

# Developing a Balanced Reading Program for Teaching a Child with Williams Syndrome

Melissa L. O. Boduch  
Connie Pollard

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## Abstract

This is the story of Lily, a 12-year-old girl with Williams Syndrome (WS). A reading program was developed to meet Lily's specific reading needs while addressing her individual learning style; this includes attending to the unique characteristics of Williams Syndrome. During this school year, Lily showed significant gains in sight word recognition and comprehension with the implementation of a personalized balanced reading program.

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Lily is a 12-year-old female fifth grader. She has a deep passion for music and participates in the choir program after school. She is highly motivated by computer activities. Manual writing is painstaking for her as well as time consuming. She has also developed an interest in reading and enjoys books about animals. Lily has Williams Syndrome. She participated in a modified balanced reading program within the pullout special education service model during the 2002–2003 school year. Her IQ falls within the range of 63-71. She also carries the diagnosis of ADHD. She exhibits many ADHD characteristics as described by Levine (2000).

### Williams Syndrome

Williams Syndrome (WS) is a genetic disorder first identified in 1961 and affects 1 out of every 20,000 births (Beluga & St. George, 2000; Semel & Rosner, 2003). WS does not run in families and is not due to any medical, environmental or psychosocial factors (Levine, 2000).

Health concerns related to WS include heart problems and weak muscle tone. Hypersensitive hearing and feeding problems are common among infants and young children with WS. Individuals with WS present common facial features, often described as pixie-like with a small-upturned nose, full lips and cheeks, and small teeth (Levine, 2000). Characteristically, individuals with WS are over-friendly, demonstrate great empathy for others, tend to be unafraid of strangers, and exhibit greater interest in adults than their peer group (Semel & Rosner, 2003).

Cognition, behavior, and motor skills are effected to varying degrees. The average IQ ranges from 55-60, with

75% of WS children identified as mentally disabled. Performance on standardized IQ tests shows significant variance among subtests, consequently, the single Full Scale IQ score is oftentimes not a true reflection of ability (Bellugi & St. George 2000).

Language skills, while delayed in comparison to the norm, tend to be a strength. While use of an extensive vocabulary is common, words are often used inappropriately, not matching their intended meaning (Semel & Rosner, 2003). Their appealing social expressions: broad smile, eye-contact, nodding and agreeing with listeners, and social grabbers (e.g., “Hey!” and “Wow!”) give the impression that the conversation is being comprehended, when in fact it is not (Levine & Wharton, 2000).

Children with WS have definite learning strengths and weaknesses. While expressive vocabulary is an asset, at times it can be misleading due to a limited receptive vocabulary. Learning through hands-on activities and gaining information through pictures tends to be a preferred learning style for children with WS.

Richard and Hoge (1999) pointed to specific speech-language issues that oftentimes need to be addressed in the educational planning for a child with WS including articulation, voice, language, and hearing. Echolalia, over talkativeness, and cocktail party conversation may be present at varying degrees and may require planned educational intervention. When a child with WS reaches school age, many frustrations and difficulties become more prevalent. The discrepancy between expressive and receptive communication widens and needs to be addressed by a speech-language therapist as well as

within the classroom. Developing a functional communication program is beneficial. One possible focus is pragmatic intervention that helps the child develop socially appropriate speech (Richard & Hoge, 1999). Language stimulation includes increasing vocabulary as well as comprehension. Socio-communicative

games are highly recommended for school and home. It is imperative to include the family in planning the educational program to help develop and transfer skills within the child’s daily routine (Richard & Hoge, 1999). Table 1 presents effective teaching strategies for the most common characteristics found in WS.

