

# Supporting children with a Specific Learning Difficulty (Dyslexia) Learning of Mathematics

### Be aware that

Dyslexia does not just affect literacy it can affect mathematics in the following ways.

 Short-term/ working/long term memory deficits- affect efficient learning of number bonds, tables and mental calculations.

 Language decoding and comprehension deficits- makes it difficult to understand and access written verbal problems and to master the "language" of mathematics.

 Sequencing problems- can find it difficult to sequence the procedures to arrive at the answer and even when they arrive at an answer may find it difficult to explain how they got it.

 Speed of processing difficulties - work in the classroom often goes too fast and doesn't allow for sufficient practice. There is a need for over-learning. Allow lots of time to think and discuss.

**Remember**. Children need to understand and accept that making mistakes is part of learning so it is important to develop a positive, enquiring approach to mistakes.

#### Number

- Use multi-sensory methods to help learners with counting, distinguishing symbols and mathematical operations.
- Number skills development is cumulative do not move on until sound foundations are established.
- Use visual aids e.g. fraction wall.
- Squared paper and layout in general can help preserve place value and simplify operations.
- Work with concrete materials whenever possible and relate to life experience (sport, farming etc.)
- Allow time for over-learning number facts and reduce memory load by using commutative property and building facts on "older" well known facts.
- Encourage children to estimate, calculate and check answers.
- Mathematical concepts are abstract concepts which are largely mediated verbally. Successful learning involves a lot of oral work.
- Experience through using concrete materials and play helps facilitate verbal understanding.

#### Calculation

Encourage the use of "jottings" to prevent them losing track mid process.
 Allow use of fingers or other memory aids.

 Get learners to talk through what they are doing as they work, always using the same mathematical language. This helps both calculation and mastering of "language of maths".

 Take care not to over emphasise the mechanics of maths at the expense of meaning. Take a "big picture" or global view of calculation as it can draw on the learner's strength.

Estimation should be employed.

### **Solving Problems**

Explain Mathematical vocabulary and build up a maths "dictionary".
 Whenever possible, use images or examples from a real context. Make sure language is understood before attempting a problem.

 Children bring a lot of "everyday mathematics" into the classroom (money, marbles, darts, card games) which can be used to help access "classroom mathematics".

Use a "study buddy" if problems need to be read or re-read.

 Encourage children to try their own methods even if they prove to be unsuccessful.

### Measures, Shape and Space

 Dyslexic learners may find drawing shapes challenging. Supports such as joining dots or modelling in plasticine adds a multi-sensory approach.

98% of everyday maths involves money, time, weights and measures.
 Therefore these are the most important of topics.

 Many dyslexic children have problem with time concepts so revisit these topics at regular intervals.

### Standardised Assessment and Diagnostic Testing

 Dyslexic children may need accommodation when doing standardised tests of mathematics. Reading problems to the child will help differentiate between reading difficulty or difficulty with the problem set.

 Diagnostic testing can help in the setting up of specific targets relevant to IEPs/ Support Plans in Mathematics.



### **Dyslexia-Tips for Parents- Primary Aged**

#### Be aware of...

- Discuss your child's learning difference with them in a positive supportive way at an age appropriate level. The material for parents in Understanding Dyslexia, a Guide for Schools (DES and DENI) may be helpful
- Make sure they get opportunities to learn through experiences other than school (e.g. TV documentaries, visits to museums etc.)
- Learn more about dyslexia (<u>www.dyslexia.ie</u>, <u>www.bdadyslexia.org.uk</u>).
   The Dyslexia Association runs a course for parents. This course is run in various locations around the country see <u>www.dyslexia.ie</u>

### Management issues and homework

- If your child is tired when they come home from school don't ask too many questions – give them a break
- Some children with dyslexia struggle with organisational skills. Help your child to organise himself/herself by establishing routines and time-tables at home (e.g. time for homework or wall calendar)
- Have a set time for getting schoolbag and uniform ready for the next day
- Discuss any issues around homework with teachers and agree the time to be spent on homework and which parts will be given priority. Don't do your child's homework for them. Let the teacher know if there are particular areas that are causing problems.
- If homework takes a long time, try to reduce the amount of writing your child has to do (e.g. re-writing questions)
- Have your child dictate the answers to some questions and write out their answers making sure that this arrangement is agreed with the teacher.
- Read the text from school books so that your child can concentrate on listening and understanding.
- Break big tasks into smaller ones where the parts are manageable and set achievable goals.

