DYSLEXIA AT SECOND LEVEL:
Factsheets for teachers

The factsheets have been published to give teachers in second level schools in Ireland clear and concise information on dyslexia, how it affects students and how schools and teachers can help. With dyslexia affecting approximately one in eight people, there are many thousands of students with dyslexia in Irish second level schools. For some, the difficulties may be so severe they are receiving extra support through learning support or resource teaching. The majority are depending on help from mainstream teachers.

The factsheets are a starting point. Factsheet 18 on resources gives information about books and websites which deal with the topic in detail. In particular several books are highlighted that could be considered essential for staff in all second level schools.

How to use the pack

Some factsheets are relevant for all staff. These include:

- What is dyslexia?
- Understanding the psycho-educational assessment.
- General classroom strategies.
- Developing reading and comprehension skills across the curriculum.
- Developing vocabulary and writing skills across the curriculum.
- Making information more accessible.
- Resources.

The Department of Education and Skills emphasised the importance of literacy and numeracy in the documents *Literacy and Numeracy for Learning and Life* and *The Framework for the Junior Certificate 2012.* These documents state that literacy and numeracy proficiency is fundamental to a student's development. Teachers of **all** subjects have an important role to play in developing these skills. Many of the teaching approaches and strategies that support the student with dyslexia are also of benefit to the general student body.

Other factsheets are more specific such as those on educational choices, maths and languages. It is hoped that school management would give copies of the relevant factsheets to all teachers depending on the subjects they teach.

There is a factsheet with tips for parents on how they can support the student as well as one for students themselves on study techniques.

Extra copies of the pack can be ordered from the Dyslexia Association of Ireland, Suffolk Chambers, Suffolk St, Dublin 2, Ph 01 6790276. A donation of €10 (or €15 including postage) would be appreciated for each pack as DAI is a charity. The pack is also available for download at www.dyslexia.ie. Information such as this changes regularly so the website will be updated on an ongoing basis.

DAI provide the following courses relevant to second level schools. Full details are on the website.

- Teachers' courses (20 hours over 4 days).
- Parents' courses in venues across Ireland (one day).
- Course for second level teachers (one day).
- Course on Maths and Dyscalculia (one day).
- Exam preparation class for Junior and Leaving Certificate students (Sept. to April).
- Course for Junior Certificate students on study skills (one day).
- Course for Leaving Certificate students on study skills and applying to third level (one day).
- Assistive Technology Advice Service.
- In-service courses for school staff (on request).

DAI has also published several books on dyslexia which are available from the office.

The factsheets have been written by Mary Ball, an educational psychologist who has worked with DAI for many years and Wyn McCormack, a guidance counsellor and special educational needs teacher.

Factsheets on dyslexia for second level schools

FACTSHEET 1: What is dyslexia?

Dyslexia is a neurological condition that makes it difficult to acquire the skills of reading and writing. Characteristic features include difficulties in phonological awareness, verbal memory and verbal processing speed. Phonological awareness is the ability to notice, think about and manipulate individual sounds or phonemes and syllables within words.

Key points on dyslexia

- Research has identified genetic components in dyslexia.

- Dyslexia occurs across a range of intellectual abilities.

- It affects about one in eight persons.

- It occurs along a continuum. One student's dyslexia may be very severe while another's may be quite mild. No two students are likely to have the same profile.

- Dyslexic difficulties do not affect all tasks. An individual may be very poor at reading but may excel at engineering, maths or art. Not all aspects of reading and writing will be equally weak.

- Dyslexia may co-occur with other specific learning difficulties such as dyspraxia, dyscalculia, attention deficit disorder, Asperger's syndrome or speech and language impairment.

Diagnosis

A psycho-educational assessment carried out by an educational psychologist is needed for a definitive diagnosis of dyslexia. The assessment includes testing of cognitive abilities as well as literacy and numeracy skills. The psychologist also needs relevant background information such as developmental history and other interventions from parents, schools, colleges or any other relevant sources.

What are the core features that identify dyslexia?

- Most researchers agree that the core difficulty in dyslexia is caused by a phonological deficit. This results in students having difficulty in identifying the separate sounds in a word and later not being able to match sounds with patterns of spelling. They may not process the sound accurately, may become confused trying to sequence the sounds in the correct order or may not remember the common letter patterns that sound out/spell out syllables. They may end up guessing at written words.

- It takes learners with dyslexia longer than average to acquire a knowledge of letter-sound patterns to the point that they can recognize them automatically.

- They may also have difficulty with word recall and with the speed of word recognition. Thus, while it appears that the core difficulty is at the level of phonological awareness, individuals with dyslexia often show difficulties with working memory, becoming automatic in tasks and rapid naming.

- They may have difficulty with co-ordination, fine motor movement, time management, organization/sequencing, space, direction and laterality.

Students with dyslexia may experience difficulties with some of the following:

- Visual discomfort (stress) when reading. Words may blur and appear to move.

- Reading inaccurately, losing their place on the page, becoming stressed when reading aloud.

- Rote learning such as learning poetry, maths tables and formulae.

- Copying from the board or taking notes from dictation.

- Spelling.

- Understanding complex instructions.

- Planning and writing essays.

- Written answers are too short and points are underdeveloped.

- Handwriting may be disjointed, illegible at times or have many cross-outs.

- Finishing work on time.
- Confusion about places, times and dates leading to problems of organization.
- Wide discrepancy between oral and written work.

How does dyslexia affect the student's self-esteem?

Students, who see dyslexia as being a part of who they are and whose family, friends and educators are supportive, encouraging and accommodating, will develop confidence, a strong self-image and have the ability to solve and circumvent the challenges that dyslexia presents. As with all students, with or without dyslexia, success at a task is the most effective guarantee of continued success because it generates a confidence that enables students to believe in their ability to learn.

Students, who have to struggle too much and who feel that their difficulties are not understood, may be at risk of giving up, particularly in secondary school. Because literacy is such a major accomplishment in modern culture and essential for navigating school, failure to become literate can have significant negative effect on self esteem. The result can be acting out, evasion, depression and risk of being bullied or of being a bully.

How are these risks avoided?

Dyslexia is life-long but can be greatly helped by appropriate interventions which teach students strategies for dealing with its effects through knowing their strengths as well as their weaknesses and using their abilities to problem-solve around the difficulties. The onus is not all on the student. Schools and teachers need to make the environment learning-friendly for these students.

FACTSHEET 2: Screening and identification

Concerns about a student may arise from the results of standardised tests or from observations and/or concerns from parents, teachers or the students themselves.

The results of standardised tests such as those used at entrance assessment or prior to senior cycle may show an uneven profile of ability. The Cognitive Abilities Test (CAT) is used in many schools for entrance assessment. It tests verbal, numeric and non-verbal reasoning. A significantly lower result in verbal reasoning in relation to the other two, and in particular the non verbal reasoning, should prompt some further investigation. The Differential Aptitude Tests (DATS), which are often used prior to senior cycle, also have verbal, numeric and abstract reasoning sections where such a pattern also may be apparent. Is there a routine analysis of tests results such as CAT or DATS to check if such anomalies are present?

Concerns often arise from reports and observations from parents, teachers or even students themselves. Parents often voice concerns about particular difficulties a student may have. Teachers, noticing inconsistencies in the work of students, may suggest further investigation. Students may ask for help in understanding the unpredictability in their own performance.

If concerns arise, what is the next step?

Is there a clearly defined referral system in the school where such concerns can be addressed? Does the referral go to the Guidance Counsellor or to the Special Education Teacher? As a first step the teacher investigating such concerns could use the list of indicators published by the Department of Education and Skills (DES) to guide their action.

There are four lists of indicators, one of which is for students of 12 years plus. This is a checklist only. It is not likely that any student will have all the indicators on the list.

Indicators of a possible learning difficulty arising from dyslexia (ages 12 Years+)

- Still reading slowly and without fluency, with many inaccuracies.
- Misreads words (e.g. hysterical for historical) or information.
- Difficulty modifying reading rate.
- An inadequate store of knowledge due to lack of reading experience.
- Continues to experience serious spelling difficulties.
- Slow, dysfluent and/or illegible handwriting.
- Better oral skills than written skills.
- Difficulty planning, sequencing and organising written text.
- Difficulty with written syntax or punctuation.
- Difficulty skimming, scanning and/or proofreading written text.
- Trouble summarising or outlining.
- Problems in taking notes and copying from the board.
- Procrastinates and/or avoids reading and writing tasks.
- Does not complete assignments or class work or does not hand them in.
- Slow in answering questions, especially open-ended ones.
- Poor memorisation skills.
- Still mispronounces or misuses some words.
- Problems recalling the names of some words or objects.
- Poor planning and organisation skills.
- Poor time management skills.
- More difficulty in language-based subjects (e.g. English, Irish, history) than in non-language based subjects (e.g. mathematics, technical graphics).
- Lacks self-confidence and has poor self-image.