**Table 1 Williams Syndrome Characteristics & Strategies**

Characteristics	Strategies
Short attention span & distractibility	<ul style="list-style-type: none"> <li>▪ flexibility</li> <li>▪ frequent breaks</li> <li>▪ highly motivating curriculum</li> <li>▪ minimal distractions</li> <li>▪ positive reinforcement for attending</li> <li>▪ offering choices</li> <li>▪ small groups</li> </ul>
Difficulty controlling emotions	<ul style="list-style-type: none"> <li>▪ decide when this a problem</li> <li>▪ assist in developing effective internal controls</li> <li>▪ adapting environment to minimize situations of extreme anxiety &amp; frustration</li> </ul>
Hyperacusis (highly sensitive to sounds)	<ul style="list-style-type: none"> <li>▪ provide warning before predictable noises</li> <li>▪ allow child to view and initiate the source of the noises</li> <li>▪ make tape recordings of the sounds &amp; allow manipulation of the sounds</li> </ul>
Perseverating on certain topics	<ul style="list-style-type: none"> <li>▪ include social skills teaching in IEP</li> <li>▪ use role play and social stories</li> <li>▪ ignore the repetitions &amp; offer other topics and activities</li> <li>▪ provide time for discussion of the topic</li> <li>▪ capitalize on topic as part of the curriculum</li> </ul>
Anxiety around unexpected changes in routine/schedule	<ul style="list-style-type: none"> <li>▪ provide predictable schedule &amp; routine</li> <li>▪ specific warnings making daily transitions</li> <li>▪ minimize unexpected changes</li> <li>▪ use picture schedules for daily routines</li> <li>▪ digital watches and date books</li> </ul>
Rocking, nail biting or skin picking	<ul style="list-style-type: none"> <li>▪ ignore the behavior when possible</li> <li>▪ provide occasional reminders with behavioral techniques</li> </ul>
Difficulty building friendships	<ul style="list-style-type: none"> <li>▪ include social skills in IEP</li> <li>▪ work with parents to promote a friendship with a peer</li> <li>▪ facilitate social interaction during teaching activities</li> </ul>

Note: Adapted from “Williams Syndrome Information for Teachers” text by W.K. Levine. ERIC Document Reproduction #ED421807. Copyright 2000.

There is limited research on how a child with WS learns to read. This individualized approach toward assessment, presented by Polloway, Patton, and Serna (2001) lends itself to addressing the specific characteristics, skills, and needs of each learner. Reutzel and Cooter, (1999) report that using a balanced reading program can lead to a harmonious and productive classroom. A balanced reading program directs that the student be taught "developmentally relevant literacy skills within the context

of appropriately leveled reading materials of interest to the learner." (p. 3). Reutzel and Cooter (1999) highlighted four aspects of a balanced reading program: (a) teacher understanding of what the milestones of reading development are (b) complete assessment of progress in reading and writing areas (c) appropriate instruction based on these findings and (d) an ongoing process for the teacher and the child.

### Choosing an Appropriate Reading Program

Polloway, Patton and Serna (2001) identify specific strategies to assist in teaching children with special needs. Selecting the most appropriate approach is a huge responsibility. Whichever method is utilized, the following goals should be met: (a) the student gains the ability to read for protection, (b) to read for information and instruction and (c) to read for pleasure.

Assessment is an intricate part of determining the needs of the child. There are many instruments that can be used in assessing the developmental levels and needs of the child. Informal Reading Inventories (IRI) are used often. IRI's are generally comprised of a word-recognition inventory, oral reading passages, silent reading passages, and comprehension questions which coincide with the passages. IRI's measure the independent reading level, listening level, and specific errors can be analyzed to determine instructional needs (Polloway, Patton & Serna, 2001). Observations and checklists are used to keep track of the child's skill development.

Many special educators also use Curriculum-Based Measurement (CBM). CBM's measure the academic progress of a student by evaluating student performance using samplings of the actual daily curriculum (Polloway, Patton & Serna, 2001). Another form of assessment mentioned by Calkins (2001) is the use of running records. This is a detailed tool for coding and analyzing reading behaviors. The miscues shed light on how the reader uses their own information and skills to read text.

Assessment is a continuous process that goes hand in hand with lesson instruction and activities. An effective instructional plan is based on assessment results and the needs of the child (Polloway, Patton & Serna, 2001). The assessment data collected to design personalized reading programs can also be utilized when planning an Individualized Educational Plan (IEP).