### Oral language and listening

- Remember that talking to children increases cognitive and language functioning
- Get your child to tell / re-tell stories, talk about things they have seen and done or are planning to do
- Work on developing vocabulary (many children lose out on extending their vocabulary because they are not doing the same amount of independent

reading as their peers)

 Respond to your child's observations and encourage them to respond to questions, give opinions etc.

### Liaison/ Partnership

 Meet with your child's teachers to set realistic targets and share success stories. When discussing an Support Plan or IEP (Individual Education Plan) discuss homework, method for spellings etc.

### Reading

- Involve your child in selecting reading materials. Read to your child as
  often as possible. Keep it short and fun (10 minutes a day). Finish up
  where they are enjoying the story and want more!
- · Ask your child's teacher for information on Paired Reading
- Go to the library on a regular basis and keep up-to-date on books peers are reading
- Help your child access books on CD and listen to them together while following the text in the book.
- Let your child see you reading for enjoyment and for different purposes
- Use everyday opportunities to encourage reading e.g., signs, adverts, greeting cards, computer games, playing board games / card games etc.

### Spelling/ Writing

- Develop a family habit of writing notes and leaving messages
- Get your child to write thank you notes and to make and send greeting cards
- Get them to help you when you are making lists (e.g. when planning an activity or shopping)
- Talk to teachers about the method used at school for learning spellings (e.g. Look, Cover, Write & Check or other method) and use the same system at home.
- Concentrate on learning a few spellings each week/month with opportunities for repetition/reinforcement
- Using a computer, particularly a word processor, can be a great help. If possible, encourage your child to learn to touch type.

#### Self esteem

- Avoid making comparisons with other children (including relatives) success should be measured against self not others
- Focus on what your child 'can do' and give genuine praise
- Encourage participation in activities in the community / after school
- Encourage interests in a wide variety of things to help discover your child's talents.
- Show that you value your child's opinion by quoting them or acting on their suggestions.
- Promote positive thinking by getting your child to use positive commenting e.g. 'I can read this' or 'I can finish this task'
- Challenge any unhelpful reason a child gives for his success or failure and suggest an alternative



This NEPS Handout has been compiled by educational psychologists and is based on current knowledge in this area. It is intended as a guide only. NEPS do not endorse any particular website or resource. Teachers and parents may wish to identify the resources that are most appropriate to them.

### Some Irish-related resources for working with students who are exceptionally able

- National Centre for Technology in Education (NCTE) has useful advice as to how ICT can be incorporated into the learning and teaching of children who are exceptionally able, website: <a href="http://www.ncte.ie/">http://www.ncte.ie/</a>
- National Council for Curriculum and Assessment (NCCA) and Council for Curriculum Examination and Assessment (CCEA) (2007) Exceptionally Able Students: Draft Guidelines for Teachers, Belfast: CCEA, download from: http://www.ncca.ie/
- GiftedKids.ie ('A Survival Guide for Parents of Gifted Children in Ireland'): http://www.giftedkids.ie
- 4. Signposts A Resource Pack for Teachers (SESS) or 'Tips for Teaching a Gifted Student' :http://www.sess.ie
- 5. Centre for Talented Youth Ireland provides enrichment courses for students with high academic ability ctyi@dcu.ie