Dyslexia Screening Tests

Further investigation by the teacher could include the use of dyslexia screening tests which are instruments used to identify the possible cause of the reading delay. Two tests appropriate for use at second level are:

1. **Lass Secondary** is a computer programme which is a series of assessments in the form of games that test literacy, reasoning and cognitive skills including memory and phonics. Any difficulties of a dyslexic nature such as those caused by underlying problems in phonology or memory are easily identified.

2. The **Dyslexia Screening Test – Secondary** is used to identify students who are still experiencing difficulties at second level. Subtests include rapid naming, verbal fluency, non-verbal reasoning, reading and spelling. It takes about 30 minutes to administer on an individual basis.

Referral for a psycho-educational assessment

The screening test and/or the checklist might strengthen the suspicion that the student may have dyslexia. They also help when discussing possible referral for an assessment with parents. **In all cases a psycho-educational assessment, which is carried out by an educational psychologist, is needed for a diagnosis**. The assessment is required to apply for support such as accommodations in examinations, language exemptions, resource teaching hours and applications to DARE (Disability Access Route to Education).

The National Educational Psychological Service (NEPS) provides a number of assessments to schools. Otherwise parents may opt for a private assessment.

Private assessments can be costly. However it is possible to claim tax back on part of the cost on the MED 1 form.

A list of practising psychologists may be obtained from the Psychological Society of Ireland (www.psihq.ie). The Dyslexia Association of Ireland provides psycho-educational assessments. Appointments can be made by phoning 01-6790276.

Students at senior cycle who intend to apply for reasonable accommodations in the Leaving Certificate or to apply to the CAO using the Disability Access Route to Education (DARE) will need an assessment which is less than three years old.

FACTSHEET 3: Understanding the psycho-educational assessment report

The psycho-educational assessment is a means of assessing how one learns. It is most frequently used to identify a student's learning difficulty. However the information gained should be used as the basis for individual interventions and programmes of learning.

What does an assessment involve?

A psycho-educational assessment typically consists of a test of cognitive ability and tests of attainments in literacy and numeracy.

Cognitive ability means how the brain takes in, retains and makes use of information. The speed with which information is processed is also assessed. There are a number of ability tests used by psychologists. The test most frequently used is the Wechsler Intelligence Scale for Children, 4th edition. It is commonly referred to as WISC-IV. The adult version is known as the WAIS. Other tests sometimes used include the British Ability Scales (BAS), the Woodcock Johnson Test of Cognitive Ability and the Stanford Binet Intelligence Scales.

Attainments tests refer to tests of reading, spelling and numeracy. The results are derived from standardised tests of word recognition, reading comprehension, spelling, word attack skills, arithmetical knowledge and understanding of mathematical concepts.

What information is contained in the report?

The report contains background information, observations of how a student approaches a task during assessment, tests results, descriptions of what the tests mean and where the scores place the student in relation to other students of similar age. The findings are summarised, a conclusion is stated and recommendations for future action are given. All sections are important to read to understand the student's learning profile.

Is there a way to get relevant information quickly, subject to a detailed study of the report later?

Yes. It can be done by:

• Checking the student's background history especially if earlier assessments and identification of difficulties have taken place.

• Looking at the table of results.

• Reading the conclusions drawn by the psychologist.

• Examining the recommendations.

Key elements in planning teaching interventions are the strengths and weaknesses on both the cognitive and the attainment tests.

Understanding Scores

Scores used in the assessment may be given as standard scores, percentiles or scaled scores.

Standard scores are based on the Normal Distribution Curve and range from approximately 40 to 130+. A score of 100 is the mid-point of the curve. 50% of the population will score between 90 and 109. This is designated as the 'Average' range.

Percentile scores range from 1 to 100. They calculate where, in a typical group of 100 students of the same age, the student would be placed in terms of achievement on a particular task, group of tasks and ability. Thus the student placed at the 90th percentile achieved as well or better than 90 students out of the 100.

The table below sets out the standard score range, percentiles, the percentage of the population who would achieve such scores and the descriptive categories relating to these scores.

Score	Percentile	% of population	Descriptive range
130 and above	98 -99	2%	Exceptionally high, very superior
120-129	91 – 97	7%	High, superior
110-119	75 – 90	16%	High Average, above average
90-109	25 – 74	50%	Average
80-89	9 – 24	16%	Low Average
70-79	3 – 8	7%	Low,
Below 70	1 – 2	2%	Exceptionally low

Scaled scores may also be quoted in the report. They use a scale of 1 to 19. The mid-point is 10. The average range is 8 -12. Any score above 12 is above average and the closer the score is to 19 indicates increasing ability. Any score below 8 is below average and the closer the score is to 1 indicates increasing difficulty.

Attainment testing in Literacy and Numeracy

The results in the attainment testing section of the report may be given as standard scores and/or percentiles. Sometimes age equivalents such as a reading or spelling age for the student are given. Reading and spelling ages are not helpful for the secondary school student.

Many students with dyslexia have a wide discrepancy between their levels of numeracy and literacy and their cognitive ability. A discrepancy may also be apparent between their ability to read and write in comparison to their peers. It can be relatively easy to see where they need support. However, some students with dyslexia will get average scores on their literacy attainments. It is a mistake to assume that they are coping as tests do not assess every aspect of their learning.

Can a student's profile change?

Yes. As a student learns to use as many different abilities as possible to problem-solve, one may expect that a profile will change. Work that is presented and learned through multiple channels is more likely to be effective than work presented or learned through one channel only. In addition, structure, repetition and making associations are strategies that need to be taught. Constant monitoring by the teacher enables students to stretch beyond their present level of attainment.

FACTSHEET 4: WISC-IV results and implications for learning

The WISC-IV recognises there are distinct abilities in cognitive functioning that can be grouped together and measured. The WISC-IV has four headings or indexes of abilities. These are verbal comprehension, perceptual reasoning, working memory and processing speed. The score for each of the four headings is based on the aggregate of scores from a number of subtests. For example the score for working memory is based on the combined scores of two out of the three subtests of digit span, letter/number sequencing and arithmetic.

Terms use in WISC-IV results

- The IQ (Intelligence Quotient) is computed from the scores of all four indexes.

- The General Ability Index (GAI) score is used instead of the IQ score when there is an exceptionally large discrepancy between the highest and lowest Index scores. GAI is calculated from the verbal comprehension and perceptual reasoning scores only.

- The confidence interval means that it is likely that the candidate's real ability is best described as lying between the two scores given, rather than being described by a single score.

An example of the summary sheet showing the profile of results of the WISC-IV for a student with dyslexia is shown below.

Key points in this profile

- The overall ability is in the middle of the average range (standard score 103).

- Working Memory (SS 80) is particularly weak.

- Verbal Comprehension (SS 99) is mid-average.

- Perceptual Reasoning (SS 115) and Processing Speed (SS 112)) are in the high average range. These non-verbal/visual-spatial abilities are strengths.

Possible classroom difficulties

Poor working memory may present in some of the following ways:

- Forgetting verbal instructions.

- Difficulties with rote learning, mental arithmetic and memorising tables.

- Problem-solving due to difficulties holding topics in the mind while working on them.

- Reading delay and poor reading comprehension.

- Disorganisation in written work and forgetting books, equipment and homework.

Possible interventions

The profile indicates well-developed visual perceptual skills. The student should use these strengths to overcome the weakness in working memory. Strategies that would help include:

- Mindmaps, visual planners and organisers.

- Making clear notes using colour, numbering headings and diagrams.

- Use of homework journal to help with organisation. Colour coding files for notes.

- Using a single diary for all activities.

- Reducing rote learning by ensuring material to be learnt is understood.

An example of a WISC-IV summary sheet for a student with dyslexia

	Standard Score	95% confidence interval	Percentile	Descriptive range
Full Scale IQ	103	98-108	58	Average
General Ability Index GAI	102	97-107	55	Average
Composite Scores				
Verbal Comprehension	99	92-106	47	Average
Perceptual Reasoning	115	106-121	84	High Average
Working Memory	80	74-89	09	Low Average
Processing Speed	112	102-120	79	High Average
Subtest Scores	scaled score			scaled score
Verbal Comprehension:		Perceptual Reasoning		
Similarities	11	Block Design		13
Vocabulary	09	Picture Concepts		14
Comprehension	10	Matrix Reasoning		10
Information	09	Picture Completion		12
Word Reasoning	04			
Working Memory		Processing Speed		
Digit Span	07	Coding		11
L-N Sequencing	06	Symbol Search		13
Arithmetic	07	Cancellation		10

FACTSHEET 5: Supports for students with dyslexia in Irish Education

The key supports for students with dyslexia include extra teaching support, language exemptions, RACE (reasonable accommodations in state examinations), DARE (Disability Access Route to Education) which is the supplementary admissions scheme for entry to CAO courses and financial assistance for the purchase of equipment or the cost of assessment.

