should be clearly stated from the start. The topics or questions under discussion should be written down on the board or for projection by the overhead projector. Comments or questions asked by other students should be repeated.

## **Practical/laboratory and workshop work sessions**

Handouts should be made available on an experiment, including its method and workings, well in advance of the practical session. All information regarding assignments, tests and events of interest should be given to the student in written format.

A hearing-disabled student may find difficulty with simultaneously watching a demonstration and following what is being said. Systematically go through the content using the overhead projector. Alternating practical demonstrations with explanations helps to clarify what is being done. Abstract concepts should only be explained after an initial illustration of the concrete concept.

Hearing-disabled students should be so seated that they can see both the lecturer and the visual media simultaneously. The lecturer must ensure that he/she stands in front of a student while speaking when the former is busy with an experiment or inputting data.

New concepts should be written down on the blackboard, or else for projection by the overhead projector. The lecturer should not speak and write at the same time. Visual pollution should be limited by writing down only what is being explained.

When teamwork is required, someone should be appointed to assist the hearing-disabled student. On completion of a certain section of the work, feedback should be obtained from the student in order to ensure that he/she has fully understood the content of the section.

Films, videos and laser disks with subtitles should be used in preference to those without. If the media used during a lecture lacks subtitles, the lights in the lecture hall should not be dimmed, so that the student can make use of his/her lip-reading skills.

## **Tests and examinations**

The granting of extra time for the sitting of tests and exams by hearing-impaired students should be arranged ahead of time, in consultation with the Office for Students with Special Learning Needs (Disabilities).

## **Amanuensis**

Every hearing-disabled student has unique individual needs, making it necessary to communicate with the student ahead of time, in order to discuss these needs and how these needs can best be met.

## **4. Specific learning-disabled students**

Most individuals develop integrated cognitive strategies for dealing with problem situations that they encounter from early on in their lives. However, some individuals find mastery of such skills more challenging. Learning problems cause the individual to be unable to organise, remember or convey received stimuli. Such perceived inability has a negative impact on the individual's ability to read, write, reason and understand. Such learning problems are mainly caused by developmental delays of the central nervous system.

Students with learning problems usually have an average to above average academic ability, but find it difficult to assimilate and convey new information, which usually results in poor academic performance. It is, therefore, important to note the discrepancy between actual academic achievement and the potential ability to perform.

Learning problems influence, amongst others, academic activities such as reading, writing, reasoning, attention and speaking. Learning problems vary greatly and may present differently in different individuals. Learning problems may also coincide with other obstacles to learning, such as attention deficit disorder.

Specific learning problems are as follows:

### **4.1 Reading and spelling problems/dyslexia**

The reading of learning-disabled students is characterised by:

- a slow tempo of reading;
- a poor understanding of what is read;
- a poor sight-vocabulary;
- the faulty division of syllables;
- the faulty decoding of words;
- a limited vocabulary;
- an insufficient knowledge of sounds;
- the adding of sounds to words; and
- the skipping of sounds or words.

Spelling problems often co-exist with such reading problems, preventing the individual from being able to spell correctly and resulting in the omission of certain letters.

Serious attention should be given to the situation in which a student's inability to spell correctly negatively influences the ability to understand his/her work. Such a problem requires the diagnosis of a psychologist who is supplied with the necessary collateral information.

### **4.2 Dysgraphia (also known as the disorder of written expression)**

An individual with dysgraphia experiences problems with writing letters and words in ink on paper and also has problems writing legibly.

This problem usually co-exists with a reading problem. Proof exists that language and perceptual motor problems are part of this condition.

The condition is characterised by:

- poor writing ability;
- poor paragraph planning;
- the inability to use grammatically correct sentences;
- the inability to remember the order of general words;
- a serious inability to write; and
- multiple spelling mistakes.

### **4.3 Strategies for accommodation**

Students with dysgraphia should be allowed to:

- give verbal feedback during tests and exams;
- have access to an amanuensis (see Section 2.5 for definition of term); or
- be allowed to answer tests and examinations by electronic means.

