

Teaching Students With Autistic Spectrum Disorders to Read

A Visual Approach

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As an itinerant resource teacher, my ongoing challenge has been the quest for effective methods and materials to meet the needs of my students with autistic spectrum disorders (ASD) and other developmental disabilities. Although the development of communication and social and behavioral skills is crucially important for children with ASD, so too is the acquisition of academic skills. Professionals usually suggest that skills in reading be taught but rarely mention exactly how to go about teaching reading to children with ASD. Teachers and paraprofessionals wonder: How? What do I use? What does it look like? What are the steps?

Implementing Oelwein's Methodology

In the fall of 1995, I read *Teaching Reading to Children with Down Syndrome: A Guide for Parents and Teachers*, by Patricia Oelwein. Many children who have Down syndrome have significant, even severe, difficulty with phonological awareness, as well as

Photo

One of my students participating in the selection process of the methodology.

limited auditory short-term memories, making learning to read through a traditional phonics approach difficult. Although auditory skills are an area of weakness, their visual learning skills are generally an area of strength. That year 35% of my caseload consisted of students with Down syndrome—an ideal opportunity to implement Oelwein's methodology.

Early in the year, I met with the teachers and the teaching assistants of these students to carefully review the methodology and to distribute the materials each person would need to begin implementing this methodology immediately. Within days, I received tele-

phone calls reporting the students' success. In the following months, the children continued to show steady progress in the development of their reading skills. It became commonplace for my students with Down syndrome to take their turn reading to the class at group time and to join reading groups. This new tool facilitated a higher level of inclusion in the classroom program and enabled others to perceive my students as learners.

In the meantime, a growing awareness of the visual learning style of children with autism was becoming understood in the academic community (Grandin, 1995; Janzen, 1996). Because

Oelwein's method had been so successful in enabling many of my students with Down syndrome to learn to read, I decided to see if it would help my students with ASD—many of whom struggled in phonics-based reading programs or used materials that were irrelevant to their interests and needs.

Oelwein's methodology quickly proved itself to be extraordinarily successful in helping many of my students with ASD develop reading skills, including several students whose needs were more difficult to serve and who did not come easily to the learning situation. One student in particular, a passive, nonverbal boy in second grade, became engaged in the reading process and was able to demonstrate word and sentence recognition and comprehension by placing them on appropriate pictures.

Another student—an active boy who was easily upset by changes and task requests—acquired a sight vocabulary of over 400 words within the first 3 months and was able to combine them to make sentences. He spoke his first words using his flashcards and sentence board as visual prompts to speech. Perhaps because of his success, he always came to the table eager to get down to work.

Visual Learning Style

Oelwein's methodology teaches to the visual learning style of children who have ASD. In using this methodology, *we teach to the child's strength.*

Oelwein's method is effective in helping many children with ASD develop skills in reading because all the learning styles are addressed:

- The methodology is primarily *visual* and teaches to the strength of children with ASD and many other developmental disabilities.
- The spoken word paired with the printed word composes the *auditory* component.
- The *kinesthetic* element is present in the matching and selecting process, as well as in sentence construction using flashcards.
- The *digital/spoken* or otherwise expressive (e.g., hand sign) aspect of the method is an expectation if the child is able.

Principles of the Methodology

Whole Word Sight Recognition

Many children with ASD (or other developmental disabilities in which auditory processing is compromised, such as Down syndrome) will find it easier and more efficient to learn to read by recognizing *whole words*. Students need to experience success and develop a sense of accomplishment in reading. This can be quickly achieved through a whole-word sight approach. Students do not need a thorough understanding of the alphabet to learn to read. Letters and their sounds can initially be too abstract, and letters in isolation are meaningless—many children with developmental disabilities do not perceive them as the building blocks of words. Although students may know the sounds of letters in isolation, they are not necessarily able to combine them in a fluent manner; words become a slow combination of separate sounds, and comprehension is lost. Many parents and teachers of children with ASD have reported that their children are able to learn phonics very well but are unable to apply them to fluent decoding.