Extra teaching support

Resource teaching hours for individual students is granted by the SENO (Special Educational Needs Organiser) for the school. Evidence of need includes the report from a psycho-educational assessment which must show that a student has average or above average ability and that basic skills in reading, writing or maths are at or below the 2nd percentile. Application for the purchase of equipment which is deemed necessary, such as laptops, is also be made to the SENO.

Learning support targets students whose literacy or numeracy is below the 10th percentile on a standardised test, regardless of whether the student has an assessment or not.

Language exemption: Irish

Students, who have a diagnosed specific learning difficulty including dyslexia, may be granted an exemption from the study of Irish, subject to specific criteria. The psycho-educational assessment should show that the student has average or above average cognitive ability (a standard score of 90 or 25th percentile upwards) and is achieving at or below the 10th percentile on a standardised test of literacy.

The parents make a written application to the school with a copy of the psycho-educational assessment (less than two years old) which recommends the student should be exempt because the criteria have been met. The school issues the certificate of exemption and informs the Department of Education and Skills (DES). An exemption granted for student at primary school is recognised at post primary level and for the entry to the National University of Ireland (NUI) colleges.

Language exemption: National University of Ireland (NUI) third language requirement

The study of a third language is not compulsory at post primary level. However the entry requirements for NUI state that a student must pass six subjects in the Leaving Certificate (two at higher level) and that English, Irish and a third language must be included. NUI recognises the DES exemption from Irish. Students with the Irish exemption are eligible for an exemption from the 3rd language requirement.

In the case where a student is not exempt from Irish, NUI will consider applications for exemption from the 3rd language requirement. The student needs a psycho-educational assessment certifying that there is a specific learning difficulty present. This should be no more than 3 years old. Since 2012 NUI have tightened the criteria for the granting of such exemptions. These state that literacy attainment should be at or below the 10th percentile (standard score 81) in **two** literacy abilities and are significantly lower than might be expected from the student's cognitive ability. Application forms are available at www.nui.ie.

Language exemptions: Trinity College and University of Limerick

Both these colleges have a two language entry requirement. Students with dyslexia can apply for an exemption from this requirement by making a direct application to the respective college.

It is the responsibility of a student to ensure the CAO is informed of the existence of these language exemptions.

RACE (Reasonable Accommodation in Certificate Examinations)

Reasonable accommodation describes the various supports provided for students in the Junior and Leaving Certificate exams. These include:

- Reading assistance.

- Use of tape recorder.

- Use of a computer/word processor.

- A scribe. When applying for a scribe, reasons must be provided why the student cannot use a computer or tape.

- A waiver from the spelling and grammar elements of the exam in language subjects.

Students who receive any one of the first four accommodations take the exam outside the main centre. An explanatory note is attached to the statement of results of the student who has taken the exams with RACE.

Applications for RACE in the Leaving Certificate are made in May for the following year. There is a detailed application form to be filled in by the school. It should be accompanied by a psycho-educational assessment report and three examples of the student's work, preferably done under exam conditions, in subjects that require essay type answers. **Students should be encouraged to keep 5th Year Christmas exam scripts**. If the application is turned down, there is an appeals process.

Applications for RACE in the Junior Certificate are made in the October/November prior to the exam. It is a simpler application process.

The school may be required to carry out additional testing as the State Examinations Commission sets out criteria for each accommodation. These are scores in specified standardised testing on handwriting speed, reading speed or spelling. A standard score of 70 or below is likely to be eligible for accommodations. A score between 71 and 85 merits further investigation. A score of 85+ is not likely to be eligible. A standard score of 85 is the equivalent of the 16th percentile.

If the student qualifies for accommodations in state exams, it follows that they benefit from receiving similar accommodations in house exams.

DARE (Disability Access Route to Education)

DARE (www.accesscollege.ie) is a supplementary admissions scheme for school-leavers with disabilities. Students may be admitted on their course of choice with lower points than those set by the CAO. The application has three parts. The student completes a personal statement (Section A) and also has to ensure that a Section B (completed by the school) and Section C (the psycho-educational assessment) is submitted. This assessment must be less than three years old on February 1st of the year of application to the CAO. All tests used should be current, valid and age appropriate. The CAO (www.cao.ie) has downloads relevant to the assessment. These are:

- Psycho-educational assessment summary sheet.

- DARE suitable tests for the assessment of specific learning difficulties.

- DARE acceptable reports for specific learning difficulties.

- Second level academic reference form.

Students and their parents should be made aware of these downloads when going for an assessment.

The eligibility criteria for dyslexia state that ability should be at or above a standard score of 90 (25th percentile) and that standard scores in two literacy areas should be at or below a standard score of 81 (10th percentile). For dyscalculia, two mathematics scores should be at or below a standard score of 81. If the student does not qualify for DARE, they are still eligible for help while at college and should contact the Access/Disability Officer of the college they will be attending.

Financial Assistance

VAT can be claimed back on the purchase of computers/assistive technology for home/personal use using Form VAT 61A from the VAT Repayments Section.

It is possible to claim tax back on part of the cost of a private assessment on the MED 1 form which is available from the Revenue Commissioners (www.revenue.ie).

FACTSHEET 6: School policies to support the student with dyslexia

There are many ways in which school policies can support the student with dyslexia. Some may be whole-school policies on topics such as the readability of textbooks, the use of a dyslexia friendly style for handouts and exam papers or ensuring that teachers are aware of the learning difficulties of any student whom they teach. Other policies may be part of school organisation such as clearly delineated roles for who is responsible for supporting the student, option choice and class placement.

School organisation

Which member of staff is responsible for providing support for the student with dyslexia? Who should teachers go to if they have concerns that a student may have a learning difficulty?

Resource teaching hours may be provided by the Special Educational Needs Organiser (SENO) for students with dyslexia who are at or below the 2nd percentile in literacy and numeracy. Learning support targets students who are at or below the 10th percentile in literacy and numeracy.

Who provides support for students with dyslexia who do not come within these criteria?

Such students may need help with option choice, accommodations in exams or DARE applications. There needs to be a school policy where roles and responsibilities are clearly delineated.

Subject Choice

- Is there support for students and their parents when deciding on the most appropriate options to choose in first year and for senior cycle? Due to the uneven pattern of ability there are some subjects in which students with dyslexia may do well and others in which they will find it difficult to make progress.

- Does the option structure allow for the study of a third language to be optional? The Department of Education and Skills does not require students to take a language other than English and Irish. Some students with dyslexia find the study of languages very difficult and will achieve better results in other subjects. However since 2012 the eligibility criteria for the National University of Ireland (NUI) 3rd

language exemption state that the student should be at or below the 10th percentile in two literacy areas. Parents need to be aware of these criteria since they may be limiting course choice at third level if the student does not do a language.

- If the student is exempt from the study of Irish, is it possible to arrange for another subject or activity to take place during this time?

- The provision of a subject is of particular benefit in senior cycle because a student who is exempt from Irish could be reduced to doing six subjects in the Leaving Certificate. Given the competitive nature of the points system, this could prove to be a disadvantage.

Class Placement

- Are standardised tests used for entrance assessment and class placement? Are the limitations of such tests appreciated by the school? **The Post-Primary Guidelines on Inclusion** state 'standardised tests are often unsuitable for use with student with SEN, because the language register inherent in many tests makes them inaccessible ....therefore caution should be exercised in using and interpreting the results.'

- If streaming is used for class placement, what is the most appropriate class to place the student with dyslexia who has average to above average ability but who might perform poorly on entrance assessment due to weaker verbal skills?

- In a streamed situation, is maths set for Junior Certificate? This allows the student with weaker verbal skills (which may result in being placed in a

lower stream) but good maths ability to do higher level maths.

Communication with staff

- **The Report of the Task Force on Dyslexia** and **The Guidelines on Inclusion** state that mainstream teachers have the key role for the progress of students in their class with learning support and resource teachers assuming supporting roles. Are all relevant teachers informed of a student's difficulties? Information could include a profile of the student's strengths/weaknesses and suggestions about effective teaching strategies based on the assessment.

- Such information is highly confidential and there should be policy and procedures for keeping it safe.