### Some web-based resources for working with students who are exceptionally able

- National Association for Gifted Children (NAGC a UK charity that deals with all aspects of giftedness in children):
  - http://www.nagcbritain.org.uk/index.php
- 2. National Association for Gifted Children (NAGC a US organisation):
  - http://www.nagc.org
- 3. The Young, Gifted & Talented Programme (a UK programme run by the Department for Children, Schools and Families):
  - http://ygt.dcsf.gov.uk
- 4. National Association for Able Children in Education:
  - http://www.nace.co.uk/
- 5. World Council for Gifted and Talented Children:
  - http://world-gifted.org/



### Homework Plan for Senior Primary/Lower Post Primary Pupils

#### Before I start

Task	Tick when done √
Have a snack and a drink	uono (
Put all my books on the table	
Clear out my school bag (rubbish in the bin and notes to parents)	
Open my homework diary	- who are a second
Have scrap paper ready for help words and spellings, mind maps	

List the homework jobs. Put them in order by putting the hardest thing first and then the next hardest thing and so on. Put the easiest thing last. Plan how much time you will spend on each thing.

Number	Homework Job	Time I think I need	Time I really spent
	6 8		
19			
	3		
			12

Cross off each job when it is done and write down how much time it took.

When you are finished pack everything away in your bag. Make sure you have packed all the books and copies you need for tomorrow.



### **Homework Tips for Parents of Primary School Children**

- Make sure the child is not hungry or very tired when starting on homework. Provide a snack and or rest before expecting the child to start homework.
- Have a specific time and place for homework. Stick to this routine
  consistently and explain it to the child. If necessary, use the clock to
  show how long the homework will take. The setting should be quiet.
  TV/Playstation etc should be switched off. Ensure your child has all
  the necessary books and equipment before beginning.
- Try and remain calm and positive with your child.
- Praise and encourage your child throughout the homework session.
- For children with attention/reading difficulties, consider breaking homework into chunks with brief movement breaks.
- Have a pre-written alphabet and number line (on card) and if necessary attach to the table. Provide counters/money for maths work where necessary.
- For writing exercises, if child is becoming frustrated write the beginning
  of the sentence and encourage him/her to finish, or write some words
  and encourage him/her to fill in the blanks.
- If your child is struggling to read a sentence, give them the word and move on.
- Keep the teacher informed of difficulties that your child may be having with homework, particularly if the homework seems to take a long time or if the child often has difficulty in a particular subject area.



### **Shared/Paired Reading At Home**

### Guidelines

- Make sure the atmosphere is happy and relaxed as well as quiet.
- Sit together so that you can both see the book.
- · Give lots of praise for effort.
- Do not make your child read when they really want to do something else.
- Each session should take place for approximately ten minutes every day.
   However, you may need to judge your own child's attention span and not push them beyond what is comfortable for them.
- Do not do more than ten minutes unless your child really wants to.
- Paired reading should last for about eight weeks initially and then should be repeated at regular intervals throughout the year.
- You might agree to read together at least twice a week in between the eight week blocks.

### Stage one

There are two stages in Shared Reading. The first is called Simultaneous Reading.

- The child selects a story book that appeals to them and is suitable for their reading level.
- Parent and child read aloud together. The parent paces their reading to the reading speed of the child.
- In the early stages the child may be allowed to point with their finger to individual words. This practice should be discontinued as your child grows in confidence.
- When your child gets a word wrong you just tell your child what the word is.
   Then your child repeats it after you. You do not make the child struggle or 'break it up' or 'sound it out'.
- When your child gets words right you smile and show you are pleased and say 'good'. You don't nag or worry about the words your child gets wrong.
- Talk about the pictures. Talk about what is in the book as your child goes through it. It is best to talk at the end of the page or a section or your child might lose track of the story. Ask your child what they think might happen next. Listen to your child- don't do all the talking.

### Stage two

As the child develops fluency and confidence, the parent's role will be less supportive. Parents should gradually lower their voice to allow the child to dominate the reading partnership. Occasionally the parent, using their own judgement, should disengage completely and rejoin as soon as the child begins to struggle or lose confidence. Soon the child will feel sufficiently confident to read alone for longer periods having now reached the stage of Independent Reading.