This does not mean that phonics are omitted or neglected; rather they are simply not the starting point for building reading skills for these students. When students acquire a sight vocabulary of 25 to 50 words, they can build sound and symbol associations by using familiar words, giving the letters a

meaningful context (e.g., *M* is for *Mommy*, *D* is for *Daddy*, etc.). Teachers often find it most efficient to work from a "top down" approach—backward chaining from whole words to the sounds contained within words.

Using Personal and Meaningful Vocabulary

The life experience of children with ASD and other developmental disabilities is often more limited, and in order to enable comprehension, the children's reading material needs to be relevant to their own experience. One key to the success of this methodology is that the vocabulary used to introduce the concept of reading must be *meaningful to the child*. The child buys into reading—is "hooked" into the process. The names of loved ones—such as *Mommy* or *Daddy*—or the names of siblings, pets, favorite foods, toys, places, TV shows and characters, and, especially, perseverative interests (e.g., Thomas the Tank Engine) all serve as excellent vocabulary builders. During this "hooking" process, we "slip in" sentence builders, such as *I, see, like, the, here, is, my*, etc., so that sentence construction can begin almost immediately.

As the student becomes comfortable and confident in the reading process, the *match, select, and name methodology* can be carried across all disciplines, enabling a student to acquire subject-specific vocabulary and participate in classroom units in a meaningful manner.

A sample of materials used in the methodology.



Readiness Skills

The ability to match is the prerequisite skill for participation in this methodology. The ability to match shapes, simple pictures, commercial lotto games, colors, and so on is a foundation of cognitive development and a skill that must be directly taught for skill development in both reading and mathematics.

This visual approach has been very effective in developing reading skills for my young students with autism. The step-by-step, sequential process is clear and easy for teachers and paraprofessionals to implement and track the students' progress. (D. Gray, Consultant, July, 2003)

Assisted Literacy

Pairing the printed word with a hand sign allows the nonverbal child to express word recognition and participate in the reading process in a more fluent manner. Signed Exact English is used rather than ASL (which is a discrete language). The teacher or paraprofessional does not have to be a trained signer—he or she can learn the signs one at a time, just like the student. By teaching the nonverbal child alternatives to spoken communication, we can remove much of the tension, frustration, and anxiety from the processes of both communicating and reading. The use of hand signs provides the nonverbal child with an efficient way to demonstrate the ability to read and to demonstrate other subject-related learning.

The Oelwein Method: The Stages of Learning

1. Acquisition—The child is learning to recognize words.

2. Fluency—The student recognizes the word with some degree of consistency. If he or she is able to recognize a word more often than not, the child more than likely knows it but may be experiencing retrieval difficulties.
3. Transfer—The student recognizes the word printed on different surfaces, in different contexts, and with different fonts.
4. Generalization—The child recognizes the word in any context.

Steps in the Acquisition Process

Oelwein is particularly specific about the materials used in the acquisition process:

- Word grids (tag board or stock paper) should be 8" by 11" (or 10.5" so they can fit in freezer bags for storage).
- Flashcards should be 2" by 5" with words printed in 1" black lowercase lettering.

Level 1: Matching: The child matches a word to the printed word.

Level 2: Selecting: The child selects a word on request by picking it up and giving it to the teacher.

The matching and selecting processes should be repeated three times each, at least in the initial stages of becoming familiar with the method.

Level 3: Naming: The child says or signs the word in response to seeing the written word after being asked "What does this say?" For children with ASD, the method can be modified by allowing the child to choose and name the words in whatever order she chooses, giving her autonomy over the process and alleviating some degree of retrieval anxiety.

Sentence Construction

Learning to put words together coherently to make sentences is the most important factor in helping a child learn to think and use language effectively. The student's daily reading routine must include time for using his or her vocabulary words to create sentences. Work toward making sentences longer and more complex using words such as *because*, *then*, *with*, and *and*, as well as other sentence builders.

The child should become fluent in reading words in as many sentences as possible. Janzen (1996, p. 39) com-

ments that children with autism do not automatically learn how to put words together to form their own sentences. Thus, a child needs to work toward being able to create sentences, first by working from a visual example and then by *combining vocabulary words independently*.