- Any teacher who has contact with the student also needs such information. These include the principal, deputy principal, year head, tutors, guidance counsellor and teachers involved in extra-curricular activities.

- Has in-service training been provided for the whole staff on the topic of learning difficulties including dyslexia? Such training may be available from Special Education Support Service (www.sess.ie) or the Dyslexia Association of Ireland (DAI) (www.dyslexia.ie). Are teachers informed of training courses such as those provided by the DAI and on-line by ICEP – Europe (www.icepe.ie) and are they encouraged to participate?

Communication and teaching

- For students with dyslexia, the ability to read and understand text can be affected by the way the text has been written and produced. The font style, type of paper and layout of the page can affect how easy it is to read handouts and exam papers. Factsheet 14 gives guidelines on how to improve readability of text and could become the basis for a whole-school policy.

- School policies which promote dyslexia-friendly teaching and learning strategies could be adopted such as:

  1. Encouraging the use of multi-sensory teaching methods as much as possible.

  2. Accepting alternative formats for homework such as typed work or mindmaps.

  3. Not asking a student to read aloud without first checking the student is comfortable doing so.

  4. Providing notes if the student has difficulty taking notes from the board or dictation.

  5. Subject departments should consider readability levels when deciding on texts. An analysis of some commonly-used textbooks for the Junior Certificate using internationally recognised readability tests showed some with reading age equivalents of fifteen or sixteen.

  6. The language departments could co-ordinate the teaching of aspects of grammar such as parts of speech, verb tenses or punctuation to happen at the same time which would reinforce the learning taking place.

  7. The **Understanding Dyslexia CD/DVD** published by the Department of Education and Skills provides a form which helps students analyse where they are having difficulty in class and enables them to ask teachers for help.

FACTSHEET 7: General classroom strategies for mainstream teachers

The Report of the Task Force on Dyslexia states that mainstream teachers have the major responsibility for the progress of each student in their classes including those who have learning difficulties arising from dyslexia. Learning support, resource teachers and other professionals have supporting roles. As a result the mainstream teacher needs to be familiar with the findings of the psycho-educational assessment report as the profile of strengths and weaknesses has implications for the student's learning. There needs to be a system to impart such information to mainstream teachers on an on-going basis. However, this is highly confidential information and must be held securely.

FAIRNESS

To successfully manage the inclusive classroom, teachers should re-examine the notion of what is 'fair'. Fairness does not mean every student gets the same treatment but that every student gets what he or she needs.

Tips to help with communication

- Write clearly on the board giving plenty of time to take down information and homework tasks. Don't write too much on the board, as a board with a lot of information is harder to read. Erase before more is written. Check the student has copied it correctly.

- The student, who has difficulty with sequences or who has to listen and then process information, may become confused unless instructions are kept simple. Break down the directions into simple steps. Repeat key points. It is helpful to give written notices of events.

- If students are slow in retrieving facts or words, give extra time for them to answer so they can get their thoughts together. They can spend time anxiously worrying about being asked questions rather than listening to the teacher. Arrange that they will only be asked a question in particular circumstances such as when the teacher approaches their desk.

- Talk to the student and ask what would help. **Understanding Dyslexia DVD** has a checklist which helps students to identify what supports might help.

Tips on classroom organisation

- Have the student sit towards the front of the class.

- The notes of the student may be inaccurate, illegible or incomplete. Often the task of taking notes is so demanding and takes total concentration that the student is not listening and does not understand what is in the notes. Help them by showing how to take notes, providing notes for them or photocopying the notes of another student.

- Clear routines and directions make the classroom more secure. Put up classroom lists of the routine for the day or week. A calendar showing key dates for the term is useful. Have a wall chart with classroom rules. Wall charts of key terminology also help.

Don'ts

- Minimise the use of cursive handwriting whether it is on the board, in notes or on exam papers. Students find it difficult to decipher. Teacher notes and test papers should be typed preferably in a dyslexia-friendly style (See Factsheet 14).

- When disciplining, avoid punishments based on written work. Shorten the task. Avoid lengthy lectures. After explaining what the mistake/misbehaviour was and what they can do to remedy the situation, ask them to repeat what has been said. This verbalisation can help the student process what is said and increases understanding.

- Don't ask the student to read aloud in class unless it has been checked that the student is willing to do so.

Teaching approaches

- Foster self esteem by giving genuine praise whenever possible and promoting activities that yield success.

- Multi-sensory teaching can help learning. If lessons include oral, written and visual elements, these provide more 'hooks' for the student to remember the content. Choosing texts which are available on DVD or CD can be helpful.

- Co-operative learning strategies which promote peer tutoring, active learning and discovery learning can help. **The Post-Primary Guidelines on Inclusion** has a section on the topic. The Special Education Service (www.sess.ie) has an eLearning course and a DVD as well as resources on differentiation in the classroom.

Homework and exams

- Some students may answer off the point because they do not understand the question. They need to be taught how questions are structured and the meanings of words used in questions.

- Use positive correction techniques when correcting. Not all mistakes need to be marked. Take one particular category of error and correct it. Comment positively on what was done well. One method could be to correct with two stars for what was done well and one wish for what could be improved.

- Ensure they know how to enter homework and other commitments into the homework journal. They should have one diary for all commitments such as social life, sports, and school.

- Adapt class and homework goals when necessary. This may mean accepting shorter answers, typed homework or shortening lists of quotes or poetry to be learnt. Set a maximum amount of time to be spent on a task.

- Before an exam, students benefit from being given lists of key material to be revised, with sections of work allocated to particular weeks.

- Modify test formats to reduce the use of long written answers by using formats such as multiple choice, true and false questions, labelling diagrams and oral tests.

- Leave three lines between questions on an exam paper.

FACTSHEET 8: Developing reading and comprehension skills across the curriculum

Reading and writing are essential skills across the curriculum. Students with dyslexia frequently underachieve owing to weaker verbal abilities. Dyslexia affects reading in different ways. Some students may have to decode the words they are reading and therefore cannot remember the content of what they have read. Others may read slowly and have to reread several times to get the meaning of the text, while some may misread words when tired or stressed. However, due to underlying ability, if they can find a logical approach and apply their learning strengths to the task, they can make rapid progress. There are many ways mainstream teachers in different subject areas can help these skills develop.

The suggestions below are only a starting point. For more, see resources listed in the Factsheet 18. The National Behaviour Support Service (www.nbss.ie) has extensive range of resources, worksheets, summary maps /organisers and classroom posters on comprehension and learning strategies for before, during and after reading.

Developing reading skills

- The most effective way to develop reading skills is to read. The school could encourage this by having a library with books at different reading levels. The NBSS website has a comprehensive listing of such books called **READ – Engaging students with high interest and low readability books**.

- Parents should be encouraged to see the benefits of the student reading at home on a consistent basis. For weaker readers, introduce parents to the practice of paired reading. They should be encouraged to maintain reading throughout the summer as progress made in school can be lost over the holiday period.

- An active reading method such as the SQ3R, (Survey, Question, Read, Recite and Review) could be adopted as a whole school policy. See www.nbss.ie for more details. Once it has been explained, all teachers could ask students to use the method in their own subjects.

- Good readers retain a lot of what they read. Students with dyslexia, who may struggle with decoding the words, need to develop a way to make the information more real. Visualisation is a technique which turns the text into images making it easier to remember. See Cogan and Flecker's strategies and worksheets on visualisation in their book **Dyslexia in Secondary School**.

- The Junior Certificate Schools Programme (www.jcsp.ie) has resources to support literacy development across the curriculum including keyword initiatives, reading challenges, classroom posters to promote reading and a teacher resource book.

- The increasing availability of textbooks as e-books where students can listen and see the words at the same time helps with understanding the text.

Developing reading skills in the classroom

- Bookmarks or rulers help them keep their eyes focused on the text when reading.

- When choosing textbooks consider the readability level of the text. There are several readability tests available such as the Flesch-Kincaid Grade Level Readability test. Some Junior Certificate texts had a reading age of 15 when checked. Most students in first year would have difficulty accessing such content.

- Check if the student is willing to read aloud in class. Some are very conscious of poor reading skills and anxiety makes their reading worse.

- If it is necessary for the student to read, discreetly let them know the previous day the section they will be asked to read, so they can prepare it.

- By introducing texts and giving cues about their content, teachers make them more accessible. If a science teacher shows that the chapter structure of the book divides the course into 3 sections of Biology, Physics and Chemistry, that key information is marked in bold print, that there is a revision section at the end of each chapter and how to use the index, it makes the book more approachable.