- The child gives an agreed signal such as a nudge to the parent to indicate he
  is ready to read on his own, or the parent may decide the child is ready for
  "solo" reading.
- At this point the parent stops and the child continues on his own. Parents will
  intuitively sense when to stop, even without the signal, as they take note of the
  confidence and self-assurance of the child.
- If the child gets a word wrong or begins to struggle, the parent should say the
  word and the child repeats it as before. Parent and child continue for a few
  lines and then the parent stops reading in response to the agreed signal or his
  own judgement of the child's fluency.
- At this stage the session may be extended to fifteen minutes if the child is enjoying it.
- It will be essential to praise the child's efforts and success. Praise is much more effective than blame and is the surest guarantee of continued confidence and success.

### Remember:

### Praise the child for:

- Reading all the words in a sentence correctly
- Correctly reading hard words
- Putting word right before you do (self correcting)
- Making a good guess (which may not be 100% right!) at a new word

#### Other hints

- Prepare for each reading session by revising the events of the story so far, talking about the characters, pictures etc.
- These sessions should not be used to develop word attack strategies but should rather be used to develop reading for meaning and pleasure
- Problematic words can be worked at in school





### Tips for Parents- Developing Children's Self Esteem

Self esteem has been shown to be very important to a child's development. A child with high self esteem is likely to be much more confident in social situations and also in relation to school work. S/he will enjoy new experiences and will have very positive attitudes towards others. The child with low self esteem, on the other hand, will lack confidence in his/her ability to succeed and may worry about making mistakes. Research has shown that the child who feels good about him/her self is much more likely to reach potential in all areas.

As parents you have a vital role to play in developing your child's self esteem. Below are some suggestions that may be helpful:

- Set aside time each day to spend with each child individually.
- Listen to your children and look at them when they are talking to you.
- Try to help your child to achieve success in some area each day e.g. academic, sport, art, baking, singing.
- Find time to laugh and have fun with your children.
- Offer genuine praise for effort and positive attitude as well as positive behaviour and achievements.
- Help your child realise that it's OK to make mistakes as we all need to do this in order to learn. Being able to laugh at your own mistakes is a useful way to do this. Playing games can also help children to cope with losing.
- Encourage your children to label their feelings and teach them ways to express them appropriately.
- Build a collection of photos and reminders of things your child has participated in and succeeded at that can be looked back on with pride.



## Developing Social Skills –Strategies for Teachers and Parents Primary School

The development of social skills is a vital task for all children as it is necessary for developing and maintaining relationships. Coming to school may be the first experience for some children of needing to interact with groups of peers and adults. Those who develop effective social skills are more likely to become successful and happier members of the class group.

Some children may not have had the opportunity to learn the skills that enable them to establish and maintain friendships.

### Social skills include:

- Sharing
- Making suggestions
- Waiting
- Asking for permission
- Taking turns
- Helping
- Giving a compliment
- Agreeing with each other
- Asking for help
- Being polite
- Giving up a turn to somebody else.

### These enable a child to:

- Gain entry into group activities
- Include others in games sharing and turn taking
- Be supportive and approving to other children
- Manage conflict in an appropriate way

### Individual skills development

Sometimes children may need to learn actual behaviours, both verbal and non-verbal, for specific situations. They may need to practise these within a small group, with and without supervision. Then links should be made to enable these new skills to be used in less structured situations, in the playground and classroom. The teaching of skills needs to go hand in hand with facilitating age appropriate social understanding.