Sight words and decoding skills are important to become a fluent reader; Lily has difficulties with both. Eventually, she began to recognize high

frequency words after many repetitions. In Polloway, Patton and Serna's (2001) book *Strategies For Teaching Learners With Special Needs*, sight words are described in terms of imagery levels.

This is the association the word has to a concrete picture. Lily was able to read high imagery sight words (jump, girl) with greater ease than those that were low imagery (because, idea). She often would act out a high imagery words and discuss low imagery (because - “because I want to”) words when she encountered them in her word bank. Over time, Lily’s sight word vocabulary will be increasingly important due to the need for functional reading. In class, activities such as matching, sorting words and making words with letter tiles to reinforce sight words were used. A child with WS with an IQ in the average range of 55-60 requires at least 55 word repetitions in order to retain a word as part of her sight vocabulary (Polloway, Patton, and Serna, 2001).

What is the child thinking? Is it possible for an educator to have a child share her thinking? Harvey and Goudvis (2000) discussed possible ways to assess a child's comprehension; much is revealed when a student is responding to the text versus answering literal questions. I was able to get a better understanding of Lily’s reading

comprehension by listening to her conversations with other students about the stories she read. Lily might ask, “Did you like it when the girl gave her mom a flower?” Anecdotal records of these observations and interactions guided my instruction for specific skills that needed to be addressed.

I modeled various reading skills by conducting ‘picture walks’ with the text. This consisted of previewing the book by interpreting the title and pictures. While doing this, Lily’s prior knowledge was used to build her understanding. This enabled Lily to be better able to make text connections while she read. I read a book while ‘thinking aloud’ about the strategies I was using as well as my personal feelings about the text. I modeled the text connections to demonstrate my expectations. Polloway, Patton and Serna (2001) refer to these strategies as ones that will lead to higher level thinking as well as actively engaging the students. Table 2 is a list of the strategies I modeled for Lily as we did our ‘read alouds’ to improve her reading comprehension.

**Table 2 Text Connection Strategies**

Strategy	Cue used
Making connections with text	This book reminds me of... This character reminds me of...
Visualization of the text	What picture do you see in your mind?
Fluency	Read as if you are talking.
Cross Checking	3 Cue Reading System Does it make sense? Does it look right? Does it sound right?
Self-monitoring	Look at the picture. What do you think is going to happen next?

Music was used in the classroom as a component of literature circles, motivation and background music. Lily enjoys music and was encouraged to bring in music to accompany the stories we were reading. She often provided us with music that was not familiar to me. We would listen to the music and she would tell us "this part reminds me of..." (noting a particular part of the story), as she clapped her hands in sync with a huge smile on her face.

Oral reading gives the teacher the opportunity to listen and observe the reader's knowledge and decoding skills. Polloway, Patton and Serna (2001) state there are four unique purposes of oral reading for children with disabilities: (a) articulation and vocabulary practice, (b) memory reinforcement, (c) rereading for better comprehension and (d) group participation. Everyday I modeled 'read alouds' for Lily and she also participated in literature groups where she would read and discuss the text with peers. Lily often made references to the illustrations and made a connection to a song that she knew. Lily was also able to envision herself as a character in the book and discussed the feelings that were portrayed through the text or pictures.

Silent reading is an important skill to develop; however, Lily has not made that move in her reading yet. Lily currently lacks the attention to continue to read silently, and when given the opportunity, will 'read' (using her finger and moving her eyes quickly across the text and turning the pages) quickly to be finished and then move on to another activity.

Reading is progressive, and decoding is an initial step in the process (Reutzel & Cooter, Jr. 1999). Accuracy in decoding improves reading fluency and

comprehension. Decoding skills demonstrate one's skills in phonological awareness. Polloway, Patton and Serna (2001) state that phonological awareness is to be achieved by (a) identifying the auditory components of words, (b) segmenting - starting with sentences, words, syllables and phonemes (c) modeling and reinforcing the student's use of segmenting and blending skills and (d) integrating these concepts into meaningful language. Lily has a good sense of letter-sound relationships. I used the three cue reading system to assist Lily: Does it look right? Does it make sense? and Does it sound right?" (Table 2.)