Comprehension and Learning Strategies

- When reading a chapter in a textbook, introduce the content, so the student becomes tuned in to the gist of the material and the keywords. This helps with comprehension.

- Effective summarising using summary maps, mindmaps and other graphic organisers helps the student to learn. The information is represented in a clear, logical manner, with key ideas highlighted. This helps with the recall of information and structuring written answers. The website: www.slss.ie/resources/GraphicOrganiserFinal.pdf has resources on many types of graphic organisers which can be used for different subjects.

- A note-taking strategy such as the Cornell method helps students to organise information. The page is divided into two columns. The left one is used for main ideas and key concepts. The right column is used for supporting detail.

- Some students with dyslexia may find it difficult to make their own notes. Teacher notes or revision books give them access to key points for learning.

- Show students how to file notes using strategies such as colour coded files for different subjects, numbering pages, putting a heading on each page and having an index in the front of the file.

- Reduce the amount to be learnt by rote learning such as shortening lists of quotations in higher level English.

Developing memory

Many students, when asked how they learn a topic, say ' I read over the chapter' or 'I learn my notes'. The student with dyslexia must make the material 'their own' to get it into long term memory.

Multi-sensory learning helps with the processing of the information. The more senses that are involved, the more likely the learning will stick. Triple strength learning involves seeing, saying and hearing. Quadruple strength learning involves the addition of writing.

Therefore they should say, hear, see and write as much as possible. The student should talk, listen, debate, use lists of questions, draw timelines or mind-maps, visualise, create mnemonics, or make up cards with key facts. The hard work involved in the active transfer of information sharpens the student's understanding and it is a reliable route to successful learning. Once learnt, frequent revision of material is recommended.

FACTSHEET 9: Developing vocabulary and writing skills across the curriculum

A key difficulty for students with dyslexia is getting information down on paper. Teachers often say 'Answers are too short' or 'Points are not developed'. There is a mismatch between oral and written ability. Their writing skills are not as automatic as they are for other students. Their writing is slower than their thinking, so good ideas and connections are lost as they struggle with spelling and writing.

Developing Vocabulary

- Choose dictionaries which have large print, preferably in dyslexia-friendly fonts with plenty of space between entries. As some students may not remember the sequence of the alphabet, they could tag where the entries start with a different letter. A bookmark with the alphabet is also a good aid.

- If an unfamiliar word appears in a text, show them how to pronounce it, explain its meaning and ask them to put it into a sentence so they become familiar with it. It could then be put into a subject-specific vocabulary notebook. The National Behaviour Support Service (www.nbss.ie) has excellent resources on teaching vocabulary.

- The English Language Support Programme (www.elsp.ie), while designed primarily for students whose first language is not English, has resources which equally well suit the needs of all students. In particular it has lists of key words and worksheets in many subjects such as maths, science, business and material technology (wood). They provide a means for students to work with and learn vocabulary.

- The Special Needs Information Press has a literacy intervention programme which uses specific secondary curriculum words together with high frequency words to support word recognition and spelling. It can be used on a one-to-one basis or with groups. It is a free download from www.snip-newsletter.co.uk.

- Show how a word can be broken up into its base word, and suffix and/or prefix and how these change the meaning of the word, e.g. helpful, helpless, unhelpful.

- Knowing the Latin and Greek origins of words can help students understand new words. For example, the use of the ending 'cide' means killing, so it is easier to find the meaning of words such as homicide, suicide, herbicide, etc.

Developing Spelling

- Check how the student says the word. Many, for example, say 'I should of' instead of 'I should have' and therefore spell it the same way.

- Divide new words into syllables and show how to pronounce the word and write it, e.g. com/pre/hen/sive, post/trau/ma/tic.

- Students will find it difficult to learn new spellings by simply copying words. A multi-sensory approach LOOK-PICTURE-COVER-PICTURE-WRITE-CHECK is a proven method for learning spelling.

- Mnemonics help them to have a rule in their head. Examples include: A **pie**ce of **pie** or Never be**lie**ve a **lie**.

- Know the rules of Latin and Greek plurals can help them make sense of the spelling, e.g. why curriculum changes to curricula or fungus changes to fungi.

- Don't ask them to correct and copy all the misspellings. It will not help. Explain one or two categories of error and ask them to do examples showing they understand what was wrong.

Developing Writing (Presentation)

- Check the basics. How does the student sit and hold the pen. A pen grip might help.

- Handwriting can be quite difficult to read. The teacher might put a note on an exercise 'Improve handwriting' but the student does not know how to do this. The reasons for the poor handwriting can include:

  - Letters too large, too small or a mixture of both.

  - Spaces left between letters or words uneven.

  - Slope of the handwriting inconsistent.

  - Writing does not stay on the line.

  - Not closing letters such as 'a' or 'd'.
    The teacher could ask the student to concentrate on correcting one of these difficulties at a time.

- Poor presentation of work can come from a lack of perception of space on the page. The student may need to be taught how to lay out work in steps and how necessary it is to use tools such as rulers/margins to improve layout.

Developing Writing (Content)

Key problems in written work of students with dyslexia are either they write off the point or do not write enough when answering. Train them to tackle writing essay-type answers in 5 stages: analyse the question, brainstorm, plan, write and check.

- Analyse the question: They do not have to include all they know on a topic but have to select relevant material to answer the question asked. Check they understand the meanings of words used in questions. Take class time to practise deconstructing questions and identifying what they have been asked.

- Brainstorm a topic. Headings should be brief and no attempt at structure at this stage so the mind is free to make associations.

- Plan: The next stage is to plan the structure of the essay using the brainstorm. Common problems include lack of structure, haphazard planning or an uneven amount of writing on different aspects of the answer. Making mindmaps or outline plans mean they can see the structure of the essay spatially arranged. Give class assignments that require them just to hand in the planning for an answer. In some subjects it is helpful to give writing frames/formats which show the structure of the answer required.

Outlines or lists of points can prompt them to write at greater length.

- Write: When they start to write, the thinking has been done. Now they concentrate on writing skills to express those ideas.

- Check: Students are more likely to pick up errors if they proofread aloud or by saying each word quietly. They can hear the mismatch between what they have written and what they meant to have said. They will pick up more errors if they proofread three times, once for content, once for spelling and once for grammar/punctuation.

FACTSHEET 10: Mathematics: dyslexia and dyscalculia

Some students find mathematics difficult to understand. It may be the result of dyslexia or dyscalculia. Dyslexia affects mainly the phonological processes which are essential for reading. Dyscalculia is a difficulty with understanding number. Students may experience difficulties in manipulating numbers, learning maths facts, mental calculation, estimation, whole-part relationships, place value concepts and problem-solving. One can have dyscalculia with or without having dyslexia and vice versa.

How does dyslexia affect mathematics?

Students with dyslexia may have some of the following difficulties:

- Poor memory and in particular working memory. Rote learning of tables is problematic. They perform badly at mental arithmetic.

- Their working memory often can hold only a small number of items at a time. As a consequence they cannot automatically perform mental calculations or may have difficulty remembering the steps in a complicated procedure such as long division or quadratic equations.

- Information may not have been stored well in long term memory and this may mean that they have not a solid grasp of basic facts which affects future learning.

- Confusion about direction or left and right can result in difficulties in many aspects of maths such as co-ordinate geometry, the number line with positive and negative numbers, decimals and division. Students may reverse words, numbers or symbols. Left to right confusion in maths is not helped by the fact that the usual way to work in maths is the opposite direction to that when reading.

- Where several operations are required in an arithmetic calculation, the student may have difficulty with sequencing and direction e.g. 'Which number do you take from which', or 'Which procedure must be done first'.

- The student may have difficulty in remembering accurately the meaning of the symbols used in maths such as bigger than (>) or less than (<).

- One of the most stress-inducing situations is performing under pressure of time. The student with dyslexia may have a processing speed difficulty, which may affect mental calculations, the processing of verbal instructions and writing down answers.

Difficulties with the language of maths for the student with dyslexia.

- Procedures may have more than one way of being explained. Teachers may differ in their approaches. This can be confusing.

- Vocabulary is not always used consistently. Subtraction, for example, can also be indicated by the words such as take away, minus, decrease, less than or difference.

- Terms used in ordinary speech take on a different meaning in maths. Mean in English denotes unkind, to represent or miserly while in maths it has a precise and very different meaning.

- A student with dyslexia may have difficulty taking in instructions, particularly if these are long and complex and if specialist vocabulary is used inconsistently.

- Reading may be inaccurate. Words with similar prefixes such as 'concave/convex' are easily confused. Students may have difficulty understanding and interpreting what is being asked because of the language in which the problem is presented.