As one parent commented:

Making up sentences from flash cards allows John to become even more familiar with the words, and he is able to use them as he wants. The exciting thing is that he is using sentences that he has learned through reading in his everyday life. This kind of thing is happening all the time now. (C. Jones, Parent, Jan. 2003)

A sentence board is an easily constructed board that helps children learn to use their vocabulary words in sentences and generalize the recognition of their words (see Figure 1). When the student is creating her own sentences, she can copy a sentence from the board to a notebook or computer screen. Ultimately, the child should be able to bypass the sentence board and make up sentences independently.

Review and Reinforcement

As with any methodology, review is an important part of the process. In her book, Oelwein outlines many enjoyable activities that make learning seem like a game, including the lotto games, the posting box, and the fishing game (a particular favorite). These activities use simple household and school materials.

After words have been well learned and reviewed in games, the teacher can assign "review rings" organized either alphabetically or by subject (e.g., the science vocabulary ring). A personal dictionary and an alphabet scrapbook help consolidate word recognition.

Figure 1: A Sample Word Grid and Accompanying Flashcards

Mommy	Susie	Mommy
		Susie
Daddy	Jonny	Daddy
		Jonny

Review is an ongoing and essential part of the learning process for children who have special learning needs and works best when it's as pleasurable as possible.

The rate of word recognition consistency is often an issue when assessing skills. For children with ASD, variable performance is the rule rather than the exception (Janzen, 1996, p. 33). Factors such as hunger, fatigue, seizure activity, distractibility, or even the weather may all contribute to a child's inability to recall or retrieve certain words on a given day. Look for a general consistency rate of approximately 70% over a period of days.

Books

Another key component to the implementation of this methodology is having the students read books as soon as possible so that they develop a sense of accomplishment and pride in their ability to read. Through sharing this new skill with others, these children will quickly understand that this activity will bring ongoing pleasure and positive reinforcement.

Initially, create books for the child using his or her personal vocabulary. Oelwein recommends starting with an *All About Me* book illustrated with photographs supplied by the child's family. A book about the child's experience at school is also an appropriate starting point. Subsequent books can be created on any topic that interests the child and makes the process of reading meaningful.

When a student has developed a level of confidence, it is time to teach to a print book. Choose a short book the child likes that has relatively uncomplicated text printed in a clear and simple font. Do a word analysis and teach new words page by page until the student is able to read the book from cover to cover. This is an exciting accomplishment that reinforces the positive experience of reading. Rarely will students balk at participating in the reading process: This is an area where success is possible.

Helping Students Comprehend

As the student is presented with more complex reading material, keep in mind that difficulties with comprehension will probably occur. The following points may be useful in helping the student work toward the development of comprehension skills:

- Children with ASD may have significant difficulty expressing answers verbally because of their inherent communication disability. Expressing answers in writing may also be a challenge because of the fine motor difficulties that are often intrinsic to the disorder. Keyboarding may be a more efficient way for many children to express answers in print.
- Students may be more successful in comprehending text when the subject matter is based on their special interests. The use of nonfiction may be a viable alternative when students with ASD demonstrate significant difficulty with understanding the social and emotional aspects of fiction. If social interaction is difficult to interpret in real life, it will be no less difficult in print.
- When the purpose of reading is specifically to evaluate comprehension, begin by using stories one or two grades below the child's decoding and word recognition level.
- Allow for yes and no, true and false, or multiple-choice answer formats. If the student has difficulty answering orally, allow her to point to or circle the answers. Factual questions will be answered more easily.
- Allow for repeated readings of passages and provide a copy of the book to the student if it is a story to which the rest of the class will listen. An accompanying story video is also valuable.

Issues of Comprehension: Word, Sentence, and Story

Whereas this approach to developing reading skills uses flashcards, the methodology does not call for endless rehearsal in word-calling (see Figure 2). From the start, teachers are concerned

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with determining whether the child comprehends the words he or she is learning; thus, most of the beginner's vocabulary is based on people and things that are personally meaningful. If the child is able to match the printed word to the correct picture, object, or person, he or she has both recognized the word and comprehends its meaning.