Fluency is affected by four components: (a) decoding skills, (b) use of pitch, juncture and stress in the voice, (c) "chunking" and (d) rate of reading (Reutzel & Cooter Jr. 1999). Fluency was addressed through multiple readings of the text as well as shared reading with staff. Lily enjoyed reading with a staff person and would regulate her voice to match that of the person. We often talked about "reading as if you were talking." She also listened to books on tape and interacted with Living Books on the computer.

As I taught the skill of making connections with the reading, I used the cue, "This book reminds me of..." or "This character reminds me of..." with Lily. While reading Kraus' (1971) *Leo the Late Bloomer*, Lily expressed that Leo was like her because "it is hard for me to write. It takes me a long time to write nice."

While addressing visualization of the text, I began with showing a short clip of Walt Disney's (1991) *Fantasia*. We talked about how the music helped create the pictures in the video. *I see, You saw* by Nurit Karlin (1997) was read aloud to Lily and then she was asked to draw a

picture of what the words made her see in her mind using a computer graphic program. At first she said, "I see blue and pink." After digging deeper to see what was blue and pink, she said "the sky. It makes me feel good."

Lily does fairly well reading people's feelings based on their tone of voice and facial expressions. She sometimes asks, "Are you mad?" "Are you sad?" When reading aloud, the inflection in my voice was extremely important to enable her to get the gist of a more complex story. She often said the girl was happy or "I know she's scared. I can tell. I'm scared, too!"

Reading comprehension was monitored by using weekly Reading Response Journals (Fountas & Pinnell, 1996). The Reading Response Journals were used with all my students with some modifications for Lily to better meet her

skill level. Lily chose the book she wanted to read and write about. She was required to use two sticky notes to jot down a question, a word, or connection she made while reading. At first she was prompted with "What do you think about..." and we would jot down her thought on a sticky note and place it on the corresponding page. She progressed to being able to initiate where she would utilize this strategy. She needed to complete a drawing about the book using a graphic program on the computer. She had to identify the title, author, and illustrator and then formulate three sentences about the book and make one text connection. I made a checklist for Lily to use, which helped her with the sequencing and completion of her Reading Response Journal. (Table 3)

**Table 3 Reading Response Journal Checklist**

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|---|
| <ul style="list-style-type: none"> <li>• Title of the book (don't forget to underline)</li> <li>▪ Author of the book</li> <li>▪ Illustrator of the book (if there is one)</li> <li>▪ Did you find the book to be easy, just right or challenging and why?</li> <li>▪ Who are the characters in the book?</li> <li>▪ What is the setting (where does the book take place?)</li> <li>▪ What is the book about?</li> <li>▪ Make a connection. <ul style="list-style-type: none"> <li>Text to text (reminds you of another book and why?)</li> <li>Text to self (reminds you of a memory and why?)</li> <li>Text to world (reminder of something that happened in the world and why?)</li> </ul> </li> <li>▪ Would you recommend this book? Why or why not?</li> <li>▪ How did the book make you feel?</li> <li>▪ What kind of word choice does the author use?</li> <li>▪ Why did you choose this book?</li> <li>▪ Why do you think the author wrote this book?</li> <li>▪ Make a prediction.</li> <li>▪ What would you change about the book if you could?</li> <li>▪ What did you find interesting about the book?</li> <li>▪ How do you feel about the characters?</li> </ul> |
|---|

Data were collected three times during the year in September, January, and May to assess Lily’s progress. Four types of assessment were used: 1) curriculum-based measurement (CBM), 2) Guided Reading Level, 3) Developmental Reading Assessment (DRA), and the 4) Sight Word Bank. The CBM consisted of presenting Lily with three different reading passages from familiar texts. As noted in Table 4, Lily went from accurately reading 37 words per minute in September to accurately reading 49 words per minute in May.