### **4.4 Dyspraxia**

An individual with dyspraxia may mix words and sentences during conversation. The problem exists due to a discrepancy between the understanding of language and language production.

#### **Non-verbal learning problem**

Poor motor coordination, visual-motor organisation and/or lack of social skills may characterise a non-verbal learning problem.

### **4.5 Obstacles to learning**

For a student with a diagnosed specific learning problem, information may become confused during reception, processing and/or reformulation, either auditively, visually or tactilely. Such a problem may manifest in the student taking longer to assimilate and process written information. Such a student may also find it difficult to complete assignments or long passages of reading within a specific timeframe. Problems with inattention, lack of organisation, the inability to manage time appropriately, as well as the failure to prioritise also tend to prevail.

Some students may find it harder to communicate their thoughts in a noisy lecture hall than they would in a one-on-one situation, while others may have specific problems with reading, understanding, spelling and/or understanding mathematical problems. Problems with spelling may render students unable to submit the required standard of work in written format.

### **4.6 Strategies for accommodation**

The following accommodation strategies may be employed with students with dyspraxia:

- Use may be made of an amanuensis (see Section 2.5 for definition of term).
- The student may be allowed to use a computer to answer his/her question papers.
- Extra writing time is usually granted for the sitting of tests and examinations.
- A quiet venue for tests is essential.
- Specific students may be appointed as note takers.
- Lectures may be recorded on video or audio in order to allow to enable the student to listen to, and work through, the content afterwards.
- Clear course and lecture guidelines should be provided.
- Textbook content can be recorded on audio tape.
- Alternative assessment methods, such as oral examinations, portfolio work or video presentations, may be administered.
- Large amounts of work should be subdivided, with instructions being given in relatively short sentences.
- Computers may be adapted in the following ways in order to support students with learning problems:
  - by means of the provision of audio output that can read;
  - by means of the addition of word processing programming, such as spell-checkers; and
  - by means of programming that enlarges on-screen images.
- In mathematics and science lectures, it might be helpful to provide:

- extra paper during tests and examinations for working out mathematical problems;
- audio-supplemented calculators; and
- calculators able to calculate decimals and fractions and to manipulate statistics.

## 5. The student with a neurological disability

Attention-deficit disorder, with or without hyperactivity (with which it may be combined), is a neurological disability characterised by attention deficits, impulsiveness, and/or hyperactivity. Such a disability may be accompanied by learning and/or social problems. The condition is much more prevalent amongst males than among females. A student with attention-deficit hyperactivity disorder might present with the following:

- **poor attention**, characterised by:
  - distractibility;
  - the tendency to make unnecessary mistakes;
  - the appearance of not listening;
  - difficulty with completing tasks;
  - difficulty with concentrating on tasks that require prolonged attention;
  - difficulty with persisting with a specific task;.
  - the tendency to misplace or lose items;
  - general forgetfulness;.
  - difficulty with organising his/her work;
  - impulsiveness;
  - the tendency to act without thinking;
  - the tendency continuously to shift from one activity to another;
  - the tendency to speak out of turn;
  - difficulty with waiting for his/her turn during group activities; and
  - the tendency to interrupt others.

and

- **hyperactivity**, characterised by:
  - fidgeting with hands and feet;
  - difficulty in sitting still;
  - difficulty in staying seated;
  - the tendency always to be on the go;
  - the appearance of always being driven;
  - general restlessness;
  - the tendency to talk continuously;
  - the tendency to find it difficult to become/stay calm during relaxation-centred activities; and
  - restless sleeping patterns.

