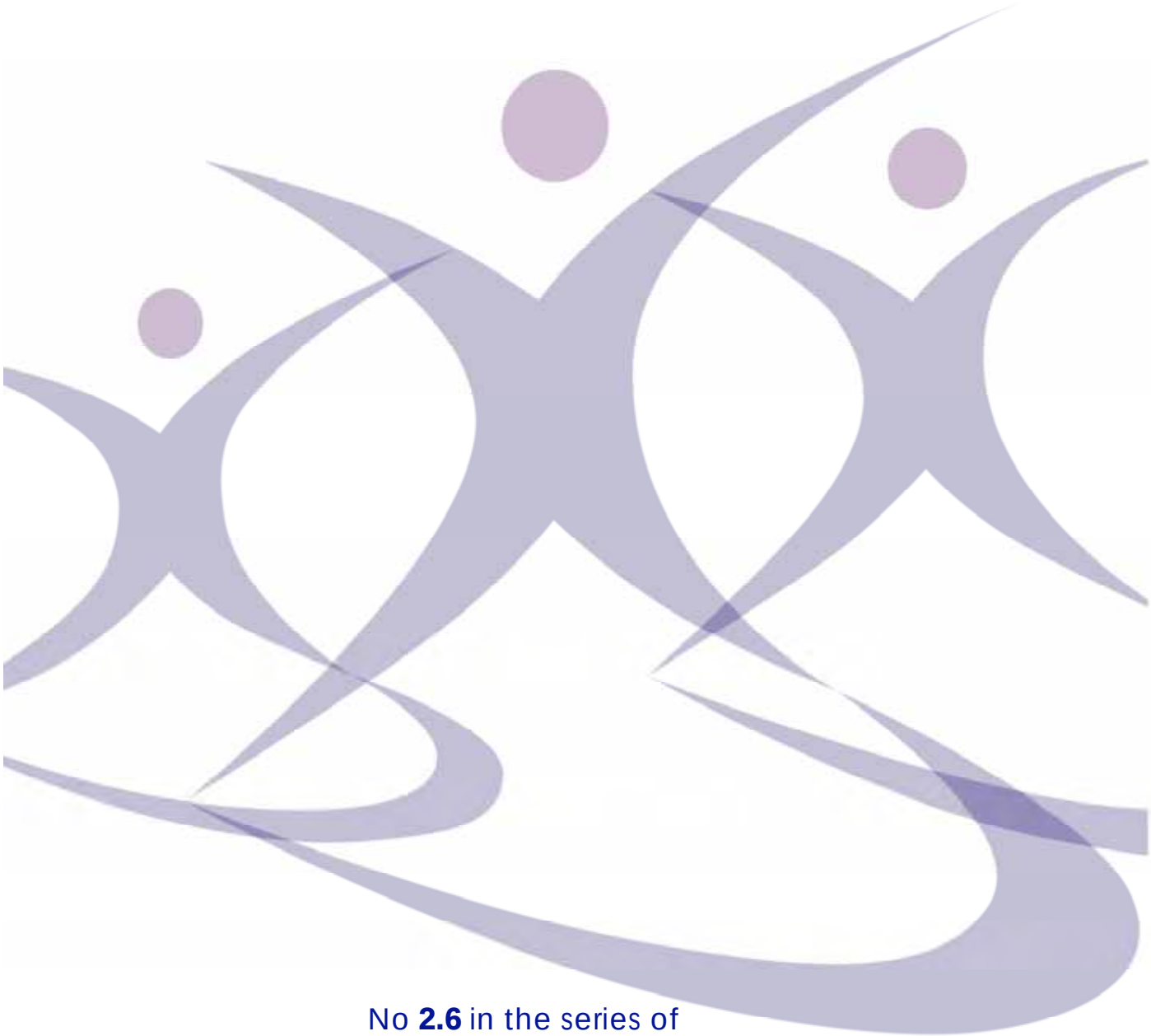
Dyslexia Scotland

Dyslexia and Mathematics



No **2.6** in the series of

Supporting Dyslexic Pupils in the Secondary Curriculum

By Moira Thomson

Supporting Dyslexic Pupils in the Secondary Curriculum

by Moira Thomson

DYSLEXIA AND MATHEMATICS

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Supporting Dyslexic Pupils in the Secondary Curriculum

by Moira Thomson

Complete set comprises 18 booklets and a CD of downloadable material
(see inside back cover for full details of CD contents)

Foreword by Dr. Gavin Reid, a senior lecturer in the Department of Educational Studies, Moray House School of Education, University of Edinburgh. An experienced teacher, educational psychologist, university lecturer, researcher and author, he has made over 600 conference and seminar presentations in more than 35 countries and has authored, co-authored and edited fifteen books for teachers and parents.