Lily’s Guided Reading Level was determined by having Lily read leveled texts aloud. Guided Reading Level assessments determine a student’s instructional level in reading; this is the level that Lily can read independently with a 90%-94% accuracy rate. Figure 5 shows Lily gained six levels during the school year, going from Level E to Level K. Level E is considered beginning 1st grade reading material; there are 3-8 lines of text per page with sentences from 3-5 words in length. Level E is highly supported by illustrations on each page. Level K is

approximately beginning second grade level with 10-15 lines per page and illustrations on every other page.

The Developmental Reading Assessment (DRA) measures a student’s independent reading level, with an accuracy level of 95% and above, in decoding and comprehension. The DRA is administered by having the student reading normed passages aloud. Lily went from a score of 4, the Early Reader stage, to a score of 14, considered the Transitional Reader stage. This is a gain of one year, beginning at the mid-kindergarten level and going to the middle of 1<sup>st</sup> grade in comprehension skills.

The Sight Word Bank consists of 350 words from both the Dolch word list and the most frequently used word list sighted in *Guided Reading Good First Teaching for All Children*, by Fountas and Pinnell (1996). Lily made her greatest gains in sight word recognition skills. Lily started the school year by being able to read 58% of the 350 words and in May of the same school year was reading 95% of the sight words.

**Table 4 Lily’s Progress 2002-2003**

<b>Instrument</b>	<b>September 2002</b>	<b>January 2003</b>	<b>May 2003</b>
Curriculum Based Measurement* (CBM)	median score 37 wpm	median score 45 wpm	median score 49 wpm
Guided Reading Level	\E (Beginning Reader)	H	K (Beginning 2 <sup>nd</sup> grade)
Developmental Reading Assessment (DRA)	4 (Approximately .7 grade equivalency)	10	14 (Approximately 1.7 grade equivalency)
Sight Word Bank* (#350)	58%	77%	95%

Throughout the school year, Lily worked hard and found success in books that she had once viewed as “too hard for me...I’ll never get to read these.” She was able to explain, in her own words, how she understood the stories she read. She also gained confidence. Lily asked to read aloud to others to “help them out since I know how hard it is.”

The model used for this balanced literacy program is “Reading To, With, and By” which is discussed in Reutzel and Cooter’s book (1999). A flexible balanced reading program meeting the individual

needs of the student shall be taught on a daily basis. I modified this balanced literacy program to meet the exceptional needs of Lily. The activities included read alouds, shared reading, guided reading, shared writing, interactive writing and literature circles. Guided reading sessions occurred two to three times a week, including mini lessons that enabled explicit teaching to take place. Lily’s daily reading was accomplished as a read aloud to the teacher or to a peer. The modified balanced reading program was broken into three 20-minute blocks (Table 5).

**Table 5 Modified Balanced Reading Program Chart**

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
<b>Block 1</b>	Read Aloud	Read Aloud	Read Aloud	Read Aloud	Read Aloud
<b>Block 2</b>	Shared Reading	Guided Reading Groups	Guided Reading Groups	Guided Reading Groups	
<b>Block 3</b>	Literature Circles	Interactive Writing	Shared Writing	Reading Response Journal	Literature Circle

“Personal independence requires at least functional literacy” (p. 232) is a belief shared by Followay, Patton and Serna (2001). Strategies need to be taught using meaningful text and materials in a manner that is conducive to the child’s learning style. A child with WS has specific needs. Semel and Rosner (2003) describe the population as a “group of children who test as though retarded, speak as though gifted, behave sometimes as though emotionally disturbed and function like the learning disabled” (p. 1). What a perplexing disability to address in the classroom.

The balanced reading approach is dictated by the needs of the child and intertwined with the learning activities selected by the teacher (Reutzel & Cooter, Jr., 1999). Utilizing the strategies of a structured, modified, balanced reading program can facilitate reading for a student with Williams Syndrome.

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#### **About the authors:**

**Melissa L. O. Boduch** is a special educator in the Douglass School District, South Dakota.

**Connie Pollard** is Assistant Professor, College of Education, Black Hills State University, Spearfish, South Dakota