### 5.1 Obstacles to learning

The ability of a student with an attention deficit to perceive information is impeded, because he/she experiences his/her world as disorganised. The inability to pay attention not only impedes perception, but also causes a feeling of frustration, which may lead to anxiety. Perception aimed at analysing, organising and synthesising as important steps to problem solving is executed ineffectively. The result of the inability to perceive correctly is inversions, sequencing problems and problems with sound and word recognition, which explain the associated learning problems. Thought processes tend to be incomplete, due to a lack of classification, categorising and organising, which leads to an inability to think clearly. The language skill of such an individual function on a perceptibly concrete level. In this way, the method of learning may be fantasised and not completed. Such students find difficulty with empathising with others. They also struggle to memorise material, due to their difficulty with interpretive memory, lack of sequencing and the slowness with which they retrieve facts from memory.



## **5.2 Strategies for accommodation**

Students with neurological disabilities experience difficulties with concentration during lectures and discussions, with writing tests and assignments and with fieldwork. The following accommodation strategies are advised:

- the granting of extra time for the sitting of tests and examinations;
- the supplying of tutors and other organised support;
- the use of note takers;
- the provision of written instructions for practical classes;
- the tape-recording of lectures and textbooks;
- the reservation of quiet private rooms for the taking of tests and examinations;
- the holding of copies of lectures and notes in the library;
- the use of relatively small classes;
- the seating of such students in the specially reserved front rows of lecture venues;
- the reduction of the curriculum load for such students; and
- consultation with the student, as special needs are unique.

## **6. Students with medical/health-related conditions, including chronic illness**

A range of medical conditions and health problems exist that might influence a student's academic functioning, either in the short or long term. General illnesses include, for example, cancer, HIV/AIDS, heart conditions, arthritis, asthma, epilepsy, diabetes and multiple sclerosis. Even though such illnesses do not necessarily directly impact on academic performance, the secondary effects of the illness and the side-effects of medications might cause problems with memory, attention, physical strength, endurance and energy levels.

### **6.1 Obstacles to learning**

Health-related problems may give rise to a variety of challenges. Absenteeism is a problem of particular concern, as the student may find it difficult to attend classes on a regular basis.

Health problems also affect the student's ability to cope with general skills associated with the production of academic work, including the writing of assignments, laboratory work or computer literacy. Note taking may be too painful for students with arthritis, while students with back problems might experience difficulty with staying seated for extended periods during lectures. Students with multiple sclerosis might also find it difficult to take precise measurements, to make detailed sketches or to handle small objects.

### **6.2 Strategies for accommodation**

Due to the unpredictable nature of such medical conditions, it is important that the lecturer remains responsive to the needs of the individual student.

The following strategies might be beneficial to the student:

- Supply the student with a clear course outline, with extrapolated information about reference work, assignments, study material, tests and examinations. The provision of such an outline will enable the student to prioritise and plan ahead.
- Course-related information can be e-mailed to the student, seeing that he/she may not always be able to attend class.
- Receiving test and examination dates ahead of time enables the student to plan future medical visits accordingly.
- Distance education might be recommended for the student.

### **6.3 Special arrangements for students with medical problems include:**

- the granting of extra time for the sitting of tests and examinations, as well as the setting of alternative dates for the taking of tests;
- the use of dedicated note takers;
- the taping of lectures on video or audio tape;
- the negotiation of flexible class attendance agreements;
- the making available of lectures on WebCT;
- the use of e-mail as a method of communication between students and lecturers; and
- the use of voice recognition software on computers for the input of information, as well as the supplying of ergonomic keyboards and keyboards designed for one-handed use.

## **7. The student with psychiatric/psychological disabilities**

Disabilities of a psychiatric/psychological nature include diagnosed psychological conditions, in accordance with an acknowledged psychiatric system of classification. Such conditions, which are usually diagnosed by a psychiatrist or psychologist, tend to have a negative impact on the daily functioning of the person concerned. A request for extra time during tests and examinations due to such a disability has to be accompanied by an explanation of the effect that the condition has on the affected student's ability to learn, as well as suggestions as to what special arrangements can be made.