- Students with visual difficulties such as visual stress and tracking may lose their place when working across a line of symbols and numbers, often skipping

to the next line or place. They may find the page too crowded or too distracting to be read easily.

Difficulties specific to Dyscalculia

Students with dyscalculia have no natural understanding of number. There is an inability to conceptualise and execute maths processes. The student may complete the calculation correctly but does not understand why it works. This means knowledge is not transferred to new problems. A student may experience some of the following difficulties:

- Not seeing patterns within numbers. They do not easily see that 7 = 2 +2 +2 +1 and also 3+4 or 3 +3+1.

- Finds it hard to visualise the overall ten structure of the number system e.g. 27 is twenty seven ones, two tens and seven ones or seven more than twenty.

- Generally counts in ones, often using fingers. Find it hard to count backwards.

- Poor working memory leading to difficulties remembering formulae and procedures.

- Does not remember number facts such as tables, or everyday applications of numbers in budgets or financial information.

- Does not easily generalise knowledge from one topic to the next topic in number work.

- Will experience considerable anxiety around maths. This intense fear and avoidance can affect their ability to learn maths skills and concepts.

Can students make progress in maths?

Progress in number work is often slow and students can regress. Nevertheless basic number work needs to be worked at to lessen as much as possible the difficulties experienced by students with dyslexia and dyscalculia. Progress is possible if one adopts certain principles of teaching and learning strategies that have shown good returns. There are other areas in maths where students may not have the same level of difficulty such as algebra and geometry.

FACTSHEET 11: Teaching Mathematics to students with dyslexia and dyscalculia

Essential texts are Steve Chinn's **The Trouble with Maths** and **More Trouble with Maths** and in particular the sections dealing with diagnostic assessment and teaching strategies. He states that 'Mathematics appears to be THE subject for school anxiety'. Anxiety will be greatly reduced by showing understanding of the difficulties, by building up competence through encouragement, by judicious marking and by assisting the student to set attainable goals. While the student's difficulties present the teacher with a 'problem', the teaching process may present the student with a 'problem'.

How can one best support the student with difficulties in maths?

The programme of remediation should be:

- Structured and cumulative, using multi-sensory methods.

- Individual to the student, based on analysis of their work and learning speed.

- Cyclical, with built-in regular revision of previously learned facts and procedures.

- Based on understanding rather than rote learning.

- The language of instruction should be clear, unambiguous, consistent and concise.

- New concepts should be introduced using simple examples.

The use of diagnostic assessment as the basis for effective intervention is needed. This allows teachers to understand the student's unique difficulties and to identify the exact processes that are not being understood or learned. Test scores are less important than identifying where the problems lie.

General strategies for the classroom

- Cognitive styles can influence how the student approaches a number task. Some think holistically and intuit the answer to the problem (the Grasshopper), while others prefer to move analytically step-by-step (the Inchworm). Teachers can help by understanding these styles and providing strategies to help.

- Students may be slow in reading questions. Even after decoding the words, they may not comprehend what is required. If explained, they have no problem doing the maths. It is a reading problem. Students may have more difficulty with Project Maths due to the increase in the verbal content of the paper.

- Practice and repetition: Students with dyslexia require more time rehearsing facts and procedures before these can be accessed automatically. This becomes the rationale for building in recurrent revision to a teaching programme. Progress should be evaluated against the student's own scores, not those of the class.

- Understanding is the key to learning. For students who have poor rote memories and yet need to learn basic number facts, the key to learning is to ensure they understand why a particular procedure is chosen and the purpose of the task.

- The ability to visualise is a skill that many students with dyslexia use to great effect. Visualisation is developed through hands-on learning and the use of concrete materials. When they have internalised the vocabulary, the symbols and the procedures for calculating numbers they will be able then to automatically access the relevant facts for problem solving.

Practical Tips

- Teach organisation skills. The student may need to be taught how to lay out work on the page and to use a ruler and margins. Use squared pages. Test papers should be clearly set out, even to the point of one problem per page, to avoid distraction.

- The direction of calculation needs to be regularly reinforced through using concrete materials and colour coding. The student could use arrows to show in which direction the calculation goes.

- Use mnemonics when possible. They provide a path through confusion. Examples include 'The old American sat on his car and hiccupped' for Tan, Sin and Cos or 'FED' (foreign to Euro divide) for currency exchange.

- Put keywords into a vocabulary notebook to be used for reference and revision. Take time to teach maths vocabulary in class using multi-sensory methods. The Junior Certificate Schools programme (www.jcsp.ie) and the English Language Support Programme (www.elsp.ie) have lists of key vocabulary in maths along with worksheets and activities to promote learning of the keywords.

- Use subvocalising by training students to say numbers quietly as they write them. The mismatch between the eye and ear alerts the student to inaccuracy.

- Allow more time than usual for working out and answering.

Don'ts

- Don't overuse the blackboard. Minimise the amount of copying from the blackboard, possibly by providing photocopies. Don't dictate a problem. It is unlikely information will be taken down accurately.

- Don't overload homework. Set a maximum time for homework.

- Because maths is a progressive subject, it is unwise to move from one topic to the next unless the first has been understood and internalised.

Websites

- Engineers Ireland STEPS programme website (www.steps.ie) has maths revision videos, maths modelling, Project Maths support and real world maths for students. It also has downloadable maths worksheets for second level teachers.

- The National Centre for Excellence in Mathematics and Science Teaching and Learning website (www.nce-mstl.ie) has many resources for use in the classroom. It has a section on research and resource guides which are digests of current research and resources on good practice for the teaching of maths and science which will be updated twice a year.

- The Nrich programme based in University of Cambridge (www.nrich.maths.org) aims to enrich the mathematical experience of all learners and has many resources for second level teachers and students.

Useful References

Butterworth, B. *The Dyscalculia Screener www.gl-assessment.co.uk*

Butterworth, B & Yeo, D. *Dyscalculia Guidance* (2004) London: Nelson

Chinn, S. *The Trouble with Maths* (2nd Ed. 2012) Routledge

Chinn, S. *More Trouble with Maths – A Complete Guide to Identifying and Diagnosing Mathematical Difficulties* (2012) Routledge

Emerson, J. & Babtie, P. *The Dyscalculia Assessment* (may be useful with 1st& 2nd Years).

Peer, L. & Reid, G, (Edit.) *Dyslexia – Successful Inclusion in Secondary School* (2001) London: David Fulton

FACTSHEET 12: Teaching languages to students with dyslexia

The criterion for granting an Irish exemption is that the student is of average ability and has literacy scores at or below the 10th percentile. The same criterion applies to the granting of the NUI 3rd language exemption since 2012. This means many students with dyslexia do not qualify for such exemptions and are likely to study languages.

If students have had difficulty in the study of their own language, they may struggle when learning a new language. Difficulties may include pronunciation, phonics, tenses, spelling, sequencing words in the sentence, vocabulary development and grammar. Cogan and Flecker in their book **Dyslexia in Secondary School, a Practical Handbook for Teachers, Parents and Students** have an excellent section on teaching languages with many practical strategies and photocopiable worksheets. Many of the strategies below are based on this book and it is a key resource for language teachers.

Sounds

Many students face the challenge that vowel and consonants combinations do not make the same sound in the new language as they do in English. They need to practise seeing and saying the sounds until they recognise them automatically. Teaching the phonics of new sound combinations and giving worksheets on sounds is helpful.

Use of Dictionaries

Choose dictionaries for use that have large print, preferably in dyslexia-friendly fonts with plenty of space between entries. As students may have difficulty remembering the alphabet they could tag where the entries for each letter start. A bookmark with the alphabet is a good aid.

Learning Vocabulary

Learning vocabulary is crucial to mastery of a new language. Dyslexic students may find the task exceptionally hard. They need structured programmes of vocabulary development and a multisensory approach which makes them see, say, hear and write the words.

Suggestions when learning vocabulary include:

- The more connections dyslexic learners can make between their own language and the foreign language, the more confident they become. They are likely to find rote learning hard but may learn more easily through understanding a pattern. Fig. 6.4 in Cogan and Flecker illustrates connections between French and English spellings.

French	English	Example
x	c	prix = price, choix = choice
u	l	faucon = falcon, saumon = salmon
oire	ory	victoire = victory, gloire = glory

- Linking an action to the word makes it more memorable, such as smiling when saying sourir or saying je tousse when coughing.

- Using a vocabulary list with space to draw pictures helps with learning.

- When copying vocabulary, they will make mistakes. Also layout could be poor and handwriting difficult to decipher. Give printed vocabulary sheets.

- Vocabulary lists that are topic-based allow students to visualise which helps learning and are preferable to alphabetical lists with no connections between words. Always place new words in a context and write them in a sentence.