1.0 Dyslexia: Secondary Teachers' Guides

1.1. Identification and Assessment of Dyslexia at Secondary School
1.2. Dyslexia and the Underpinning Skills for the Secondary Curriculum
1.3. Classroom Management of Dyslexia at Secondary School
1.4. Information for the Secondary Support for Learning Team
1.5. Supporting Parents of Secondary School Pupils with Dyslexia
1.6. Using ICT to Support Dyslexic Pupils in the Secondary Curriculum
1.7. Dyslexia and Examinations

2.0 Subject Teachers' Guides

2.1. Dyslexia and Art, Craft & Design
2.2. Dyslexia and Drama (Performing Arts)
2.3. Dyslexia and English (Media Studies)
2.4. Dyslexia and Home Economics (Health & Food Technology)
2.5. Dyslexia and ICT subjects (Computing Studies, Business Education, Enterprise)
2.6. Dyslexia and Mathematics
2.7. Dyslexia and Modern Foreign Languages
2.8. Dyslexia and Music
2.9. Dyslexia and Physical Education (Outdoor Education, Sports, Games, Dance)
2.10. Dyslexia and Science subjects (Biology, Chemistry, Physics)
2.11. Dyslexia and Social subjects (Geography, History, Modern Studies, Philosophy, Religious Studies

ALL information contained in the booklets and the CD can be downloaded free of charge from the Dyslexia Scotland website – ***www.supportingdyslexicpupils.org.uk***

Extra copies of individual booklets or complete sets are available from

Dyslexia Scotland, Stirling Business Centre, Wellgreen, Stirling, FK8 2DZ

Email: *info@supportingdyslexicpupils.org.uk*

To all my dyslexic pupils, who taught me what dyslexia really is

Acknowledgements

Dyslexia Scotland would like to thank the following for making possible the publication of this important series of books. Every secondary school in Scotland has been supplied with a copy. All material contained in the booklets and CD is downloadable free from the Dyslexia Scotland website - ***www.supportingdyslexicpupils.org.uk*****.**

Special thanks to **M & A Thomson Litho Ltd**, East Kilbride, Scotland who printed the booklets at below cost – www.thomsonlitho.com.

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Dyslexia Scotland is the voluntary organisation representing the needs and interests of dyslexic people in Scotland.

Mission Statement
To encourage and enable dyslexic people, regardless of their age and abilities, to reach their potential in education, employment and life.

Dyslexia Helpline: 0844 800 84 84 - Monday to Friday from 10am until 4pm.

Dyslexia Scotland, Stirling Business Centre, Wellgreen, Stirling, FK8 2DZ
www.dyslexiascotland.org.uk

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FOREWORD

It is a privilege to be asked to write a foreword for this series of guides on dyslexia in the secondary school. Moira Thomson ought to be congratulated in putting together these informative and up to date guides that will both heighten the awareness of dyslexia in secondary schools and develop the knowledge and skills of teachers through the implementation of the suggestions made in the guides. Too often books and materials on dyslexia are cornered by a few, usually those who have a prior interest in the subject. Many feel it is not their concern, or they do not have the specialised experience to intervene. These guides will challenge and change that assumption. The guides are for all teachers – they contain information that will be directly relevant and directly impact on the practice of every teacher in every secondary school in the country. Not only that, the guides are up to date containing advice stemming from the most recent legislation (Education (Scotland) Act 2004: Additional Support for Learning). This makes the guides an essential resource in every school in the country.

Above all the guides provide a positive message. Dyslexia is couched in terminology that expresses what learners with dyslexia **can do** not what they 'can't do'. Any difficulties` experienced by learners with dyslexia are seen as 'barriers to learning' which means that the onus is on supporting learners overcome these barriers and this places the responsibility firmly on the professionals working in schools. This reiterates the view that dealing with dyslexia is a whole school responsibility.

