The Individualized Meaning-centered Approach to Braille Literacy Education (I-M-ABLE)

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Abstract

This paper presents an overview of the components of the Individualized Meaning-centered Approach to Braille Literacy Education (I-M-ABLE). Each component is described briefly. A research study underway to examine the efficacy of the I-M-ABLE is also described with preliminary results.

**Components of I-M-ABLE**

**Getting Started**

 I-M-ABLE begins with the expectation that all students who are blind or visually impaired and have additional disabilities are able to learn to read if reading is taught to them in a way that allows them to see it as meaningful to them. The first component in the approach consists of ensuring that students have an environment which provides them access to braille as a written medium. This is often referred to in the literature as “creating a braille-rich environment” (Koenig & Holbrook, 2000; Wormsley & D’Andrea, 1997). Among other things it consists of reading to children from books which contain braille (and print), affixing braille labels on items in the environment in places where children can find them and be exposed to their literacy medium, creating stories about their lives and reading these stories to them, modeling the use of braille reading and writing, and giving them a range and variety of experiences which will provide them with language and vocabulary from which they can draw when reading.

Providing a braille rich environment does not end in preschool. Children who are visually impaired need much exposure to experiences and the language for those experiences. This should continue throughout their schooling, due to the fact that blindness imposes severe limitations on learning, thus limiting the range and variety of experiences a child may have (Lowenfeld, 1973).

**Selecting Key Vocabulary Words**

The crux of I-M-ABLE and what makes it different from traditional approaches to teaching braille, is assuring that the words introduced to the student who is learning to read are meaningful to that student. This approach is based upon Sylvia Ashton-Warner’s description of her “organic key vocabulary” which she used with her Maori students in New Zealand (Ashton-Warner, 1963). As Ashton-Warner stated,

“No time is too long spent talking to a child to find out his key words, the key that unlocks himself, for in them is the secret of reading, the realization that words can have intense meaning. Words having no emotional significance to him, no instinctive meaning, could be an imposition, doing him more harm than not teaching him at all. They may teach him that words mean nothing and that reading is undesirable.” (1963, 44)

Discovering what words may appeal to students who blind and have additional disabilities is not always easy, especially if the students speak English as a second language, are not very verbal, or are autistic. However, by observing students and consulting with parents and others who work with the child, the words will present themselves. Key Vocabulary Words may not be words that are typically used to introduce reading. For example, “lockdown,” “bumpy ball,” “colonoscopy,” and “tattoo” are not generally in the first reading materials of most students. These very words, however, are among those which appealed to students with whom this approach has been used.

**Introducing Key Vocabulary Words**

The selection of vocabulary words needs to be fairly broad. If it is easy to find a lot of words, the initial formal introduction of the reading vocabulary needs some manipulating. Students who are not yet readers need to be introduced to words which are tactually distinct. So when examining the Key Vocabulary Words which have been discovered to be of interest to the student, it is important to try to select those which are most meaningful, and then also most distinct from each other. If the words are too close tactually, the student will not be able to learn the words as quickly.

When introducing the words, teachers should create a word card that allows for smooth tracking. It is at this point that the teacher must teach the student how to move the fingers across the line of braille smoothly. To discourage scrubbing, I-M-ABLE includes a line before and after the word. Generally the lead-in and lead-out lines are created by using a line of dots 2-5. A space is included before and after the word. The dots 2-5 permit discussion about where to place this center line on the finger pads, in readiness for the braille word which comes somewhere in the middle of the line. Because this is the first introduction to teaching tracking, the larger the card (thus the longer the line) the better. Tracking the word then becomes similar to tracking a line of braille.

I-M-ABLE teachers promote a two handed method of reading with both hands together and as many fingers touching the line of braille as the student can accomplish. The child is taught to track across the line, identify where the word begins, continue tracking smoothly over the word until the space at the end, say the word, and then if necessary to go back to the beginning and retrack the line.

When words are first introduced, teachers do not talk about letters or sounds. They point out tactually distinct features of the words such as length, density of dots at the beginning, end and middle, particular letters that are tactually distinct, such as “l”. Teachers work to develop with the student a “language of touch” with which the student can describe other words. Multiple opportunities are created to “see” the word cards and practice reading them. If the student has previously learned some letters which are in the word, the teacher can capitalize on this knowledge. Otherwise, the teacher will help the student gradually learn the letters and sounds from the beginning letters and sounds of Key Words, and introduce phonics with other related activities (see development of phonics and spelling skills.)

**Teaching students to track across multiple lines of braille**

Teachers also create tracking stories for key words. This consists of creating lines of braille containing lead in lines and lead out lines with the same word on each line. The teacher creates a scenario around the word which gives meaning to the tracking activity. For example, the child who liked the word phrase bumpy ball, had a tracking story where “bumpy ball” rolled away, and the child had to search for the ball. The child is told the story scenario and that he is looking for the bumpy ball, and then the teacher helps him learn how to track lines, with both hands together, moving across the first line to the end, then tracking back to the beginning of that line and down to the next one. The child is to let the teacher know when he has found the bumpy ball by saying it. Tracking stories help reinforce the “look” of the word, and help the student learn how to move from one line to the next in braille without skipping lines.

Once at least two words are learned, teachers can help students learn to play games like Concentration, or Monster Munch.

**Creating Key Vocabulary Stories**

Discussions with students about their likes and dislikes can lead to the collaborative creation of some simple repetitive stories. These stories also help introduce what we term “filler” words, words which make the key words into sentences. For example a student who likes “bumpy ball” might help write a story like:

I like the bumpy ball.

