How to teach reading to children with Down syndrome (and other children experiencing language and reading difficulties) using the Reading and Language Intervention Program

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DSAM’s Reading Literacy Initiative

Collaboration between The College of St. Scholastica’s College of Education and Proctor Public Schools
- Dr. Brenda Fischer, RLI trained, and 4th year elementary education students
- Gina Cole, district wide reading specialist, RLI
- Karen Swanson, PhD, PT, RLI, BOD President

May 2015: RLI training with Dr. Sue Buckley, DSEI
40 teachers, literacy specialists, and parents trained

September 2015: Learning Program Partnership established in Duluth: Down Syndrome Foundation of Orange County.
Monthly meetings for parents and students.

What did we know about learning for children with Down syndrome when we started?

Down syndrome
- Most common genetic cause of learning disability
- Associated with a range of health and developmental challenges
- Increasing understanding, challenging expectations and improving outcomes
- Particular pattern of strength and weaknesses
- Wide range of individual differences

The specific developmental profile (behavioral phenotype) associated with DS
- Good social interactive skills
- Good empathy and positive personalities
- Sensitive to failure and negative emotional cues
- May use social skills to distract/avoid difficult tasks
- Good behaviour relative to mental ability and communication skills
- Good practice self-help/daily living skills over time
- Delayed early motor development - affects early learning through play and handwriting progress

Developmental Profile

Typical profile associated with Down syndrome (see, Hodapp, Fidler, Buckley in GERP 9 (3) on website)

- Memory skills
- Information processing
- Social understanding, empathy & visual skills
- Self-help and daily living skills
- Visual short-term memory

- Basic hearing
- Basic speech and language
- Non-verbal mental age

- Reading
- Handwriting
- Communication
- Motor development

- Numeracy
- Learning disabilities
- Attention
- Self help/daily living skills
- Non-verbal Mental Age

- Visual learning strengths

The effects of Down syndrome on development and learning

Good behaviour relative to mental ability and communication skills
The specific developmental profile (behavioral phenotype) associated with DS

- Significant risk of vision and hearing impairments
- Specific speech and language delays relative to non-verbal abilities

Cognitive strengths and weaknesses
- Specific verbal working memory difficulties
- Strengths in visual memory and processing

Academic learning
- Strengths in reading: can be at age level (10%)
- Number more difficult: often 2 years or more behind reading

The importance of the weaker areas—speech, language and working memory

- Language underpins cognitive and social development for all children
- Words for knowledge—vocabulary size
- Language for remembering, thinking, reasoning
- Language for self control and planning
- Language for dealing with emotions and worries
- Language for communicating with others
- Language for friendships

Any child with language delay will have cognitive delay

Speech and language development

For most children with DS spoken language is delayed for mental age but they show an uneven profile
- Communication skills are usually good
- Vocabulary is delayed but grows steadily
- Understanding is ahead of expression
- Grammar is more difficult
- Tend to be telegraphic takers, using key content words
- Understanding is ahead of expression
- Clear speech is more difficult and means speech is difficult to understand

What is RLI?

- A reading and language intervention for children with Down syndrome
- Developed and evaluated over a four year period
- Based on previous studies and adapted for children with Down syndrome
- Shown to be more effective than teaching as usual
- Carefully adapted for each individual child
- Systematic, structured and intensive

Adapting teaching for children with Down syndrome

- Learn more slowly
- Small steps, intensive daily instruction, frequent opportunities for revision and consolidation
- Short term memory: visual stronger than verbal
- Visual supports for learning
- Comprehension an extra challenge
- Emphasise and support reading for meaning from the outset
- Maintaining attention and managing behaviour
- Short, varied activities and teaching approaches that ensure success
- More support for phonological awareness and phonics
- Explicit instruction and frequent practice, alongside sight word instruction
- Recognising the wide range of ability
- Scope to tailor programme for individual abilities

Program Structure

- Daily 40-50 minute (or 2 x 20-25 minute) individual sessions
- Teaching sessions (1 to 4, 6 to 9): routine structure
- Consolidation sessions (5 and 10): reflect and revise
- Two interactive components
- Reading Strand
- Language Strand
### Session Structure

<table>
<thead>
<tr>
<th>Session Strand (20 mins)</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading easy level book</td>
<td>2-3 mins</td>
</tr>
<tr>
<td>Reading new Instructional level book</td>
<td>5 mins</td>
</tr>
<tr>
<td>Sight word learning</td>
<td>2-3 mins</td>
</tr>
<tr>
<td>Expressive language</td>
<td>5 mins</td>
</tr>
<tr>
<td>Language Strand (20 mins)</td>
<td></td>
</tr>
<tr>
<td>Vocabulary: Introduce new words</td>
<td>5 mins</td>
</tr>
<tr>
<td>Vocabulary: Word meaning of new words</td>
<td>5 mins</td>
</tr>
<tr>
<td>Expressive language: Use new words in connected speech</td>
<td>5 mins</td>
</tr>
<tr>
<td>Expressive language: Use new words in written language</td>
<td>5 mins</td>
</tr>
</tbody>
</table>

### Starting the program

- Organizing delivery
  - Quiet place in school – consistency
  - Single session or two shorter sessions
  - Time of day
  - Time for planning, preparation and delivery
- Preparing to start
  - Assessments of existing skills
  - Find and grade books
  - Gather resources – visual supports, phonics resources, etc
  - Photocopy resources – planning and record forms etc
- Share teaching targets and get help with preparing

### Reading Strand

**Reading an Easy Level Book**

**Purposes:**
- To begin the session positively, with success in reading;
- To consolidate a child's existing reading skills;
- To reveal strengths in the child's reading profile.

