

# IncludeAll – Enhancing Practice

## Students with Dyslexia

### What are the key issues?

The British Dyslexia Association (BDA) estimates that 10% of the British population has dyslexia. It varies hugely in severity, with 4% being severely affected. While dyslexia is often regarded simply as a difficulty with reading and writing, these are no more than surface symptoms.

Dyslexia is a Specific Learning Difficulty (SpLD) that the BDA describes as a genetic, neurological learning difference. Differences in the brain affect the way information is processed, particularly language. This is not generally in a linear fashion but more erratic using different parts of the brain, and may vary from day to day. Ironically this is also what gives dyslexia its strengths.

With dyslexia phonological or auditory processing can be poor and the ability to accurately sequence and memorise visual and/or auditory symbols impaired. This leads to difficulties with retaining spoken information such as messages, numbers and names, or following spoken instructions. It is these sequencing weaknesses can also lead to difficulties with mathematics - dyscalculia.

Reading aloud can be difficult, as can generally communicating orally, with words mixed up or missed out. There can be difficulty with remembering the visual form of words (orthography), particularly if these are irregularly spelt, such as 'dough' or 'cough'.

Visual Perception Difficulties (VPD) may affect the ease of reading and can cause discomfort. Visual disturbances that cause, for instance, "rivers" in the text, are the tip of the iceberg. The problem lies with the processing of rapidly moving visual stimuli, sensitivity to glare and problems with visual tracking or "jumping". This makes reading text extremely difficult, time consuming and tiring. Text can easily be misread and overall comprehension is more difficult particularly when accompanied by other processing issues. It also affects the ability to "skim" read. VPD are not experienced by everyone with dyslexia, and are not exclusive to those with dyslexia.

Difficulties in the logical processing of information can lead to inconsistencies, poor personal organisation, difficulties in organising long documents or reports, and poor time management. It can also result in difficulty in sequencing, and left/right confusion.

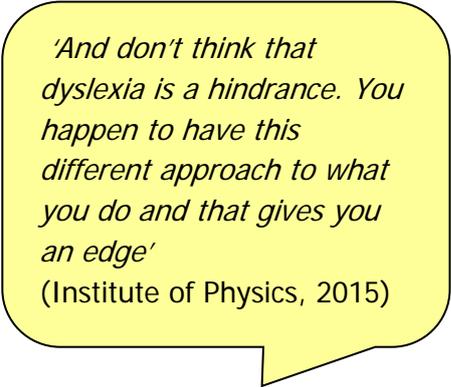
Dyslexia can affect short term memory. We normally remember around five to nine pieces of information, such as numbers, but someone with dyslexia may only be able to remember three or four. In addition working memory may be slower. In some cases someone may not be able to recall substance of the text they have only just read. Longer term memory may not be affected, but it may take more effort to get information into long term memory.

All of the above can contribute to such surface symptoms as erratic spelling, grammar or handwriting, and a general vulnerability around literacy and in some cases numeracy. The areas of difficulty can occur together or independently, and bear no relation to intelligence. One of the indicators can be that someone's potential is not matched by their performance.

Dyslexia is complex and can impact on a range of different areas including time management, work load management, numbers, handwriting, and physical aspects of reading rather than understanding. Not all people with dyslexia will struggle with written work, spelling and grammar but these may deteriorate under pressure such as in exams or being watched. A student may know, or know how to spell, a word but be unable to get it down onto paper correctly. They may be unable to recognise mistakes making proof reading difficult.

The signs of dyslexia can become more prominent when the individual is under stress. This may include new tasks, tight deadlines or when presenting or performing. By the time someone with dyslexia reaches adulthood, they will probably have been struggling for years with difficulties that may never have been recognised or understood. They can often have low self-esteem, and may feel vulnerable and disadvantaged. Many compensate by putting in extra effort and time, but this can lead to fatigue.

However, the differences in information processing can also result in strengths. These include innovative thinking, pattern recognition, trouble shooting, problem solving, creativity, lateral thinking, 3D thinking, gestalt (overview) thinking, motor memory, tactile memory, picture/video memory, mnemonics, tunes and rhythm. Strengths can also include a high degree of empathy, capacity for hard work and determination to succeed.



*'And don't think that dyslexia is a hindrance. You happen to have this different approach to what you do and that gives you an edge'*

(Institute of Physics, 2015)

A student can excel at creative writing and still have dyslexia or be diagnosed as a postgraduate having achieved well in exams and assessments up to that level. Diagnosis is via an initial simple screening test. This may be followed by an assessment by an educational psychologist who will then recommend reasonable adjustments. Often there are a number of simple adjustments available to mitigate weaknesses and maximise potential, particularly

using the modern technology but no one solution or set of solutions will suit everyone.

## What are the implications for teaching and learning?

Many adults with dyslexia become fluent readers, and their dyslexia may only show in their writing, short term memory, organisational skills, and in the speed and way they process information.