- Highlighting words in pink and blue help students remember the gender of nouns.

Verbs

Students with dyslexia may find learning verbs difficult. They do not easily see or hear the segments within a word due to a deficit in phonological processing. As a result they are not alert to the 'base' word and prefixes/ suffixes.

To help them identify the base word and the endings, give a piece of written material where they use a highlighter to mark the endings of verbs.

Another difficulty is that they often have a poor sense of time and this leads to problems with identifying tenses. They can be helped by identifying tenses in their own language. This can be done with cards with verbs written on them and they have to place them under the headings of the tenses such as past imperfect, present etc. Once they can identify and justify their decision by saying 'This is the imperfect tense because it is a continuous action in the past', they will be able to apply this learning to the new language.

Grammar

Sequencing difficulties may mean the student has difficulty with grammar and syntax. This is particularly true in languages where the grammatical conventions are very different to English such as Irish where the verb comes first. Cogan & Flecker suggest strategies such as:

- Give a sheet of model sentences, each of which illustrates a rule. This gives students an example against which to test their own work. Putting these on tape allows for multi-sensory learning.

- Use cards games to help build up sentences. Each word in the sentence is on a separate card and they arrange the cards to make sentences. The words could be colour coded for different parts of speech.

Resources

Cogan J. & Flecker M. *Dyslexia in Secondary School, a Practical Handbook for Teachers, Parents and Students* (2004) London: Whurr

Crombie, M & Schneider, E. *Dyslexia and Foreign Language Learning* British Dyslexia Association Curriculum Series, Editors: Peer, L & Reid G.

L. Peer & Reid G. Editors *Dyslexia – Successful Inclusion in the Secondary School* (2003) London: David Fulton

FACTSHEET 13: Educational choices for students with dyslexia

Students with dyslexia tend to have uneven abilities. In order to capitalise on their strengths, it is important that they navigate the school system by making the best educational choices and that schools allow as much flexibility as possible to enable students achieve their potential.

Standardised Testing

Standardised tests are often used at entrance and prior to senior cycle. There are limitations to the use of such testing for students with dyslexia. The scores in the psycho-educational assessment are more valid and give an indication of potential as well as attainment.

The reasons why it is difficult to get an accurate result on standardised testing for students with dyslexia include:

- Speed of processing may be a weakness. It takes students longer to understand text and complete a test. They may not complete all questions within the time limits and yet, if given more time, they could do much better.

- They may be slower in reading instructions or deciphering the meaning in a sequence of instructions. In a maths test where questions are in a verbal format, it may become a test of their English and not their maths abilities.

- They may lack the vocabulary and have to take time to decode what the words mean or have to reread the questions to ensure understanding. Some students with severe dyslexia may not be able to read the questions, yet if the questions are read to them, they are capable of answering correctly.

The Public Appointments Service allows applicants with dyslexia additional time when taking standardised testing for recruitment and promotion purposes.

Class placement

What is the most appropriate class placement for the dyslexic student who typically has an uneven profile of ability?

- Mixed ability allows the student to benefit from the range of ideas and stimulation in the class.

- Setting allows the student to specialise in subjects they are good at.

- Streaming provides the worst scenario. They may be placed in a weaker stream due to poor performance at entrance and due to their poorer verbal skills and the class may not provide the challenge and stimulation to cater for their strengths.

- Where classes are streamed and maths is not set, the student may not be able to do higher level maths.

Subject choice

Subject choice is of critical importance for students with dyslexia. Students with no difficulties may have individual preferences about subjects but are likely to do on average equally well in a variety of subjects. Dyslexic students, due to their uneven profile of ability, may do exceptionally well in some subjects and may find others very difficult and face failure in them. Below are some of the issues to consider when choosing subjects particularly for the Leaving Certificate, which is such an important gateway to third level courses.

- Many face similar difficulties in the study of languages as they have had in English. Phonics, spelling, sequencing of words and learning vocabulary all pose problems. If obliged to take the language they may drop to ordinary level whereas they would take higher level in another subject. This affects their points. NUI have tightened the criteria for granting an exemption in third language requirement in 2012. It now states the student should be at or below the 10th percentile on two literacy scores in a psycho-educational assessment. This means more students having to take a third language

in order to keep open the option of studying in the NUI colleges. In senior cycle, would it be more strategic for a student to study the 3rd language outside school at ordinary level and take a different subject at higher level in school?

- Subjects that require answers containing factual information may be easier than subjects in which answers are in essay type format. Therefore geography, business, or physics may be easier to achieve in than English or history.

- Subjects that require a large amount of rote learning or the learning of many unfamiliar words can pose problems. Therefore home economics or chemistry could prove to be easier than biology.

- The student may have strengths in visual-spatial skills and could do well in subjects such as technical graphics, art, technology and construction studies.

- Continuous assessment is of benefit to students with short term memory difficulties so subjects with marks going for projects/journals/practical work are of benefit.

Choices after second level

- DARE provides assistance to some students when applying to college. The eligibility criteria for students with dyslexia are that they have an assessment less than three years old with a diagnosis of dyslexia and that two literacy scores are at or below the 10th percentile. For dyscalculia it is the mathematics scores that need to be at or below the 10th percentile. The CAO website has downloads giving guidelines about the tests to be included in the assessment.

- Many students will not qualify for DARE. Even so, they are still eligible for the supports in college and should apply to the disability services in their chosen college.

- Students with dyslexia may not do well in the broad-based Leaving Certificate where they may be taking subjects they find difficult to achieve in. Yet at college when they can specialise in courses that suit their strengths, they can make good progress.

- Continuous assessment, semesters and project/practical elements in the course help the student to achieve when in college.

FACT SHEET 14: Making information accessible, dyslexia friendly style guide

For people with dyslexia, the ability to read and understand text can be affected by the way in which text has been written and produced. If producing information to be read by others, it is important to remember that up to 10% of readers may have dyslexia. Dyslexia friendly text improves readability and has a better visual impact for all readers, but especially those with dyslexia.

The following are some simple recommendations to help ensure that text is dyslexia friendly:

Font Style

- Use a san serif font such as Arial, Comic Sans, Verdana or Sassoon.
- Use a minimum of 12pt or 14pt font size.
- Use lower case letters. Avoid unnecessary use of capitals. Using all capital letters can make it harder to read.

Paper

- Use a coloured paper, even cream or off white. Some individuals have specific colour preferences, e.g. yellow or blue.
- Use matt paper to reduce glare.
- Don't use flimsy paper which may allow text from the other side to show through. Good quality 80 or 90 gsm is effective.
- Avoid light text on a dark background.

Presentation Style

- Keep sentences and paragraphs short. Try to break text into short readable units.
- Use wide margins and headings.
- Use at least 1.5 line spaces between lines of text, if possible.
- Use bold print to highlight. Italics and underline should be avoided as they can blur text.
- Highlight important text in a box or use colour.

- Use bullet points and numbers rather than long passages of prose.
- Keep text left justified with a ragged right edge.
- Don't use unnecessary hyphenation.

Writing Style

It is best to keep text as simple and concise as possible, to aid navigation and comprehension.

- Keep sentences short and to the point (15-20 words per sentence).
- It helps to imagine the reader is sitting opposite you and you are talking directly to them.
- Give clear instructions and avoid lengthy explanations.
- Use short words and terms where possible – avoid unnecessary complex vocabulary.
- Good advice on producing text in 'Plain English' can be found online at www.plainenglish.co.uk/free-guides.html.

Posters and Leaflets

- Keep design simple.
- Avoid background graphics which can make text harder to read.
- Keep essential information grouped together, such as the time, date and place of an event.

Universal Accessibility

Everyone processes information in a different way. While some people may prefer long wordy explanations, others may need alternative presentation styles.

- Include useful pictures and graphics.

- Flow charts can help to explain procedures.

- Lists of "do's and don'ts" can be more useful than long passages of text.

- A glossary will help to explain abbreviations, acronyms and jargon.

- Longer documents should have a contents guide at the beginning and an index at the end.

- It is important to provide documents in a timely manner. Teachers and lecturers should make handouts available before the class begins.

FACTSHEET 15: Computers and assistive technology

Developments in computers and assistive technology provide essential and significant help to students with dyslexia. For a student with significant dyslexia, whose literacy skills are at or below the 2nd percentile, an application can be made to the SENO for a computer/laptop and any specialist software needed. If the computer and/or software are bought by parents for home/personal use, the VAT can be claimed back using Form VAT 61A from the VAT repayments section. The form can be downloaded online from www.revenue.ie.

Some simple low cost technology

- Typed rather than handwritten notes. Font size should be minimum of 12 or 14, using san serif fonts such as Arial or Comic Sans.