The breadth of coverage in these guides is colossal. It is highly commendable that Moira Thomson has met this immense task with true professionalism in providing clearly written and relevant guides incorporating the breadth of the curriculum. As well as including all secondary school subjects the guides also provide information on the crucial aspects of supporting students preparing for examinations, the use of information and communication technology, information for parents, details of the assessment process and the skills that underpin learning. It is important to consider the view that learners with dyslexia are first and foremost learners and therefore it is important that their learning skills are developed fully. It is too easy to place the emphasis on developing literacy skills at the expense other important aspects of learning. The guides will reinforce this crucial point that the learning skills of all students with dyslexia can be developed to a high level. I am particularly impressed with the inclusion of a section on classroom management. This again reinforces the point that managing dyslexia is a classroom concern and a learning and curriculum-focused perspective needs to be adopted. A focus on curriculum planning and acknowledging learning styles is essential if learners are to reach their potential in secondary schools.

The guides do more than provide information on dyslexia; rather they are a staff development resource and one that can enlighten and educate all teachers in secondary schools. I feel certain they will be warmly appreciated and used for that purpose. The guides will benefit school management as well as teachers and parents, but the real winners will be the students with dyslexia. It is they who will ultimately benefit and the guides will help them fulfil their potential and make learning a positive and successful school experience for all.

Dr. Gavin Reid,
Edinburgh, UK
July 2007

Dyslexia may be defined as a difficulty in processing language-based information. Short-term memory, sequencing, directionality and co-ordination may also be affected.

It is important that subject teachers keep dyslexia in context. In any subject class there will be a need to make provision to meet a wide variety of strengths and additional support needs, not all of which will be linked to dyslexia, but, teaching and learning strategies that are appropriate for dyslexic pupils can be effective for all.

Dyslexia may be difficult for subject teachers to identify, but a mismatch between a pupil's apparent ability and the quality (and quantity) of written work is often observed. Subject teachers should use the Dyslexia Indicators Checklist to confirm any suspicion of a dyslexic profile. If several indicators are ticked, referral should be made to the Support for Learning (SfL) team for further investigation.

TEACHERS' RESPONSIBILITIES RE PUPILS WITH DYSLEXIA

Reference: Education (Scotland) Act 2004: Additional Support for Learning

It is a teacher's responsibility to provide a suitably differentiated subject curriculum, accessible to all pupils, that provides each with the opportunity to develop and apply individual strengths. Responsibilities for meeting the additional needs of dyslexic pupils are the same as those for all pupils, and should include approaches that avoid unnecessary dependence on written text. Subject teachers may be expected to use teaching and learning strategies that include:

- Recognition of and sensitivity to the range and diversity of the learning preferences and styles of all pupils
- Selection or design of appropriate teaching and learning programmes that match the range of all pupil abilities, within the curricular framework of the school
- Awareness of the learning differences related to dyslexia that may cause difficulties within these programmes
- Understanding that, while dyslexia is not linked to ability, able dyslexic pupils may persistently underachieve because of this
- Knowledge that many dyslexic pupils use strategies such as misbehaviour or illness for coping with difficulties they do not necessarily understand themselves
- Willingness to ask for advice and support from the Support for Learning team
- Commitment to the need to reduce barriers to learning linked to the delivery of the curriculum

- Acknowledgement of the very severe difficulties that dyslexic pupils might experience due to failure to master the early stages of literacy and numeracy

- Understanding that dyslexia is developmental in nature and that some pupils who have coped with the early stages of literacy acquisition may have difficulties with higher order skills, which do not appear until upper primary or secondary

- Acceptance that some pupils with dyslexia may require additional support within the context of their subject and to consult with colleagues and specialists to determine how best to provide this

- Taking account of the difficulties experienced by dyslexic pupils when assessing progress so that subject knowledge and ability are assessed fairly by making alternative arrangements for assessments that reflect the additional support usually provided

Dyslexic pupils constantly meet barriers to learning across the curriculum and may become discouraged very quickly due to lack of initial success in subject classes. This can result in subject teachers assuming that pupils are inattentive or lazy, when they are actually working much harder that their classmates, but with little apparent effect. For pupils with dyslexia the experience of success may be rare, if not totally absent. They may:

- Lack self-confidence
- Have a poor self image
- Fear new situations
- Confuse written and verbal instructions
- Be very disorganised
- Lack stamina
- Appear to avoid set work

For example, a dyslexic pupil may fully understand the subject teacher's spoken introduction to a topic but be unable to follow the written instructions to complete class activities.