In HE there are many well compensated people with dyslexia whose persisting difficulties lie in the areas of higher order study and organisational skills. These include organising large pieces of written work, summarising, note-taking, time management, speed of processing of auditory information, and effective revision and exam techniques. With better recognition and teaching in primary and secondary education more students with dyslexia are coming through to higher education.

Students may have difficulty skimming and therefore try and read everything. Even where reading is fluent the student may have difficulty retained what is read due to difficulties with short term memory. This has implications for assignments and critical analysis where it is necessary to pick out small sections to support arguments. There may also be difficulty in sorting out what to use and then using it in a logical way. Students with dyslexia will often take much longer to complete tasks.

There can be basic difficulties in for instance following and remembering instructions, finding places and getting to places on time. Students with dyslexia can also find it difficult to filter background noise in order to concentrate

Poor self-esteem and previous experiences can hinder learning and everything is usually worse under stress. Often the brain tries to take in too much information all at once and becomes jammed, rather like an old fashioned typewriter.

Written work usually troubles lecturers most. Student with dyslexia may struggle with the rules of grammar and punctuation or may have difficulties with *checking* spelling and proofing, not necessarily knowing the spelling. Of course this will be worse in exams. A student may understand the concepts perfectly well but struggle to get it onto paper in the correct way/way the student intended. Students can misread or misinterpret a key word in an assignment/exam due to phonological processing difficulties with disastrous consequences.

## What works really well?

- Remembering strengths and that the weaknesses are specific but vary from individual to individual.
- Access to good accessible versions – left justified, good size font and so on (see Inclusive by Design: Producing accessible teaching materials)
- Providing a structure to the course and sessions and linkage to previous and next sessions provides a context –the ‘Big picture’
- A variety of assessment/ assignment formats which involve problem solving and creative thinking can be useful – projects or poster presentations.
- Some students with dyslexia prefer to talk about a subject rather than write it down
- In seminars ask for volunteers to read aloud - do not randomly pick people. Many students with dyslexia would find this really difficult and embarrassing.
- Try to provide Word documents and PDFs with heading styles so students can then can skim and dip more easily or select right section; otherwise a student may have to read everything.
- Having presentations in advance, PPTs with extra notes, PPTs with voiceover all help.
- Interaction on whiteboards, activities, images, film clips and so on helps convey concepts rather than just relying on the written word.
- Allowing students to record means they can listen and not have to try and write and listen. Some students may have note takers.
- Spreading deadlines and providing a time scale as to when stages of an assignment should ideally be completed will help students plan.
- Provide oral information/instructions in a written format as well.

## Further hints, tips and/or background reading

- The [Student Enabling Centre](#) is very experienced in helping students with dyslexia and provides testing.
- [Academic Study Skills](#) support based in the libraries provide specialist dyslexia support.
- BRAIN HE – resources around ASD, dyslexia and dyscalculia put together by the Neurodiversity Project Team at the London School of Economics – old site but still useful resources. Website: [www.brainhe.com](http://www.brainhe.com)
- British Dyslexia Association – Website: [www.bdadyslexia.org.uk/educator](http://www.bdadyslexia.org.uk/educator)

- Dyscalculia and Dyslexia Interest Group – Mathematics Education Centre, Loughborough University. Website: [www.lboro.ac.uk/departments/mec/activities/maths-statistics-support/thedyscalculiaanddyslexiainterestgroup/](http://www.lboro.ac.uk/departments/mec/activities/maths-statistics-support/thedyscalculiaanddyslexiainterestgroup/)
- IOP (2013) *Supporting STEM Students with Dyslexia: a good practice guide for academic staff*. London: Institute of Physics.

### Checklist for reflection



In respect of students with SpLDs:

	✓
Do I deliver my lectures and seminars in a way that would be accessible to a student with dyslexia or similar SpLD?	
Are my teaching materials formatted for use by students with dyslexia?	
Do I connect sessions to the overall context of the module?	
Am I able to indicate which texts are most important taking into account students who find it difficult to 'skim' read'?	
Do I provide a range of ways for students to gain and demonstrate knowledge?	
How do I deal with spelling and grammar errors? In written assignments? In exams?	

### Reflection into action

Having reflected on the above, my key priorities for making my teaching more inclusive are:



Changes I would like to introduce	By when	Indicators that it has made my practice more inclusive

This document is part of an inclusive practice 'toolkit' - *IncludeAll*. The whole Toolkit, as one complete document or as separate documents, can be found on the University website at [www.staffs.ac.uk/inclusivepractice](http://www.staffs.ac.uk/inclusivepractice) .

It is split into four sections: Core Concepts; Inclusive by Design; Enhancing Practice; Checklists for Self-reflection.

The *IncludeAll* Toolkit has been developed by: **Dr Marjorie Spiller** (Academic Development Unit); **Alison Hunt** (Equality and Diversity Manager); **Dave Allman** (Head of the Student Enabling Centre); **MINDSET Project Team** (Faculty of Arts and Creative Technologies).

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