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A Practice Report, by Campana and Oui-met at the Junior Blind of America in Los Angeles, presents another article that stimulates readers to consider variations in learning responses. The authors provide a thought-provoking report that compares the effects of the iPad and the Light Box, a product created by American Printing House for the Blind, on the skill development of a group of infants and preschoolers with visual impairments. These young students demonstrated a greater increase in skills such as reaching or activation after successive experiences with the iPad, which suggests an advantage in causal learning with this device for young children who are reinforced by immediate visual feedback. However, thoughtful readers of the article will also look for the questions that emerge, as well as the answers. Would the results have been different for children of different ages or among children of different learning abilities? Are there variations by communication mode or when manipulatives are introduced with the Light Box? Since few professionals have taken on the challenge of systematic investigation of products and materials, this article is a reminder of the importance of gathering evidence about how materials affect the ways in which students learn.

This issue's practice articles remind us that there are many methods for teaching effectively. A successful instructor will consider the individual needs of learners when deciding on the best teaching approach. The answer to the question of how to teach may be different even when several children or adults are learning the same skill, but an effective instructor recognizes that there can be many roads to the same destination. Consider sharing your approaches to teaching with others by writing a practice article for *JVIB*.

JANE N. ERIN, PH.D.  
ASSOCIATE EDITOR FOR PRACTICE, *JVIB*

Do you have a professional success story that could encourage and inform others in the field of visual impairment? Send your idea to Jane N. Erin at <jerin@u.arizona.edu>, and she will assist you in developing an article for a future issue of Practice Perspectives.

## **A Student Success Story Through the Use of an Individualized Meaning-centered Approach to Braille Literacy (I-M-ABLE)**

*Jill McMillan*

**A**s a teacher of students with visual impairments in a regional resource program at an elementary school, I first learned of Diane Wormsley's Individualized Meaning-centered Approach to Braille Literacy (I-M-ABLE) (Wormsley, 2004; 2011) at a state conference. This method has been used successfully with students who were not candidates for traditional literacy instruction. With I-M-ABLE, students begin reading instruction using key words and phrases that are meaningful to them to develop stories that engage and motivate them to read braille. Use of proper braille reading techniques is an important component of this approach.

An opportunity arose to participate in a research study that Dr. Wormsley was conducting with the purpose of creating an I-M-ABLE practice guide for teachers of students with visual impairments to use with students who were not responding to, or were unable to participate in, traditional methods of braille literacy instruction. After obtaining approval to conduct the study from the Wake County Schools, Raleigh, North Carolina, Research Review Committee, I chose to work with "Kay," a 9-year-old third-grade student who had been diagnosed with Cone Rod Dystrophy. Informed consent was obtained from Kay's parents, and Kay agreed that she would like to participate. In addition to services for visually impaired people, Kay also received special education services in a cross-categorical resource setting since she also had a

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mild intellectual disability. She was performing independently at a first- to beginning-of-second-grade level in all academic areas. Data was gathered for the study over a seven-month period, from November 1, 2011, to May 31, 2012.

Kay had previously been a struggling large-print reader. She had learned decoding methods, but decoding often took so much effort that the words did not convey meaning. She would often decode the same word every time she came to it within a sentence. Kay was so distressed about reading in front of others that she had asked to come to the visual impairment resource room when her regular classroom was participating in “book buddies,” which entailed reading to kindergarten students. Kay’s vision loss progressed rapidly, and she began learning braille in second grade. Almost all of her remaining vision was lost by the beginning of third grade. Initially, braille seemed to be working for Kay as a reading medium. She developed good tracking skills, with very little scrubbing. However, as expectations increased in the braille reading program, she stopped experiencing success and quickly lost interest. She was always cooperative during instruction, but without measureable success or enthusiasm.

During baseline assessments for the study, Kay was able to recognize the letters *a*, *b*, *c*, *g*, *l*, and *t*, and she also knew each of these as a whole-word contraction. Kay enjoyed using the braillewriter, and could use it to type 11 letters of the alphabet. She recognized her own name in three out of three trials in isolation, but did not recognize it in a basic sentence such as “Kay can go.”

Kay received braille instruction for 45 to 60 minutes, 5 days a week. She also had great support from the braillists who are part of the visual impairment team at the school. They were able to follow up on instruction, providing extra hands-on opportunities for Kay with her chosen key words and the filler words used within her stories.

When she was told that she would be making her own stories and learning to read vocabulary words she chose for herself, Kay was excited. We talked about what words she would like to learn for her first story, and she chose the words *cab*, *ride*, and *friend*. Kay loved dictating detailed stories, and needed some guidance to keep her story rather basic in order to set the stage for initial success. Her first story, “My Cab,” was five lines: “I ride my cab. I ride with my friend. We will ride my cab. My cab will go with me. My friend will go with me.”