Although pupils with dyslexia are often better at coping with numbers than with reading, this is not always so. Some pupils have memory-related problems, which can create difficulties in relation to retaining number facts and tables, number order, sequencing and place value.

READING AND MATHS

Teachers should bear in mind that there are few occasions where numbers are met in strict isolation from text and reading difficulties may mask the level of Mathematical ability. Not only is the language of Mathematics multi-syllabic e.g. – multiplication, vertices, isosceles - and difficult to decode, but it rarely contains contextual clues to help with meaning.

Barriers to Learning – some dyslexic pupils may:

- Have problems with reading may result in lack of confidence, even when Maths skills are good
- Struggle with the flow of reading, which may not always be from left to right, as it often includes tables and diagrams etc.
- Have difficulty in decoding new or unfamiliar Maths vocabulary, preventing mastery of the underlying mathematical concept
- Need repeated re-reading to comprehend Maths text
- Misread or omit vital words, changing the meaning of the Maths question
- Concentrate on reading from left to right and may not see diagrams/tables – or may not identify these as part of a question
- Be slow to process text, so may still be struggling with meaning when other pupils are completing calculations etc.
- Have difficulty understanding positional/directional vocabulary e.g. above, beside
- Have difficulty linking Maths terms to abbreviations

Suggested Support Strategies:

- Be aware that even good readers may struggle with meaning of Maths text
- Teach mathematical language as 'foreign' vocabulary
- Take the reading abilities of pupils into account when choosing texts
- Give support for reading and writing in number-related work
- Allow extra time and ensure that there is no pressure on the individual pupil to read and respond quickly
- Read questions aloud in chunks to help with meaning and development of short-term memory
- Check the language in a Maths assignment as well as the number processes
- Highlight Maths vocabulary and explain meaning in context
- Issue a marker (or reading ruler) to help the pupil focus along a line of text
- Use wall charts or pupil tables of Maths topic vocabulary
- Highlight any tables/charts/diagrams to draw attention to them as part of the problem
- Do not ask the class for answers to set questions while some pupils are still struggling with reading these – allow enough time for all pupils to complete several examples
- Illustrate directional/positional vocabulary to support meaning by using arrows etc.

NUMBER

Barriers to learning – some dyslexic pupils may:

- Copy numbers incorrectly
- Reverse/invert numbers
- Start Maths problems on the wrong side – from the left
- Want to carry a number the wrong way
- Be unable to estimate

- Have problems understanding place value
- Misalign columns, making calculations impossible
- Be unable to do complex calculations like long division, being unable to get a series of steps in exactly the right sequence, over and over again
- Will often know how to do every step in the sequence, but get the steps out of sequence, ending up with the wrong answer
- Be inconsistent – managing to do something correctly one day, but unable to cope with the same problem the next day

Suggested Support Strategies:

- Allow the use of calculators/number squares for all number work
- Provide training in the use of calculators/number squares
- Make addition and multiplication grids and ready-reckoners freely available
- Issue pupils with squared paper
- Make use of a variety of approaches (including computer games) to develop and reinforce number facts
- Teach strategies for developing a systematic approach to calculations, perhaps using flow charts

SYMBOLS AND SHAPES

While some pupils with dyslexia can have problems with the identification of shapes and symbols, pattern recognition skills of other dyslexics help them to "see" Mathematical relationships and concepts more quickly and clearly than non-dyslexic pupils. Although dyslexia is <u>sometimes</u> accompanied by visual-spatial talents, some dyslexic pupils may have a specific deficit in this area, so it is not possible to say that all dyslexic pupils will do well in spatial related tasks. Some dyslexic pupils may have difficulty in discriminating between different symbols – e.g. for number operations, degrees, percentages etc. There may be a particular problem when writing indices, as these may be portrayed inappropriately.