### **Strategies for accommodation**

Such strategies can include:

- the granting of extra time for the sitting of tests and examinations, based on the recommendation of a psychiatrist;
- the extension of deadlines for the completion of assignments;
- the use of a note taker, the provision of copies of another student's notes or the use of a tape-recording of the lecture; and
- the provision of a quiet environment in which to write tests and examinations.

## **8. The student with a speech problem/communication disability**

Communication disabilities include a wide variety of problems concerning language, speech and hearing. A student with such a disability will have difficulty with communicating using speech. Such disability may take any of the following forms: stammering; stuttering; aphasia (the inability to relate thought through spoken language); lack of fluency in speech; problems with tone of voice, such as breathlessness, hoarseness or sudden volume changes and sharpness of tone; articulation problems; and phonetic problems.

Speech and language problems are usually caused by environmental factors, such as drug use during pregnancy; sexually transmitted infections, such as syphilis; or injury at birth. Other factors are learning problems, dyslexia, cerebral palsy and low intellectual functioning. Students with severe hearing loss are likely not to be able to learn to use speech, due to its being acquired through hearing. Medical conditions, such as strokes, may also lead to a loss of control of the muscles responsible for speech. An inability to clearly express oneself tends to lead to others gaining the impression that one is less intelligent than one truly is.

A student with a speech disability is likely to exhibit poor use of language. Such students also have a limited vocabulary; have difficulty with learning new words; often have trouble finding the correct wording; may use words in the incorrect context; use a limited number of simple grammatical structures; might leave out important sentences; use strange sentence structures; and show slow language development.

The individual with such a disability may develop and/or acquire the ability to communicate. Communicative ability may be acquired after a neurological or medical condition (for example encephalitis, head injuries or strokes) has been experienced. With the development of the ability to communicate, the individual usually starts speaking at a later age than normal and generally exhibits slower language development than his/her peers. Such delayed language development occurs most often in families with a history of learning problems and/or developmental delays in communication.

Expressive and receptive language development may be hindered as a result of a hearing disability or some kind of sensory defect (such as speech-motor) or serious environmental deprivation.

### **8.1 Strategies for accommodation**

#### **The student**

The student should be encouraged to discuss his/her disability with the lecturer within the first two weeks of lectures, in order to reach some consensus on the strategies to be employed for accommodating such a student. As the student would invariably already be using certain coping strategies, he/she would be able to make recommendations as to how best to accommodate his/her special needs.

Some students might be able to use supportive technology, such as voice synthesisers, in order to communicate. Such students may also prefer to communicate through an assistant, by way of sign language, or through an interpreter.

#### **The lecturer**

Some problems with speech are influenced by the emotional state of the individual. When feeling relaxed, comfortable and self-confident, his/her speech tends to be clearer. The emotional factor is one of the most important concepts to keep in mind while communicating with a student who has a speech problem.

Be tactful and sensitive. Students with speech problems have most probably had negative educational experiences in the past as a result of their disability, which may have led to a lowering of their levels of self-confidence.

Students with a speech problem should never be corrected. Wait for the student to complete his/her sentence before commenting on what he/she has just said.

Politely ask the student to repeat what he/she has said if the meaning was unclear. Most such students are used to being asked to clarify what they have to say.

As such students may take some time to express themselves, listening to them requires patience and understanding. Try to foster a relaxed environment free of pressure in which they feel relatively free to express themselves.

Individuals with a speech problem might find it difficult to communicate telephonically, so that communicating via e-mail is more suited to their needs.

### **Group work and tutorials**

Foster a relaxed and comfortable atmosphere in class. Group work and tutorials are challenging for students with speech problems, leading to their lack of participation. Encourage such participation beforehand with the student, by finding out whether he/she feels comfortable reading aloud in front of the class. Ensure that other students give him/her time to finish what he/she is saying, and that they do not interrupt him/her.

### **Lectures**

Allow the student to record lectures or to use a laptop during lectures, and provide a translator if necessary.

