Facilitating Emergent Literacy in Young Children with Visual Impairments

Barbara Petersen, Director
USDB Parent Infant Program
for the
Blind and Visually Impaired

Many of the materials used in this presentation come from wonderful sources that have helped form the emergent literacy protocol that is used in teaching these concepts in the programs within the state of Utah:

- Early Intervention Training Center for Infant and Toddlers with Visual Impairments
- The University of North Carolina at Chapel Hill
  - D.D. Hatton, Ph.D., and W.K. Sapp, Ph. D
- Teachers of the Visually Impaired – Utah; Jennifer Leavitt, and Sharon Cross-Coquillette
Objectives

- Define emergent literacy
- Identify the components of literacy
- Describe recommended early intervention practices for facilitating emergent literacy
- Describe strategies and interventions for promoting emergent literacy in children with visual impairments and additional disabilities
- Ideas and strategies for preparing young children for learning braille.

Literacy

- **Literacy** is the ability to read, write, and understand written language.
- Reading formats include print, large type, and braille.
- Writing includes handwriting, braille, and/or the use of a computer, typewriter, word processor, or other assistive technology to produce written language.

*Alvermann, 2000*
Emergent Literacy

- Emergent literacy is the developmental process that begins at birth whereby children acquire the foundation for reading and writing.
- “The term ‘emergent literacy’ is used to denote the idea that the acquisition of literacy is best conceptualized as a developmental continuum, with its origins early in the life of a child, rather than as an all-or-none phenomenon that begins when children start school” (p. 848).
  
  *Whitehurst & Lonigan, 1998*

- “Literacy begins to develop at birth; it does not wait until a child reads his first word or even until he opens his first book. Literacy is a basic process, set in motion long before actual reading and writing take place, and it involves ALL of the child’s development.”

  *Stratton & Wright 1991*
Families and Emergent Literacy

- Families are essential to the development of emergent literacy; children’s first exposure to reading and writing is usually in the home.
- Researchers have repeatedly found that the home literacy environments of toddlers and preschoolers have measurable effects on later literacy skills.

Marvin & Mirenda, 1993
McLane & McNamee, 1991
Payne, Whitehurst, & Angell, 1994
Rosenkoetter & Barton, 2002
Weinberger, 1996

Six Key Components of Emergent Literacy for Children with Disabilities

- Oral language,
- Phonological awareness,
- Concept development,
- Knowledge of the conventions of print/braille and of print/braille intentionality,
- Alphabetic knowledge, and
- Environmental factors.
Oral Language

- Oral language is spoken communication.
- Children’s mastery of oral language is most often measured by
  - listening comprehension or
  - size of vocabulary.
- Oral language can also be measured by degree of mastery of grammar and syntax.

Strickland & Shanahan, 2004

Listening Comprehension

Listening comprehension
- is the understanding of spoken communication, including vocabulary and syntax.
- is associated with the ability of preschoolers and kindergartners to decode texts and read with comprehension.
- can be facilitated through conversations with children and through their active engagement during storybook reading.

Strickland and Shanahan, 2004
**Narrative Knowledge**

- Narrative knowledge is a set of expectations, or knowledge, about the ways in which stories conventionally proceed.
- For example, through experience, young children learn that stories often begin with “Once upon a time” and end with “The end.”
- Narrative knowledge is also called “narrative schema” or “story schema.”

**Oral Language**

Young children’s oral language, including listening comprehension, may be influenced by environmental factors such as

- family values, socio-economic status, and culture;
- family’s vocabulary and language use;
- maternal education and IQ;
- number of books in the home;
- frequency of visits to library; and
- active participation in storybook reading.
Oral Language

Oral language
- is related to concepts about the world and vocabulary that will help with reading comprehension in second grade and beyond.
- promotes narrative knowledge.

Phonological Awareness

- Phonological awareness includes children’s ability to identify rhymes, delete or add syllables or phonemes from words, and count the phonemes in a word.
- Phonological awareness is related to the later ability to decode words and to read fluently.
- Phonological awareness is also called “phonological sensitivity.”

Whitehurst & Lonigan, 2002
Phonemic Awareness

Phonemic awareness is

- the ability to detect and manipulate the smallest units of sound within words.
- a component of phonological awareness.
- demonstrated through the ability to isolate, add, or delete phonemes from words.
- related to later ability to decode words and to use invented spelling.

Concept Development

- A concept is a general idea that develops through repeated experiences with specific events.
- Children need repeated experiences with specific examples to generalize concepts.

*Warren & Hatton, 2003*
Schema

Schemas

- are meaningfully organized cognitive templates or frameworks, typically derived from experience, that represent knowledge about objects, people, events, activities, or situations.
- help organize concepts so that they can be retrieved efficiently; schemas assist in predicting what is likely to happen in a given context.

Concepts About the World

Gaining concepts about the world (schemas) helps children understand concepts in books. Making bread teaches children many concepts. A book about cooking will be enjoyed more if children have previous experiences with the concepts.

Rosenkoetter & Barton, 2002
Conceptual Understanding

- Exposure to events in the home and community is essential for building concepts that support literacy.
- Frequent exposure to meaningful and functional objects and experiences provides the foundation for concept development, communication, language, and literacy development.
- Children with visual impairments may need assistance in generalizing concepts.

