



Teaching reading and writing to children with Down syndrome

What are some of the learning characteristics for a child with Down syndrome?

Strengths include:

- Strong visual, kinaesthetic learner
- Strong visual learning skills:
 - Visual memory is more effective than auditory memory
 - Ability to learn and use sign/gesture
 - Responds well to visual resources- photographs, concrete materials, ICT, printed word
 - Learn well from practical demonstration
- Very sociable and a strong desire to be with, and learn from, their friends

Needs include:

- Short concentrated periods of activities interspersed with regular changes/breaks
- Support to remain on task- and only one demand made at a time. Can be very distractible and tire easily
- Difficulty with short term auditory/working memory affecting retaining and responding to verbal information and instruction. This also affects learning sequences and retaining instructions, so will need learning from listening to be limited with reinforcement through visual means
- Often a gap between their level of language comprehension and expressive ability
- Lots of opportunities to engage in practical activities and use of concrete tools to support learning
- Support to develop their gross and fine motor skills
- Very socially aware but need support to develop positive peer relationships

Reading

Key points:

- Research has shown reading can be 'a way in' to spoken language
 - Reading practice improves phonology and articulation
 - Practising 2-word and 3-word utterances accelerates their emergence in a child's speech
- When learning to read children with Down syndrome often make:
 - Visual errors- confusing words that look similar

- Semantic errors- the child says a word that has the same meaning but no visual similarity to the word presented. This suggests the child is decoding meaning and not just 'barking at print'
- Children with Down syndrome learn to read more successfully if they begin with a 'look and say' approach
- A phonics approach can support further development of reading skills once a sight vocabulary is established (approx. 50 words)

Strategies:

- Begin with matching pictures/photos games
- Establish a sight vocabulary beginning with family names and words the child is known to comprehend and use (these will be mainly nouns but should also include some verbs). Words are printed in lower case with no pictures to distract (may have corresponding picture on back to reinforce if needed)
 - Matching words by playing matching games- matching word to word/ word to picture
 - Select word when spoken
 - 'name' or read the word
 - Reinforce through games such as word lotto, home made books, topic books, labels within the classroom etc.
- Chose new words to introduce that are not yet comprehended by the child or used in their speech. Words chosen will enable the building of phrases and sentences for the child to practise
 - Use the new words in conversation with the child to help develop their understanding
 - Include the small connecting words, recognising these can be particularly difficult as many look similar
 - Make simple books based on the child's own experiences and write simple sentences to accompany the pictures/photos for the child to read
 - Using velcroed flashcards and strips or a sentence holder, encourage the child to sequence a sentence to match a picture/photograph- these can be the sentences presented in the books made
- Introduce commercial reading books/ story books that contain meaningful vocabulary and words the child can recognise. It may be necessary to add your own simple sentences to the stories
- Check comprehension by asking simple questions about the story- for example, the child can be asked to find the flashcard with the word that is the correct answer
- Begin to target grammar and syntax such as prepositions
- Once the child has established a sight vocabulary of approximately 50 words begin to also work on phonics:
 - Initially link all phonic work to the child's known sight vocabulary
 - Identify letter-sound correspondences in words known to the child
 - First concentrate on initial letter sounds (e.g. sort words from the sight vocabulary into groups beginning with the same letter, etc.)
 - Then graduate to CVC words and simple blends
- IT aided learning:
 - Under the child's control and gives the processing time needed
 - Rewards success
 - Allows for repetition

A number of approaches have been developed using the look and say approach including:

- See and Learn
- Reading, Language Intervention

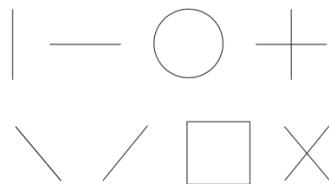
Writing

Key points:

- The development of writing skills may be affected by:
 - Poor fine motor skills- making the physical aspects of letter formation difficult
 - Short term memory difficulties- sequencing words into correct sentence formation
 - Difficulty organising and sequencing information, including remembering and organising their own thoughts
 - Hypotonia, loose joints/ligaments and hand formation

Strategies:

- Development of hand function and fine motor skills:
 - Before picking up a writing implement engage in hand exercises (open/close, tap thumb with each fingertip in turn etc.)
 - Put together a box of objects that encourage manipulation, finger dexterity, strengthen wrists and hands (e.g. squeeze toys, wind up toys, objects with small parts to manipulate, playdoh, clothes pegs, duplo bricks, pegboard, etc.)
 - Eye-hand coordination- threading, stacking, peg board etc.
 - Practising cutting skills
- Exploring use of different media (paint, drawing in sand, chalk on the playground etc.)
- Think about resources to support the physical writing process such as pencil grips, grip writing pens
- Activities to explore and develop mark making and pencil skill activities, including pencil mazes, tracing activities, colouring etc.
- Checking the 8 shapes needed for a child to be able to write:



- At the beginning, keep work large
- When attempting to write letters the use of guide lines will also be useful, dots to trace over or to indicate where to place the pencil to start the letter, squared paper (a letter in each square and one square for a gap between words, etc.)
- Using different recording methods including:
 - Scribing
 - Underlining/ringing a correct answer
 - Cloze procedure
 - Cut and paste (using picture/word)
- To encourage writing phrases, provide words for the child to put into sentences
- Consider using a sentence maker folder and sentence strip
- Remember to encourage independent writing as much as possible

Resources

- Buckley, S. and Bird, G. (1993) *Teaching children with Down's syndrome to read* Down syndrome research and practice 1(1) p.34-39
- Down Syndrome Association and Down Syndrome Scotland. Including pupils with Down's syndrome: Primary. Information for teachers and learning support assistants. Available free from: www.downs-syndrome.org.uk
- Down Syndrome Association Education resource pack. Unit 5:Reading and Unit 6: developing writing skills. Available free from: www.downs-syndrome.org.uk/for-new.../education-support-packs/
- Downs Syndrome Education Enterprise Vocabulary checklist 1- First 120 words. Available from: dseenterprises.org
- Write Dance- a method that provides movement opportunities so children can develop the physical skills needed to develop their handwriting skills

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