

What is Dyslexia?

Dyslexia is a specific learning difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling. This can impact on literacy development, mathematics, memory, organisation and sequencing skills to varying degrees. Dyslexia can occur at any level of intellectual development. It is neurological in origin and is seen to run in families.

Implications for Study

1. Writing difficulties

Dyslexic students may find that long pieces of written work are hard to organise and structure. They have problems with expression, grammar, sentence structure, spelling, punctuation, sequencing and getting started. Additionally, their short-term working memory deficit and slow information processing speed add to the complexity of dealing with words. The work produced is often at odds with their verbal ability in class; the two do not match up.

When tackling written assignments, one of the most difficult things is getting initial thoughts down on paper. While they have all the ideas in their head and know exactly what they want to say, getting started is hard. The struggles they have with expressing their ideas can often result in assignments showing:

- a lack of logical progression of an argument
- erratic sequencing and structure
- irregular and inappropriate use of punctuation, or lack of this
- poor grammar and sentence structure
- erratic and irregular spelling errors
- jumbled thoughts, even in a brief sentence
- one sentence constituting a paragraph
- repetition of ideas expressed in various ways

Writing simple sentences can often be hampered by the problems with basic spelling and grammar. An individual may spend a long time trying to get the spelling right and so have a tendency to use the words they feel they can spell, rather than the vocabulary they know. They can also have a tendency to add or omit words, or modify the meaning of words or sentences by imposing their own idiosyncratic spelling pattern.

The complexity of difficulties experienced in dealing with the printed word makes the writing of essays and other academic tasks longer to complete than the average student. Despite spending a long time on written coursework, and checking and re-checking the content, the discrepancy between what the student intended to write and what they actually wrote only comes to light when their work is examined by a third party.

All of these difficulties can give the impression of poor quality work produced by someone of low academic ability, and can detract from the student's actual ability and potential being acknowledged. The student's experience with written work can often be a source of frustration for them. This frustration can often result in demotivation and diminished confidence in their ability to manage and succeed.

Teaching and Support Strategies

1. Provide handouts

Giving handouts in advance of the lecture takes the stress out of the note-taking situation. These can be made available on Moodle or in hard copy handbook format. The short-term memory deficit associated with dyslexia makes it difficult for dyslexic students to listen and write at the same time. Having handouts lets the student annotate key points, when necessary.

2. Emphasise key pieces of information

If possible, give your students a list containing diagrams, formulae, abbreviations, key terminology and concepts on a separate handout. Take time to explain this information at the beginning of the lecture, if it is a key element of the subject being taught.

Copying or writing down references during lectures is problematic for dyslexic students. Give your students a copy of relevant references before the lecture, presented in a clear, concise manner.

Please provide reading lists in advance to allow the student adequate time to complete required readings/research. If possible, please prioritise reading lists/indicate key chapters and/or pages.

If you do not like to take questions from students during your lectures, allow time towards the end of the lecture for this purpose.

Specific Difficulties often associated with Dyslexia

1. Handwriting

An individual's handwriting can sometimes appear messy, immature and illegible. Their work can contain irregular word spacing and poorly formed letters. Some individuals can also have difficulty gripping and controlling the pen, and can tire easily as a result. Additionally, the impaired information processing skills mean it can often take longer for them to produce handwritten work. Their poor handwriting skills are most evident in work produced during timed written assessments and exams where stress and pressure is experienced.

2. Spelling

Spelling is one of the key areas of difficulty. Not every dyslexic produces the same type or pattern of spelling errors. This is influenced by their management of phonetic sequencing and the degree of their difficulty.

There may be a tendency to worry about 'getting the spelling right' and stress levels can also influence the type of errors made, particularly in exams or when under pressure to perform. Often, the same word can be spelt in a variety of different ways, even in the same sentence or paragraph. At times, some of these errors can change the grammatical sense or meaning of a sentence.

Although many individuals have an extensive vocabulary knowledge, their inability to spell correctly results in the use of simpler, more familiar words.

3. Note-taking

The multi-task of listening, processing information and writing in lectures is frequently very difficult. Individuals have great difficulty retaining the information they have heard long enough in the working memory to process and reproduce in written format.

During the note-taking exercise, many individuals grapple with 'getting the spelling right', picking out key information, grasping new terminology, as well as writing legibly. Copying things down accurately from the board can also be difficult. The heavy demands placed on the short-term memory and the inability to multi-task can heighten their stress levels. The end result, therefore, is often incomplete, illegible and unusable notes, as well as a general feeling of having missed the lecture. Many dyslexic students leave lectures with a great sense of frustration.

4. Numerical difficulties

Working with numbers causes many different and varied problems. The short-term memory deficit and sequencing difficulties makes remembering numbers almost impossible. It is not unusual for them to reverse, jumble or incorrectly annotate numbers when reading or writing. As well as dealing with numeracy-based tasks in their class or course, working on a daily basis with bus numbers, phone numbers (even their own) can be affected. Dealing with money can also cause problems.

Despite the difficulties individuals experience with basic numeracy skills, many may be competent mathematicians. While it is not uncommon for numerical difficulties to be part of the dyslexic profile, a specific difficulty with numbers and the concepts of numeracy can also be the result of dyscalculia. Although dyscalculia can be a stand-alone difficulty, it is not uncommon for individuals to have dyslexia and dyscalculia.

5. Reading difficulties

For many individuals reading is a tiring and stressful experience. They have difficulty with different aspects of the reading process for different reasons. Some of the main difficulties are speed, comprehension, copying information, and visual stress. Dyslexics are often slow readers.

6. Reading comprehension

Precise contextual comprehension is often difficult, particularly when working under the pressure of timed exam conditions. Short-term memory and information processing deficits can affect how they perceive and understand text. They often misinterpret essay or exam questions, statements or instructions and so produce inaccurate responses, particularly if the subject deals with similar sounding words such as hyperglycemic and hypoglycemic. Misunderstanding one word can often mean the difference between passing and failing. The problems with basic reading skills and the energy they use on the reading processes mean that they can both tire quickly and experience a reduced concentration span. They require time, therefore, to assimilate meaning and ensure comprehension.

7. Copying information

Part of the dyslexic reading difficulty also means they have problems copying information. The demands on the short-term memory make it difficult to reproduce accurate references in assignments, or other important information. Most notably, their reading deficit affects their note-taking skills both in class and when gathering information for homework and written assignments.

An additional aspect of the reading difficulty is being asked to read aloud in class. As a result of their specific reading difficulties coupled with their less than positive past educational experiences, it is not uncommon for dyslexic individuals to feel an overwhelming panic at the thought of reading aloud in front of others. Stumbling over words, adding or omitting words, skipping lines, jumbling words in the same sentence are just some examples of their difficulties.

8. Proof-reading

Dyslexics have great difficulties in seeing the whole (gestalt) and identifying any missing pieces or errors. Their ability to proof-read their own work, therefore, is impaired. Dyslexic students can spend many hours drafting and re-drafting written work with few positive results. Unable to see their mistakes, even after using a spell-checker, much of the work submitted by dyslexics still contains errors. Perhaps the most common example is homophones, where two similar sounding words are incorrectly used and not picked up by the spell-checker because the spelling is correct.

When proof-reading their work, individuals often read text in the way they think they have written it, rather than how it actually has been written. The time spent on the proof-reading exercise often can have an impact on their time management skills.

Useful link

<http://www.dyslexiaaction.org.uk/>