- Photocopy onto coloured paper. This reduces glare for some people. Coloured overlays placed on the text when reading can also help.

- Colour coding key information such as the different parts of speech when learning languages.

- Provision of visual information such as pictures, diagrams, charts or mindmaps.

- Use of tapes, CDs, DVDs

- Some students, who learn best by hearing, benefit from taping lectures or recording their own notes. A MP3 player can be used so they can listen to their own notes. Digital copies of textbooks are available from some of the educational book publishers.

- Electronic dictionaries such as the Franklin Spellmaster. If the student makes a reasonable phonetic attempt, there is a good likelihood of identifying the correct spelling.

Developing reading, spelling and numeracy skills

There are hundreds of excellent programmes available which support the development of skills in reading, phonics, spelling and maths. Examples of some of the programmes include:

- **Workshark** based on the **Alpha to Omega** programme which uses games to develop reading and spelling skills.

- The **Lexia** reading series helps students strengthen skills working on areas such as phonemic awareness, decoding skills and comprehension.

- The **Gamz Player CD** is based on popular swap games and supports reading, phonics and spelling.

- **Numbershark**, **Mathmania**, **BBC Maths Workshop Series**, **IntelliMathics** are all useful programmes for numeracy difficulties. See also www.nrich.maths.org.

Reading support/accessing text

Accessing curriculum textbooks can be challenging for students with reading difficulties. If their reading is reasonably competent but occasionally they may come across words they cannot identify, a reading pen is good solution such as the **Quicktionary** reading pen which enables words to be scanned and read. It also has a dictionary feature.

Students with more significant reading difficulties may need to go for complete text-to-speech options. Screen reading software reads any text on the computer screen, whether it is text the student has typed in, emails, webpages or the pages of a textbook which has been scanned in. The reading voice and speed can be adjusted. Text scanned in can be converted to an audio file and downloaded to an MP3 player. Examples of such software are **Claroread, Kurzweil, Read and Write Gold** and **TextHelp.** Mobile versions of this software are available (on a USB drive) allowing the student to use it on any compatible computer.

The publishers of textbooks have digital versions of some books available for students with dyslexia. The principal of the school requests an application form for a student and when it is submitted with evidence of dyslexia, a pdf version of the book is available.

Writing support

Students with dyslexia are more likely to produce better work on a computer than if they are writing by hand. The computer produces clear legible text. Spelling can be checked using a spellchecker. Editing and rearranging text is easy, which is of particular help to students who have sequencing difficulties.

Screen readers, which read what is on the screen, are a useful tool to support writing. They allow the student to hear any errors such as a misspelling or an incomplete sentence. **Claroread** and **TextHelp** have a homophone checker. Possible homonyms are identified in the text and guidance is given to help choose the correct word. Both programmes have word prediction.

Software such as **Textease, Co-Writer** and **Penfriend** support writing with features such as talking spellcheckers and word prediction which can increase the speed of written production. **Clicker** is another useful programme where the student can write with whole words and even pictures.

Voice recognition software is ideally suited to older students who have to produce longer pieces of written work. All instructions can be given verbally. The computer types as the student speaks. **Dragon Dictate Naturally Speaking** is the most commonly-used programme of this type. Accuracy does increase with usage. To get the best from these programmes, a powerful modern computer with a good soundcard and microphone is essential.

Organisational and Study Skills

A very common feature of dyslexia is poor organisation skills, which affects many areas such as timekeeping, planning study timetables and especially organisation of information.

Mind-mapping software programmes such as **Inspiration** are very useful tools for students with good visual spatial ability. Students use it to make visual revision aids, brainstorming, concept mapping and planning essays.

Wordswork is a multi-sensory programme on study skills. While designed primarily for undergraduate students with dyslexia, it is relevant for students at second level. Topics covered include essay writing, memory strategies, exam revision and time management, with sections on reading, spelling and grammar.

Students may find a PDA (Personal Digital Assistant) or electronic organiser helpful to keep track of course requirements and to-do lists, study timetables, and sports/social commitments.

Dyslexia Association of Ireland (DAI) Assistive Technology Advice Service

To help people choose suitable technology for their individual needs, DAI has an Assistive Technology Advice Service. It is open to students and adults with dyslexia. Teachers, who wish to learn more about technological aids for people with dyslexia, are also welcome to book a session.

Appointments take place in DAI's national office in Suffolk St, Dublin. Sessions last 1.5 hours. Ph 01 6790276 or email info@dyslexia.ie.

FACTSHEET 18: Useful resources

Essential reference books for second level schools

Chinn, S. (2011) *The Trouble with Maths* 2nd Edition London: D. Fulton

Chinn, S. (2012) *More Trouble with Maths* London: D. Fulton

Cogan, J. & Flecker, M. (2004) *Dyslexia in Secondary School, a Practical Handbook forTeachers, Parents & Students* London: Whurr

McPhillips, T. (2011) *Supporting Teaching and Learning in the Second Level School: a Teacher's Resource* Dublin: Blackrock Education Centre

Peer, L. & Reid, G. Eds. (2001) *Dyslexia, Successful Inclusion in the Secondary School* London: David Fulton.

National Behaviour Support Unit: www.nbss.ie *Literacy and Learning Programme and Resources*

Special Education Support Service: www.sess.ie *Science Differentiation in Practice*

Government Publications

Report of the Task Force on Dyslexia (2001)

Understanding Dyslexia (2005) video/CD ROM/DVD DES (2005)

Guidelines for Teachers of Students with General Learning Difficulties NCCA (2007)

Inclusion of Students with Special Educational Needs, Post Primary Guidelines (2007)

Signposts SESS (2008)

A Continuum of Support for Post-primary Schools, Guidelines for Teachers NEPS (2010)

A Continuum of Support for Post-primary Schools, Resource Pack for Teachers NEPS (2010)

Inclusive Education Framework, a Guide for Schools on the Inclusion of Pupils with SEN NCSE (2011)

Dyslexia Association of Ireland Publications

All Children Learn Differently: A Parent's Guide to Dyslexia

Living with Dyslexia: Information for Adults on Dyslexia

Ball M, Hughes A, McCormack W. (2011) *Dyslexia, An Irish Perspective* 2nd ed.

McCormack, W. (2007) *Lost for Words, Dyslexia at Second Level* 3rd ed.

Other Publications

Blum P. (2004) *Improving Low Reading Ages in the Secondary School, Practical Strategies for Learning Support* London: Routledge

Gathercole, S.E. & Packiam Alloway, T. (2008) *Working Memory and Learning* London: Sage

Goodwin V. & Thomson B. (2004) *The Dyslexia Toolkit, A Resource for Students and their Tutors* The Open University (downloadable from www.sess.ie)

Ott, P. (2007) *Teaching Children with Dyslexia, a Practical Guide* London: Routledge

Payne, T. & Turner, E. (1998) *Dyslexia: A Parent's and Teachers' Guide* Multilingual Matters Ltd.

Pollock, J. Waller, E. & Politt, R. (2004) *Day to Day Dyslexia in the Classroom* London: Routledge

Reid, G. & Green S. (2007) *100 Ideas for Supporting Students with Dyslexia* London: Continuum

British Dyslexia Association Curriculum Series, Editors Peer, L. & Reid, G. P

Dyslexia and English Turner E. & Pughe J.

Dyslexia and Foreign Language Learning Schneider, E. & Crombie, M.

Dyslexia and General Science Hunter V.

Dyslexia and History Dargie R.

Dyslexia and Maths Kay J. & Yeo D.

Dyslexia and Physical Education Portwood M.

Dyslexia and Design & Technology Ranaldi F.

Websites

www.bdadyslexia.org.uk
British Dyslexia Association

www.dyslexia.ie
Dyslexia Association of Ireland

www.dyspraxiaireland.com
Dyspraxia Association

www.elsp.ie
English Language Support Programme

www.jcsp.ie
Junior Certificate Schools Programme

www.nbss.ie
National Behaviour Support Service

www.nce-mstl.ie
National Centre for Excellence in Mathematics and Science

www.nrich.maths.org
The Nrich Maths Programme

www.nida.org.uk
Northern Ireland Dyslexia Association

www.sess.ie
Special Education Support Service

www.steps.ie
Engineers Ireland STEPS programme

Useful websites with information on the use of technology in education

www.ncte.ie
National Centre for Technology in Education (NCTE)

www.bdadyslexia.org.uk
British Dyslexia Association (BDA)

www.dyslexic.com
iAnsyst Ltd.

On-line library

Special Education Support Service (www.sess.ie) has an on-line library available to teachers. Schools register by paying a small fee.