Strengths of <u>some</u> dyslexic pupils re symbols and shapes:

- 3-D visual-spatial and pattern recognition skills
- Ability to imagine how an image would appear from another perspective
- Ability to apprehend, encode, and mentally manipulate spatial forms
- Ability to recognise nets and rotated versions of shapes
- Figural flexibility (able to arrange shapes in different ways)
- Imagining completed images (fill in missing parts mentally to determine what a picture represents)
- The ability to recognise a figure as "impossible"

Barriers to learning – some dyslexic pupils may:

- Be significantly slower than peers to complete mathematical tasks, even those in which they show particular ability
- Mix up the signs **+ x % °**
- Not understand mathematical language referring to symbols
- Have particular difficulties with algebra and formulae notation
- Be unable to relate the properties of a shape to its name
- Have difficulty making connections between shapes
- Have no idea of scale

Suggested Support Strategies:

- Always allow enough time for the dyslexic pupil to process the nature of a problem
- Teach the mathematical words that refer to symbols and issue reference cards
- Link multiplication to addition and subtraction to division
- Display symbols charts in the classroom so that pupils may check these unobtrusively
- Teach algebraic notation slowly and issue formulae prompts
- Provide ample opportunity for revision and reinforcement
- Issue templates or stencils to emphasise the different qualities of shapes
- Use colour to code lines and symbols that identify aspects of shapes
- Always use visual representations of shapes to illustrate properties and names
- Issue illustrated notes showing key words, diagrams and worked examples of – e.g. area and volume

DIRECTIONALITY AND SEQUENCE

Dyslexic difficulties linked to orientation and direction may affect the understanding of patterns and sequences in number as well as make it difficult for the dyslexic pupil to cope with geometry, symmetry, time and co-ordinates. Dyslexic pupils may also have difficulty with the vocabulary of directionality and sequence. They will often know how to do every step in a sequence, but get the steps out of order and end up confused and with the wrong answer – or no answer at all.

Barriers to Learning: some dyslexic pupils may:

- Be confused about directionality words/prepositions like:
  - first-last
  - before-after
  - above-below
  - next-previous
  - over-under
  - yesterday-tomorrow (directionality in time)
  - North, South, East, West
- Have problems reading figures in the correct direction or order

- Have difficulty counting backwards
- Be unable to sequence days of the week, months etc.
- Struggle with operational sequences in calculations
- Have great difficulty following a sequence of instructions
- Be unable to follow directions in the right order
- Have difficulty reading, understanding or extracting information from tables, charts and graphs
- Experience problems plotting co-ordinates and reading line graphs
- Have extreme difficulty telling time on an analogue clock
- When asked what time it is, may say something ridiculous, e.g., "It's ten past quarter to"
- May be able to tell whole hours and half hours (5:00, 5:30, etc.) but not smaller chunks, such as 5:12
- Find concepts such as before and after on a clock confusing
- Find time-arithmetic impossible and be unable to translate digital – analogue
- Be unable to extract information from timetables
- Have difficulty estimating the passage of time and be unable to work out when 'in 15 minutes' would be

Suggested Support Strategies:

- Help pupils to develop personal strategies for telling left from right
- Use visual and kinaesthetic activities to illustrate directionality words/prepositions
- Use number lines and movement to help with directions
- Teach flow diagrams to help pupils follow directions/instructions
- Highlight where to begin in operational sequences
- Colour code axes, column and row headings
- Use **L** shaped card to read from tables
- Put direction arrows on graph axes
- Colour code co-ordinates to match colours of axes
- Use a digital clock – but this will help only if carefully taught
- Use visual strategies to support use of analogue clock and 'experience' the passing of time

PRACTICAL MATHEMATICAL TASKS

Practical tasks such as measuring, cutting out or reading scales could be a source of difficulty for dyslexic pupils in the Maths class. There may be motor skills difficulties in a dyslexic profile – either motor planning problems affecting the ability to predict or follow a series of steps in the right order or fine/gross motor problems affecting ability to complete practical tasks.

Barriers to Learning – some dyslexic pupils may:

- Have difficulty aligning columns of figures correctly
- Have difficulty setting out their work in logical, sequenced steps
- Be unable to construct suitable tables etc for recording data

- Lack the fine motor skills required to draw/measure accurately
- Be unable to use a ruler to draw straight lines or measure accurately
- Have difficulty knowing where to begin to draw tables/graphs on the paper
- Get confused about appropriate measures for different tasks
- Have little or no understanding of scale
- Have difficulty matching pictorial representations to numerical values
- Be unable to complete practical activities when steps have directionality as part of them

Suggested Support Strategies:

- Use squared/isometric paper
- Provide sticky roller/sticky ruler/reading ruler
- Provide tools and instruments with handling aids
- Teach the correct use of a ruler, protractor etc.
- Provide left-handed scissors where appropriate
- Provide transparent rulers to help when reading scales, tables etc.
- Enlarge graphs to make details more accessible
- Issue flow charts for reference, showing sequences of steps for specific tasks
- Give a sample page layout, clearly showing location for working

MEMORY AND MATHS

Memorising mathematical facts (not personally interesting or relevant) is extremely difficult for many dyslexic pupils. Dyslexic difficulties in directionality, rote memorisation and sequencing can make some tasks so difficult that even those dyslexic pupils who are very good at Maths may be unable to demonstrate their ability. Short-term memory problems may result in pupils being unable to complete Mental Maths, not because they are unable to solve a problem, but because they forget the numbers involved.

Barriers to Learning – some dyslexic pupils may:

- Forget books and equipment
- Work very slowly, so forget instructions given before they begin
- Be unable to follow a sequence of verbal instructions
- Be unable to memorise addition and subtraction facts or multiplication tables
- Be unable to hold numbers in their heads while carrying out calculations
- Have difficulty remembering the sequence of steps in number operations
- Have problems remembering formulae
- Be unable to copy an answer accurately from one place to another
- Start a Maths problem at the wrong place or at an inappropriate place on the page
- Not show their working - they often "see" Maths in their head, so cannot show working
- Have great difficulty in remembering details of homework

Suggested Support Strategies:

- Don't make a fuss about forgotten equipment, keep a spare set in class and give this out as required
- Help the pupil to make a personal checklist of necessary equipment to aid memory
- Issue only one instruction at a time
- Repeat instructions frequently
- Chunk information and include visual illustrations
- Teach 'table' gimmicks like 'finger tables, use of patterns, using colour coding, verbalising using rhythm and rhyme, even music to aid recall
- Encourage the pupil to highlight each step in a written problem
- Issue highlighted or annotated class notes instead of expecting dyslexic pupils to copy examples
- Develop a sequence checklist for calculation procedures
- Teach visualisation and use highlighting and/or colour coding to aid recall of sequences
- Teach memory techniques such as mnemonics
- Issue exemplars that clearly indicate required layout
- Teach formulae in a 'fun' way using mnemonics, rhymes, colour coding and jingles
- Create wall displays in colour to show formulae
- Issue 'credit cards' of formulae for reference
- Give out homework at the start of the lesson
- Check that pupils have clear unambiguous notes of homework set
- Create a visual display or wall chart of a homework planner
- Always remember that homework may take a dyslexic pupil much longer than others and set a time limit (parents can be asked to monitor and sign this)

ARRANGEMENTS FOR MATHS ASSESSMENTS

SQA offer the same range of alternative assessment arrangements for Maths examinations as for all other subjects – these are designed to reflect the support provided in the curriculum and to address specific difficulties caused by the style of the examination and its impact on the opportunities for the dyslexic pupil to demonstrate actual attainment.

The range of alternative assessment arrangements available for dyslexic candidates in all written exams includes:

- Linguistic support (reader, digital examination papers, scribe, transcription with correction)
- Extra time allowances
- Use of word processors with spellcheckers, specialised software and other technological aids
- Transcription without correction to remove illegibility
- Assistance with diagrammatic material when gross/fine motor skills are affected
- Rest periods/supervised breaks when the extra time makes the exam extremely long

- Adapted question papers for candidates who experience visual distortions.

Additional alternative arrangements may be provided specifically for Maths assessments, to reflect what is in use in the Maths class:

- A calculator or number square may be permitted for Maths non-calculator papers for those candidates who experience:
    - Short-term (working) memory problems
    - Long term memory problems (affecting recall of tables & formulae)
    - Sequencing problems
    - Directional confusion
    - Visual-perceptual difficulties
- Those dyslexic pupils who experience visual processing difficulties or distortions of text may be permitted adapted exam papers where – e.g. graphs are enlarged.