**Which book?**
- Allow the child to choose from 2-3 books* that are:
  - Books the child has read previously (familiar with);
  - At the easy level (lower than the instructional level; >94% accuracy)

**Reading an Instructional Level Book**

**Purposes:**
- To assess the child's existing reading skills, to ensure you are focusing on books at the right level;
- To reveal strengths and weaknesses in the child's reading profile;
- To address the weaknesses identified;
- To introduce new skills.

**Which book?**
- The book that was introduced in the last individual session (will be explained later)
- Graded book from the level at which the child is reading with 90-94% accuracy

**Sight word learning**

**Words child can read by sight**
- Strength in children with Down syndrome
- Many high frequency words in English are not readily decodable

**Which words?**
- Beginning readers: personal words, characters, motivating words
- High frequency words: topic words from school
- Tricky words from reading books

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*Images and graphics are not included in the natural text representation.*
Letters, sounds and phonology

- Each teaching session should include:
  - Learning letter-sounds
  - Phonological awareness (listening to sounds)
  - Linking letters and sounds
  - Targets ideally related e.g.

<table>
<thead>
<tr>
<th>a) Letter-sounds</th>
<th>b) Phonological awareness</th>
<th>c) Linkage activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduce letter-sounds 'j' and 'ea'. Review previous letter sounds 'a', 'e', 'y' and 't'.</td>
<td>e.g. blending (e.g.: could use picture support). TA: &quot;I went shopping and bought t-ea/j-ea/o-da/j-ai-ju&quot; (Child listens to sounds and identifies the word)</td>
<td>Can the child read the words on the shopping list (tea, peas, jam, juice)?</td>
</tr>
</tbody>
</table>

Language Strand

- Introducing and reinforcing meaning of new words
- Using the new word in expressive language (spoken and written)
- Increase children's breadth of vocabulary (understand and use more words)
- Increase children's depth of vocabulary (understand more about words they know)
- Highly interactive
- Components can be tailored to individual abilities

Visual

Choosing vocabulary to teach

- Which words?
  - Related to themes
  - Useful
  - Motivating and meaningful to the child
  - Where possible 'imaginable'
  - Not necessarily completely new
- How to identify words?
  - Classwork/topic work
  - DSEI checklists
  - Consultation with parents/SLT
  - Reading books

Introducing a new word

1. Introduce and discuss new word: Provides written, spoken, and pictorial forms of new vocabulary.
   - TA introduces word
   - Child says word
   - Child and TA discuss word using related photos
   - Child is shown flashcard
   - TA and child create a word web
   - Emphasis on relating to child's experience, and building a rich, multi-contextual understanding

soup

Language strand 1 - a new word
2. **Reinforce word meaning**: Increases the depth of the child's understanding of new vocabulary by discussing word meanings in different contexts

- **Emphasis on**:
  - Multiple encounters
  - Using games as a springboard for more discussion about the meaning of the word
  - Having fun with the new word
- **Activities are game-based e.g.**:
  - Matching
  - Sorting
  - Demonstrating

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**Expressive language - spoken**

- Children should be encouraged to use the new word in sentences
- If the child has limited speech then you can reduce the size of the sentences or ask the child to supply just one or two words in a sentence
- You should model spoken language using the prompts in the manual e.g. “I like chicken soup. What type of soup do you like?”
- Also use pictures and photos as prompts
- Always ensure that the language you use is simple and grammatically correct
- Children can imitate - but try to build on this by encouraging them to introduce their own new words

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**Expressive language - written**

- Write full sentences, illustrate with pictures
- Write and stick the sentences – the child should be encouraged to join in with the writing and sticking – if they are unable to write independently they may be able to copy or trace some words
- Sentences can become more complex by using connectives such as
  - and, or, then, but
- Can also increase complexity by creating sentences in different tenses (making reference to verb tense book)

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**Topic book**

- The topic book has a number of purposes:
  - Communication with parents
  - Record of child’s achievements
  - Record of what has been taught so far
  - Reference book – can be referred to and revised from
  - A source of ‘easy’ reading material

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**Importance of literacy**

- Crucial for expanding opportunities at school, home, work and in the community
- Benefits are economic, social and cultural - contributing to greater independence in later life
- Poor literacy skills can prove a major barrier to inclusion and adaptive functioning
- Developing literacy is an important and worthwhile goal for all children with Down syndrome
How does RLI support the general ed classroom??

- Partnership between the Special Education teacher and general education teacher.
- Students reading at their own level "just like their peers."
- Provides literacy strategies that transfer into the curriculum.
- Builds independence and confidence!!

Building Relationships

Turn and Talk

Resources

- Down Syndrome Education International
- Down Syndrome Education USA
- The Learning Program - Down Syndrome Foundation of Orange County
  - http://dsfoc.org/learning-program/
- The Learning Program Facebook page
- Karen Swanson kswanson@css.edu
- Gina Cole gcrole@proctor.k12.mn.us

QUESTIONS?