As mentioned earlier, the student quickly progresses to using his or her vocabulary words to make short sentences. Check comprehension by having the student match these sentences to pictures. Conversely, the student may be able to generate a simple descriptive sentence either verbally or with vocabulary words (flashcards or print) to describe a picture. As the child's vocabulary expands and he or she becomes more comfortable with language, the teachers can make some assumptions about the child's rate of comprehension, but ongoing checks are essential.

Figure 2: A Sample Word Grid and Accompanying Flashcards

Teacher:	I	like	my	dog
Student:	I	like	my	dog

When evaluating comprehension, allow for accommodations and modifications. If exercises in comprehension

Points to Consider in the Relationship Between Literacy and Communication Skill Development

- For some children, print can be a visual prompt for speech (Sundberg & Partington, 1998).
- The child's rote memory for sentence structure may give him or her a framework within which to express thoughts and ideas in spoken or gestural language.
- As the child becomes more familiar with grammar and syntax through reading, he or she may be more receptive to the verbal communication of others.
- As a result of improved or increased vocabulary and proficiency in understanding the framework of language, more reciprocal interactions are possible. The child is more receptive to the communication of others and more able to assimilate information. Not having to attend so much to the structure of the language, the child is better able to attend to the content.

are graded, it may be fairer to evaluate work on the basis of what the student is able to do rather than penalize him or her for weaknesses that are an expression of ASD.

The Extension of Skills

During one of my workshops, a parent shared a story about her 6-year-old son who has ASD. He had been engaged in the Oelwein reading method for several months and had a growing sight word vocabulary. His flashcards were kept in a sealed sandwich bag. One Saturday, as the family was watching cartoons, the boy was playing with his flashcards and happened to drop them on the floor. As he was picking them up, he arranged the words "I see Mommy" and pointed to the ceiling. His mother was indeed upstairs, and this was the first deliberate communication with words that he had ever made.

Another parent related that after a period of time using the Oelwein

method, her son began typing his vocabulary words on the computer and then began combining them to make meaningful communications and messages.

Since John has begun to read, his verbal output has increased dramatically—he is incorporating verbs into his speech regularly. Now we are consistently hearing from people at his school—"John is talking so much today," or "John is really trying to talk to the other students a lot today." We were told at one time that he would never talk. (C. Jones, Parent, 2003)

Of course, while learning to read is not a guarantee that a child will develop verbal ability, over the past 5 years I have seen many nonverbal children say their first words while engaged in the vocabulary acquisition process. As the children's sight vocabularies have increased, so too have their spoken vocabularies. For many children, the development of reading skills has been accompanied by the gradual insertion of sentence structure into their spoken language.

Final Thoughts

For many students who have autistic spectrum disorder, reading is a way to convey information about and interpretations of the environment and the child's domain of experience. If a student has been previously unable to learn to read or has been struggling with a phonics approach, the Oelwein method provides an alternative and effective process to develop reading skills and to enable participation in other academic areas in a meaningful and comprehensive manner.

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Using students' reading vocabulary and ongoing practice in sentence con-

struction can enable them to develop an understanding of the structures and patterns of both spoken and written language. Through print, teachers provide a visual means to assist individuals with ASD in organizing their internal language for thought and contribute to the development of both academic and communication skills.

It used to hurt terribly that Roarke, my 10-year-old son with ASD, did not know the joys of reading. My husband, daughter, and I are avid readers. Some time ago, Roarke was introduced to the Oelwein method, and that changed the way he read, spoke, and wrote. He looks constantly for the familiar worlds of pleasure and comfort that his well-loved books provide him with. He has even begun to seek out e-books about some of his favorite TV characters. Now I can say with great joy that all of our family love to read. (V. Fernandes, Parent, Feb. 2003)

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This article is dedicated to Patricia Oelwein, a superlative educator and mentor. Her ongoing work and her generosity in teaching others have a positive effect on the education of children all over the world.