Following Dr. Wormsley’s guidelines, instruction was designed around Kay’s chosen key words and the filler words found within each story. Using Dr. Wormsley’s ideas, we created a variety of materials to give Kay hands-on experience with the words she was motivated to read. These materials included sets of flashcards for each word in the story, five cards for each word. Kay had a set of cards for the visual impairment resource room and the general classroom, and one for home, where her mother was supportive in helping her practice. A set of flashcards for a magnetic card reader, a device designed to read digital information (such as vocabulary words recorded by the teacher or student on cards designed for the device), was also used for independent practice—an activity Kay particularly enjoyed. Contracted braille was always used, with a lead-in line before the word and a line after the word to encourage correct hand movement for braille reading. Kay began practicing the first three words from her story and, as she mastered each, a new word was added to the stack. Within two weeks, Kay had read her first story, and she had added seven new vocabulary words to her word box.

In the course of the study, Kay wrote eight stories. Two of these had three chapters each, and in an attempt to keep up her motivation, the chapters were addressed one at a time. However, she began to lose interest because it was taking so much time to learn the words

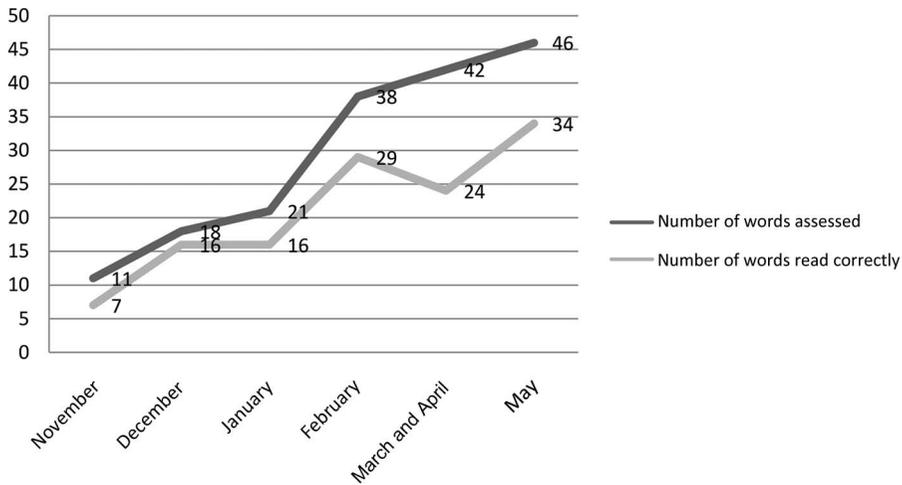


Figure 1. Student progress.

she needed in order to read her entire story. With guidance, she agreed to keep her stories shorter and less involved, and she again began to experience success. As Dr. Wormsley's suggested, Kay was also encouraged to use more fingers as she read a line of braille.

Data was collected to keep track of key words, filler words that were introduced in each story, and word families that were practiced. Figure 1 shows the data I collected monthly for words and indicates which of them Kay was able to read during each assessment. Although she was inconsistent during assessments, the number of words Kay read rose steadily until the April assessment. That assessment included both March and April, because Kay had been on a three-and-a-half-week break from year-round school. She did not practice during her break, and she had not retained all of the words she had read in her previous assessment. Kay took several weeks to regain this reading vocabulary.

In the first month of the I-M-ABLE study, Kay had learned seven words. By the end of her participation in the study, she had been introduced to 46 words and had added 34 of those words to her braille reading vocabulary (see Figure 1).

Many of Kay's stories centered on family members and her pets. As we worked, I real-

ized how well the I-M-ABLE approach offers opportunities for enrichment activities related to her interests and stories. For one story, she wanted to read the words *fox* and *wolf* and learn to read some color names. This presented a great opportunity to do research together. We found books in the school library and basic information on the Internet about wolves and foxes. She then created the following simple story called "We Like Animals" that centered on why a dog makes a better pet than a fox or a wolf:

Dogs make good pets because dogs like people. A fox and a wolf will not make a good pet because they do not like people. Dogs like to play with people. A wolf will play with a wolf. A fox will play with a fox. A wolf is gray. A fox is red. A dog can be brown. The End

With assistance, Kay used prebrailled words to complete a tactile Venn diagram comparing wolves and foxes to dogs. She was very proud of this accomplishment and asked me to display her work outside of the visual impairment room door in the school hallway.