Jim likes the bumpy ball.

Bumpy ball likes me.

Or you could write a story about all of the things the student likes:

I like bumpy ball.

I like cupcakes.

I like a horse.

Collecting the stories that the student helps you write into a booklet, and ink printing above the words allows others to share in and help the student read the stories. As students learn to write using the braillewriter, or the Mountbatten brailler, they can try to write their own stories.

**Teaching Phonics, Letter Recognition and Contractions**

 Instead of using traditional phonics based programs where all students learn the same letters and sounds in the same order, I-M-ABLE introduces phonics according to the initial consonants and vowels in the Key Vocabulary Words. Gaskins (et al., 1997) discuss the four developmental phases of learning to read words. These phases are the Pre-alphabetic, Partial Alphabet, Full Alphabetic and consolidated Alphabetic phases. I-M-ABLE begins in the Pre-alphabetic phase. Teachers point out the distinct tactual features of the words to students which will help them remember the word and distinguish it from other words that are learned. Obviously the more words students learn, the types of cues they are learning initially will no longer serve their needs, so they must move from gross differences into finer distinctions, such as the letters which begin the word, and other key letters in the words. Moving in to these finer distinctions moves the student into the Partial Alphabetic phase. This is when it is important to introduce letters and their sounds, particularly initial sounds, in order to help students begin to recognize letters and use them to recognize words. As the student learns more and more letters and uses them to help him recognize words, he is bound to encounter words that start with the same letter. These will then need other letters to continue to be recognizable. As letters are learned, so are contractions. I-M-ABLE uses contractions from the beginning of instruction.

For phonics instruction, teachers capitalize on the onset-rhyme patterns in the Key Vocabulary Words to build reading vocabulary and the understanding of word patterns. A Key Vocabulary Word such as ball, can provide a raft of “all” words, in which the student replaces the onset letter, with another letter. Taught after the student has learned to recognize the letters b, c, w, the teacher and student can make the words ball, call, wall. A student whose family enjoys shopping at the mall, will love making the word mall. These words can be included in stories, and can be made into word cards for playing games and word recognition activities.

Learning phonics increases the number of words a student can read and use in stories. Writing words can include the newly learned “word wall” words which also helps a student with spelling.

Teachers following I-M-ABLE use diagnostic teaching and take their cues from their students as to whether they are pushing them too quickly or not moving them quickly enough. They are constantly applying the student’s reading and writing vocabulary to real life situations and expanding the student’s vocabulary. In addition, record keeping is a huge necessity. Because the approach is individualized and each student is learning different words, in a different way, in order to keep track of what words students have learned, a continuous list of words needs to be created. Students need to review all of the words they have learned periodically in order to determine whether they are still remembering them.

**Research on I-M-ABLE**

Because of the nature of the I-M-ABLE and the population for which it was designed, it is difficult if not impossible to conduct any kind of large experimental research study. Until recently anecdotal accounts coming from teachers who had used it successfully with their students were the only means of assessing the efficacy of the approach. In 2011, two teachers (Campbell , 2011; D’Aruzio, 2011) provided case study data on the success of their students with whom they had used the I-M-ABLE. These are the first two documented instances of how the approach was implemented and its success. In July of 2011, the North Carolina Department of Public Instruction funded a research study to determine how successful the I-M-ABLE would be with non-reading students who are blind and have additional cognitive disabilities. For this study, a Practice Guide was developed providing more detailed suggestions for teachers on how to implement the approach. To be eligible for the study, students had to be between the ages of 8 and 18, and not currently making progress in learning to read. Ten teachers whose students met the eligibility criteria were selected to participate. This study is currently underway. Results are preliminary, but each of the teachers in the study feels that her student is making progress.

The teachers have a range of experience teaching students with visual impairments from 1 to 30 years, the mode being 12 years of experience. Each received training in literary braille during their training at a university training program.

Students range in age from 8 to 14, and exhibit a range of disabilities in addition to blindness and cognitive impairment. These are shown below.

Additional Disabilities:

TBI – 1

TBI with mild physical involvement – 2

Autism – 2

Autistic Tendencies ESL, extreme attention issues – 1

Physical Disabilities – 1

Speech-language impairment – 1

Secondary Learning Disability – 1

Communication Delay – 1

Each teacher works with the student for at least two lessons per week, and for at least half an hour per lesson. However, some teachers have more time with their students than others. Each teacher is documenting her implementation of the approach using record keeping forms provided by the study. A Daily Lesson Summary is prepared for each lesson. This includes which component of the approach is being implemented, any modifications to the planned lesson and the reasons, and comments on the outcomes of the lesson. As each new word is introduced it is documented, and the practice dates are recorded. Mastery is considered achieved when the student consistently is able to recognize the word when shown the word along with other words learned. Each month students are given all of the words that they have been introduced to and asked to identify them. Records are kept of whether they are able to identify the words or not. Teachers are also keeping track of the activities they do with students and the games and different approaches that they try that the students enjoy, to share with others who might want to implement the approach. Teachers periodically take video of the lessons using a flip camera provided to them through the study. These are placed in a Dropbox folder shared with the principal investigator, in order to document progress.

Preliminary reports by teachers show that all students have learned at least one or two words, and are tracking smoothly across the braille that they are reading. Some students are making considerable progress. Two are writing and reading their own stories – one using the Mountbatten, the other using the Perkins brailler. The range of progress is large. At the end of the study, which will be mid- June when students leave school, the results will be included in an article to be submitted for publication. The Practice Guide will include revisions based upon the participation of the teachers and students and will be readied to be submitted for publication hopefully within the next year.

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