## **8.2 Tests and examinations**

- Grant the student extra time in which to complete the test or examination.
- The use of an amanuensis (see Section 2.5 for definition of term) may be necessary.
- Set out papers in a format most appropriate to the writing abilities of the student.
- Consider allowing the student to make an oral presentation (as part of an assignment, for example) in the privacy of the lecturer's office.
- The student may also be allowed to submit oral assignments in written format.

## **9. The student with a mobility disability/cerebral palsy**

A student with a motor disability may present with any one of a heterogenic group of conditions with a variety of causes. Such a student will tend to exhibit a limited movement repertoire, causing difficulties in sitting; walking; moving; and the use of limbs and fingers. He/she may have to use a wheelchair. Physical disability may be as a result of amputation; polio; scoliosis; spinal injury; cerebral disability; stroke; rheumatoid arthritis; cardiovascular disease; or coronary illness.

### **9.1 Strategies for accommodation**

#### **General**

- Ask the student to indicate whether he/she needs assistance.
- Never lean against a wheelchair. The wheelchair is part of the person's personal space.
- Only push a wheelchair if the student asks you to do so.
- Never tap a person in a wheelchair on the head – doing so is a sign of affection only fitting for young children.
- When it seems as if the student needs assistance, always first ask if such assistance is needed. Accept a negative answer graciously.
- When conversing with a student in a wheelchair for an extended period, position yourself so as to facilitate eye contact.
- Reserve parking spaces that are accessible and close to the entrances of buildings.
- Ensure that the emergency exits of lecture halls are always accessible to students in wheelchairs.
- Ensure that routes and entrances to lecture halls are accessible to students in wheelchairs.
- Check that students in wheelchairs have enough legroom under the desks at which they are seated during lectures.
- Be aware of the fact that students in wheelchairs may be late for some lectures, due to difficulties with manoeuvring the wheelchair between venues that may be some distance from each other.

### **9.2 The lecturer**

Arrange with library staff that books and catalogues are within easy reach. Students might consider recording lectures, should they have problems with writing or taking notes.

### **9.3 Tests and examinations**

- Extra time may be needed, depending on the individual's disability.
- The use of computers that are specifically designed for students with physical disabilities.
- Use an appropriate lecture hall.
- Take tests and examinations in the format most appropriate to the student – either written or verbal.

### **9.4 Fieldwork**

Plan the location with the student's disability in mind. Check that the location is accessible to the student with regards to:

- parking;
- entrance to buildings;
- restroom facilities;
- elevators; and
- telephones.

Discuss the student's needs with him/her and resolve to find appropriate solutions should problems arise.

Use peer group support during the session.

### **9.5 The student**

Visit the University ahead of time and study the layout of the campus; talk to staff and visit the residences.

Visit a doctor and get a medical certificate explaining your disability and specific needs before going to campus.

Visit the Office for Students with Special Learning Needs (Disabilities) on campus.

Discuss the registration procedure with the relevant staff: Alternative methods of registration are usually available to students with disabilities in order to avoid long queues.

Give the CSCD permission to disclose the nature of your disability in situations where doing so would be to your benefit.

Your computer is vital to you – have your computer checked for viruses and have the University staff connect it to the internal system. Make an effort to introduce yourself to your lecturers and to explain your needs to them.

Some lecturers use electronic presentations, which may be available on WebCT – remind them of this.

### **9.6 Living in a residence**

Check that the residence to which you are allocated is accessible to wheelchair users. If adjustments have to be made to bathrooms, for example, notify the residence staff or the CSCD so that such adjustments can be made.

Inform the house committee of your disability.

If you have a problem with mobility, you may be excused from participating in some of the activities that might otherwise be obligatory for first years, should such activities prove too physically challenging for you.

### **9.7 Access to buildings**

Alternative access needs to be organised if use of a student card for access is problematic. Many buildings on campus are old and were not designed to accommodate wheelchair users. Report any such difficulties to the CSCD, so that alternative arrangements can be made.

## RESOURCES

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