Kay was motivated by a variety of activities, including reading flashcards to me or to a brailist and counting as the stack of words

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she knew grew when compared to those that still “needed practice.” After her first few stories, Kay began to braille her own flashcards—she received assistance on letters she did not know yet. By the end of the study she could write all letters of the alphabet. Playing concentration using her flashcards was an activity Kay enjoyed. Teacher-produced materials based on I-M-ABLE guidelines were also used daily for independent practice. The Word Playhouse from the American Printing House for the Blind (APH) was used to build word families and sentences. She loved having one of her previously mastered stories cut up line by line so that she could glue it back in the correct order, using another copy as a guide. These activities all gave her much-needed hands-on practice with her selected vocabulary words. Kay was already fairly strong in basic phonemic awareness from her work in the cross-categorical resource setting, and she enjoyed using the Chunk Stacker game from EAI Education, which addresses initial blends and word endings. The game tiles are easily modified using clear braille labels that allow the print to show. The tiles fit neatly into a small tray, joining the beginning and ending sounds together. The tray, when placed on a nonslip mat, holds the tiles in place as they are read by the braille student. Modified games can be played for independent practice or with peers who are either print or braille readers. The students enjoy sounding out words and deciding if it is a real or a nonsense word.

As each new story was written and as Kay’s reading vocabulary increased to include words important to her, motivation also increased and she began to look forward to braille instruction. Kay was not having the same difficulty with needing to decode the same word each time she came to it in a sentence. Her change in attitude toward reading was noted and commented on by many who worked with her. Kay started asking to read her stories to other students and to any

adult coming into the visual impairment resource room. She proudly took each story home to read to her parents, and requested that an extra copy of each of her stories be embossed so that she could put it on the shelf in the visual impairment resource room with other braille books available for supplemental reading materials. Kay’s last story during the study was entitled “I Can Read Braille.”

Eight stories were written by Kay during this study. She could read all of the words within the context of her stories. In isolation on assessments she could read 34 of the 46 words. After each word was mastered and placed in her word box, we used the abacus to add the new total. This was an important routine for Kay.

Using Dr. Wormsley’s I-M-ABLE approach to braille literacy instruction, Kay continued to gain confidence, and eventually asked to begin using the same text that the other braille students were using. The transition back into a more traditional braille reading program, presented at her learning pace, went well. Beginning where she had left off before the study, instruction in the traditional text was continued, but with the inclusion of I-M-ABLE methods for supplementary instructional materials and activities. By December 2013 she had added over 100 words to her braille reading vocabulary. Kay’s mother reported to me that Kay had received a braille letter from Santa, and for the first time she did not hand it to someone else to read, but read as much of it herself as she could before asking for help. Her mother was thrilled to see her read independently.

It was very rewarding for everyone, but especially for Kay, to watch her progress from being a nonreader with no confidence or motivation to being a student who sees herself as a reader. I do not think this transition would have happened for Kay by using a traditional braille literacy program and methods. With the I-M-ABLE approach, it was the interest Kay took in using key words and stories

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that were important and personal to her that made all of the difference to this student.

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## Individualized Meaning-centered Approach to Braille Literacy Education (I-M-ABLE) Case Study: Ajay's Story

Rachel Anne Schles

The following case study documents the strategies employed and successful results of implementing Diane Wormsley's Individualized Meaning-centered Approach to Braille Literacy Education (I-M-ABLE) with a student with multiple disabilities, including autism and attention deficit hyperactivity disorder (ADHD), who was also learning English as a second language.

Ajay (a pseudonym), a 5-year-old boy, entered our public school system at the beginning of the school year shortly after moving to the United States from India during the summer. Ajay had significant language delays in English and Tegulu (the primary language spoken at home), and he communicated through incomplete sentences to express wants and needs. He had medical diagnoses of autism, sensory-integration disorder (SID), obsessive-compulsive disorder (OCD), and ADHD (Ajay was primarily hyperactive, with attention deficit). Ajay had progressive Leber's congenital amaurosis with approximately 20/1000 acuity. Ajay was placed in an

enhanced autism classroom, which specialized in applied behavior analysis (ABA) strategies, with 10 hours per week of direct services from a teacher of students with visual impairments.

## INITIAL LITERACY SKILLS

Ajay arrived at school with a few key literacy skills. He could read and write English upper and lower case letters and his first name in print, although he could not read his handwriting. Ajay understood that letters make up words and that words have meaning, and he could spell a few words in English. Given a book, he oriented it correctly and attempted to visually examine the pages, turning one to three pages at a time.

Ajay's parents consented to braille instruction, but they requested that he also be instructed in print. The enhanced autism program implemented a literacy curriculum that paired picture symbols with words. Ajay participated for only two months, because he could not visually engage with the content.

## PURSuing I-M-ABLE

When considering teaching Ajay braille, I wondered how to show him that braille had meaning, just like the print he already understood. I knew that Dr. Wormsley's I-M-ABLE would provide the best chance of success, given its ability to tailor instruction to his specific interests and needs. The combination of Ajay's disabilities meant he either perseverated or quickly disengaged from activities. To capture and maintain his attention, his literacy instruction had to be highly appealing. I was reluctant to implement I-M-ABLE, however, because although I know braille, I am not a reading specialist. With the encouragement of my mentors, I started I-M-ABLE, and soon became caught up in Ajay's rapid skill acquisition.

Before I introduced any key words, we embarked on a series of emergent literacy and