SUGGESTED READING

Chinn, S (2001): Learning Styles and Mathematics IN Peer L & Reid G (2001) Dyslexia – Successful; Inclusion in the Secondary School, London, David Fulton Publishers

Chinn, S & Ashcroft, R (1998): Mathematics for Dyslexics: A Teaching Handbook, London, Whurr

Coventry, D, Pringle, M, Rifkind, H, Weedon, C (2001): Supporting Students with Dyslexia in the Maths Classroom IN Peer L & Reid G (2001) Dyslexia – Successful; Inclusion in the Secondary School, London, David Fulton Publishers

Henderson, A (1998): Maths for The Dyslexic - A Practical Guide, London, David Fulton Publishers,
The book recommends strategies that can be used with pupils of all ages and the illustrations show ways in which to tackle complex concepts. It presents an overview of general difficulties, including assessment techniques and the language of mathematics, and examines specific problems relating to the attainment targets in: number, algebra, shape, space, measures and handling data.

Henderson, A & Came P (2003): Working with Dyscalculia, Marlborough, Wilts. Learning Works.

Kay, J & Yeo, D (2003): Dyslexia and Maths, London, David Fulton Publishers
This concise text helps teachers to understand why dyslexics can find Maths difficult and offers practical ideas for supporting them most effectively. It explains which areas of Maths dyslexics tend to have particular difficulty with, assesses current teaching philosophies and methods, describes a framework of general learning principles that allow dyslexics to make progress in Maths and outlines a number of specific and effective teaching recommendations.

McKay N (2005): Removing Dyslexia as a Barrier to Achievement: The Dyslexia Friendly Schools Toolkit, Wakefield, SEN Marketing
Of particular interest is the chart of Dyslexia Friendly Classroom Strategies on page 214.

National Numeracy Strategy (2001): Guidance to support pupils with dyslexia and dyscalculia London Dept for Education & Skills (DfES)
http://www.standards.dfes.gov.uk/primary/publications/mathematics/12812/nns_dyslexia051201.pdf

DYSLEXIA INDICATORS AT THE SECONDARY STAGE

Dyslexia is more than an isolated defect in reading or spelling. The problem may be perceptual, auditory receptive, memory-based or a processing deficit.

Subject teachers are not expected to be able to diagnose these difficulties as such, but some general indications are listed below. If several of these are observed frequently in the classroom, please tick the relevant boxes and enter details of the pupil concerned and pass to the Support for Learning team for further investigation.

Pupil Name: _____ Class: _____ Date: _____

- ❑ Quality of written work does not adequately reflect the known ability of the pupil in the subject
- ❑ Good orally but very little written work is produced – many incomplete assignments
- ❑ Disappointing performance in timed tests and other assessments
- ❑ Poor presentation of work – e.g. illegibility, mixed upper and lower case, unequal spacing, copying errors, misaligned columns (especially in Maths)
- ❑ Poor organisational skills – pupil is unable to organise self or work efficiently; carries either all books or wrong ones; frequently forgets to hand in work
- ❑ Sequencing poor – pupil appears to jump from one theme to another, apparently for no reason
- ❑ Inability to memorise (especially in Maths and Modern Languages) even after repeated practice
- ❑ Inability to hold numbers in short-term memory while performing calculations
- ❑ Symbol and shape confusion (especially in Maths)
- ❑ Complains of headaches when reading; sometimes see patterns in printed text; says that words move around the page or that text is glaring at them
- ❑ Unable to carry out operations one day which were previously done adequately
- ❑ Unable to take in and carry out more than one instruction at a time
- ❑ Poor depth perception – e.g. clumsy and uncoordinated, bumps into things, difficulty judging distance, catching balls, etc.

- ❑ Poor self-image – lacking in confidence, fear of new situations – may erase large quantities of written work, which is acceptable to the teacher
- ❑ Tires quickly and work seems to be a disproportionate return for the effort involved in producing it
- ❑ Easily distracted – either hyperactive or daydreaming
- ❑ **Other – please give details**

Teacher: _____ Subject: _____

Action requested:

- □ details of known additional needs
- □ investigation of problem and advice re support
- □ dyslexia assessment
- □ profile of additional needs
- □ suggest strategies for meeting additional needs
- □ advice re assessment arrangements

Dyslexia Scotland has supplied every secondary school in Scotland with a free copy of this publication. **All information contained in the 18 booklets and CD, including extra copies of dyslexia identification checklists, is available free to download from their website.**

www.supportingdyslexicpupils.org.uk

CD CONTENTS:

Worldwide dyslexia contacts

Identification & Assessment of dyslexia
Dyslexia checklist for subject teachers
Classroom Observation
Pupil Checklist for Dyslexia
Dyslexia - self esteem issues
Assessment Materials
Fine Motor Assessment (writing)
Visual Dyslexia
Strategies to meet identified needs
Example of a dyslexic profile
Personal Learning Plan: Example of an information page
Dyslexia glossary

Co-morbid conditions
ADHD - teachers' checklist
Visual Discomfort Meares-Irlen Syndrome
Dyspraxia
Dyscalculia
Dysgraphia

Teaching & Learning
Summary: Classroom management support strategies
Developing Social Skills - dyslexic learners
Dyslexia glossary of terminology
Modern Languages Grid

Study skills
Active Revision.
Techniques for improving memory
Study techniques Revision
Accessible Curricular Materials.
Writing support using ICT
CALL project Voice recognition – Description for schools
Small and Portable Devices.

Examinations and assessments
SQA Guide for Candidates: Arrangements for
Disability Support
National Testing
Use of a calculator in Maths noncalculator exam papers
Modern Foreign Languages Writing
Glossary of Exam language
Active Revision
Stress reducing strategy

Resources
ICT resources to support developing numeracy
ICT resources to support developing literacy
ICT and Practising Literacy Skills
Further Reading suggestions
Learning & Teaching Scotland – downloadable
resources
Barrington Stoke link
Dyslexia Shop catalogue link
iANSYST website link

Information for parents of dyslexic pupils
Enquire parent guide
Dyslexia Scotland Guide for Parents
Visual processing difficulties
Using ICT to support writing
ICT Starting Points
Small and Portable Devices
Alternative Therapies
Supporting and working with parents of dyslexic
pupils
Contributory factors dyslexia
Homework Tips for Parents
Meeting the teacher - parent's guide
Information for parents - Alternative Assessment
Arrangements
Suggested reading list for parents

Downloadable leaflets & information
What is dyslexia
DfES How to Identify Dyslexia
DfES Being Dyslexic
DfES Tips for Secondary School
BDA Secondary School Tips
A framework for understanding Dyslexia – DfES
Guidance to support pupils with dyslexia and
dyscalculia - DfES
How Can Parents Help
Dyslexia Scotland Guide for Parents
Enquire Parents Guide to Additional Support for
Learning
Help for Dyslexic student
Dyslexia Indications for Adults
Checklist for Adults
Dyslexic adults assessments
Guide for Teachers
Help At Home.
Help with Reading and Spelling
How Can Parents Help
Help with Maths
Hints for Homework

Supporting Dyslexic Pupils in the Secondary Curriculum is a series of booklets for secondary school teachers throughout Scotland. They are intended to help them remove the barriers to learning that are often experienced by dyslexic pupils.

The pack of 18 booklets:

- Is an authoritative resource to help teachers meet the additional needs of dyslexic pupils as described in the Scottish Executive's ***Supporting Children's Learning Code of Practice (2005)***
- Provides subject teachers with advice and suggests strategies to enable them to minimise barriers to learning that dyslexic pupils might experience in the secondary curriculum and provide appropriate support
- Offers guidance for Support for Learning staff on the identification and support of dyslexia in the secondary curriculum and on advising subject colleagues
- Addresses the continuing professional development needs arising from national, local and school initiatives
- Is packed with practical information and tips for teachers on how to give dyslexic pupils the best chance of academic success
- Is supplemented with a CD crammed with practical and helpful downloadable material

Moira Thomson recently retired as Principal Teacher of Support for Learning at Broughton High School, Edinburgh, after 30+ years. She was also Development Officer for City of Edinburgh Dept of Children & Families; in-house CPD provider for City of Edinburgh Dept of Children & Families; Associate Tutor for SNAP; Associate Assessor for HMIe. Moira is an independent adjudicator for the Additional Support for Learning dispute resolution; educational consultant, providing CPD for secondary teachers; secretary of the Scottish Parliament's Cross Party Group on Dyslexia; member of Scottish Qualifications Authority focus groups and a committee member of Dyslexia Scotland South East.

"I truly hope that all teachers will embrace this publication. If they can put into practice the guidance offered it will make a fundamental difference to the way dyslexic children are taught in school today. Young people in Scotland deserve this chance."

Sir Jackie Stewart OBE, President of Dyslexia Scotland.

Dyslexia Scotland

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