- Catch the child being friendly comment positively when the child displays specific friendly behaviour.
- Structure situations which enable you to comment positively on individual actions e.g. ask the child to show someone where something is or how to do something.
- Encourage children to look friendly. Good eye contact and smiling really is very helpful – children avoid others who moan, whine and look grumpy
- Give guidance and daily opportunities for the child to help others including making space, joining in games, lending things etc.
- Encourage the child to be aware of others, make positive comments and show interest. Children with difficulties need to be guided by the teacher in this e.g. 'I see that John has returned to school, why don't you go and say hello'. If the child does this, it can be mentioned to the class.
- Teach the child to ask; 'whose game is it?' and ask that person if they can play – or just ask 'can I play?' Other children will need to be taught that the answer to this is always yes, even if there are conditions attached.
- Teach turn taking and sharing in a graded way, beginning with a supervised pair until the child can manage in an unsupervised group and generalise skills to a variety of contexts.
- Structure paired work so that each child has a clearly identified role and task. Praise collaborative skills as well as the product.
- Remind the child of at least one social skill that they have been learning before going out to play.
- Work on perceptions and the assumptions the child makes, e.g. 'Could John have bumped into you by accident – how can you tell?'
- Relate feelings to actions, e.g. 'You had a great time with John this
  playtime I bet you feel good about that'.
- Raise the child's self-esteem by public acknowledgement of strengths and progress, especially with regard to behaviour development.
- Teach, model and reinforce conversation or social contact 'openers' e.g.
   'Hello, how are you?', 'can I join in?', 'can you help me?' accompanied by
   appropriate facial expression and gesture.
- Teach methods for dealing with situations where social contact is not wanted, for example, when the child wants to play/ work alone. Teach phrases such as 'Thank you but I want to want to work/play by myself now'.
- Where errors in social behaviour occur, encourage empathy by explaining what the child should have said or done and asking them to think about how the other person might feel as a consequence of what they do or say,
- Encourage participation in social groups such as clubs, community groups etc. Close communication between parents and group leaders will be important.
- Ask the child to observe what other children/adults are doing so as to encourage the use of these cues in guiding appropriate behaviour.
- Model how to relate to the child (with tolerance and encouragement) so that other adults and children too will respond positively and support the child's social development.
- Explain the 'rules' of everyday situations as they are encountered e.g.
   'what should I do if someone annoys me'. The language of emotion needs
   to be explored in the first instance so that the child understands what the
   word 'annoyed' will mean to someone else.

- Use leading questions to help the child to use the language of emotion to facilitate self-expression e.g. asking 'Does that make you feel jealous?' when the child has described how a classmate has won a coveted award.
- Encourage the child to ask for help if they are unsure of what to do.
- Encourage flexibility in thinking by emphasising that an activity is not 'wrong' if conducted in a different way and that the sharing of equipment and/or ideas can lead to a quicker result.
- Keeping a diary/ journal can be useful in providing the child with an opportunity to explore impressions, thoughts and feelings in a nonthreatening way.
- Role playing inappropriate social behaviour and encouraging the child to 'spot the error' can be useful in prompting conversation around skills such as turn-taking/ interrupting, repairing breakdowns (e.g. dealing with confusion) eye-contact, body language and tone of voice.

### Teaching children how to make friends

Circle time or small group tuition is also useful for developing friendship skills. This involves encouraging thinking about: 'what makes a friend?' or 'how should you play with your friends?' Sometimes putting a sociable child in the group with a less sociable child is useful as the sociable child acts as a good role model. Praise both the less sociable child and sociable child for their friendship behaviour and talk about how they are becoming such good friends. Friendly behaviours can be encouraged in small group play activities.

If you would like to set up a social skills group, please see the NEPS Resource Pack; **Setting Up a Social Skills Training Group.** 

### Inviting friends home

Parents can help by inviting classmates after school or at weekends to the house. Teachers are often knowledgeable about who in the class might be a suitable friend. Activities should be planned and use the friendship skills being taught at school. Examples: Lego, working on a craft, baking biscuits, playing football. Initially it may be necessary for the visits to be short. If the most popular activity at school is to play with cars or catching balls, then practice in playing with cars or catching balls at home is useful.

### Joining clubs

Clubs such as Scouts/Brownies are structured and supervised and for this reason are a good opportunity for the child to enjoy time with others outside of school and they provide a chance to practice learned social skills.