Conventions of Print/Braille

- Knowledge of the conventions of print/braille refers to children’s understanding of standard text formats (e.g., that texts are read from left to right and from top to bottom; that books are read from front to back; that pages are turned during reading).
- Knowing the conventions of print/braille facilitates literacy acquisition in young children.

Whitehurst & Lonigan, 1998
Conventions of Print/Braille

Books
- are generally made of paper, but can be made of other materials;
- have pages to be turned;
- may contain words or pictures; and
- have pictures that represent familiar objects.

*Harley, Truan, & Sanford, 1997*

Conventions of Print/Braille

Books
- have a top, bottom, front, and back.
- provide pleasure and information.
- have language that is consistent from page to page.
- have print or braille symbols that read from left to right and from top to bottom.
- have print or braille symbols that tell the reader what to say.

*Harley et al., 1997*
Print/Braille Intentionality

- Knowledge of print/braille intentionality refers to children’s understanding of the functions of texts—for example, that texts can tell stories, give directions, and provide information.

- Knowing why people read may facilitate literacy acquisition in young children.

*Senechal, LeFevre, Smith-Chant, & Colton, 2001*

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Print/Braille Intentionality

Print/braille intentionality (also called print/braille knowledge)

- is influenced by exposure to environmental print, storybook reading, direct parent teaching, and active involvement with storybooks.

- is related to motivation to read and understanding the process of reading.
Alphabetic Knowledge

- Alphabetic knowledge is the ability to name the letters of the alphabet based on their shapes.
- Children’s alphabetic knowledge may be influenced by:
  - exposure to the alphabet in their natural environments and
  - direct teaching by adults.

Alphabetic knowledge is related to the later ability to decode words and to use invented spelling. It may also be called “letter-name knowledge,” “knowledge of graphemes,” and “knowledge of letters.”
Environmental Factors

Emergent literacy is influenced by environmental factors, or the contexts of children's lives.

Environmental Factors

Literacy success in older children has been linked to
- higher family socio-economic status,
- higher maternal education and IQ,
- high parental vocabulary and complex language, and
- more books and literacy materials in homes.
Environmental Factors

Literacy success in older children has been linked to
- frequency of shared storybook reading,
- active child participation in storybook reading,
- trips to the library,
- parental enthusiasm for reading, and
- high family expectations.


A Contextual Perspective of Communication and Literacy

Emergent Literacy and IDEIA 2004

The individualized family service plan (IFSP) for infants and toddlers with disabilities should include measurable results or outcomes for infants or toddlers and family, including preliteracy and language skills, as developmentally appropriate for the child, and the criteria, procedures, and timelines used to determine the degree to which progress toward achieving the results or outcomes is being made and whether modifications or revisions of the results or outcomes or services are necessary. (IDEIA 2004, Part C, Section 631)

Recommended Practices

To facilitate emergent literacy in young children with disabilities, early interventionists should provide collaborative, family-centered support that is developmentally appropriate and based on evidence-based and recommended practices that result in functional outcomes within naturally occurring learning opportunities.
Developmentally Appropriate Practices

Until we have more empirically based information, families, caregivers, and professionals should
• use developmentally appropriate activities that are functional and fun,
• use recommended practices from early intervention and early childhood special education, and
• carefully consider research and evidence-based practices that may be appropriate for infants and toddlers.

Recommended Practices for Child-Focused Interventions

Intervention that is child focused includes
• designing safe and accessible environments that promote active and interactive engagement,
• adapting practices to meet the individual and changing needs of each child, and
• systematically promoting children’s learning within and across environments, activities, and routines.

Wolery, 2005
Recommended Practices for Child-Focused Interventions

Child-focused interventions should promote functional outcomes as identified by the Early Childhood Outcome Center (2005):

- social interactions that provide the context for meaningful communication and that provide motivation for development across domains,
- active engagement in the world around them, and
- independence and self-efficacy.

Emergent Literacy Interventions

Strategies and interventions to facilitate emergent literacy facilitate the development of the six key components of emergent literacy for young children with disabilities:

- oral language,
- phonological awareness,
- concept development,
- knowledge of the conventions of print/braille and print/braille intentionality,
- alphabetic knowledge, and
- rich literacy environments.
Strategies and Interventions to Facilitate Emergent Literacy

Developmentally appropriate strategies and interventions that promote functional outcomes include:
- play;
- routines-based literacy;
- responsive literacy environments;
- shared storybook reading (especially dialogic reading, storybook preview, and storybook sounds);
- storytelling, including decontextualized language; and
- dialogue/conversation.

Play

- Many emergent literacy interventions can be encouraged through play.
- Play is process oriented, not product oriented.
- Children learn through the process of playing, not by creating a product or accomplishing a task.
- Play provides a developmentally appropriate context for learning about the functions of reading and writing.

McLane & McNamee, 1991
Roskos, Christie, & Richgels, 2003
Routines-Based Literacy

Lawhon and Cobb describe a literacy routine as “the regular use of a variety of techniques to enhance children’s abilities
- to listen,
- to observe,
- to imitate, and
- to develop their language, reading and writing skills” (2002, p. 113).

Literacy routines should be integrated into the context of daily routines.

Responsive Literacy Environments

Responsive literacy environments include experiences in which children
- observe adults modeling literate behaviors,
- interact with adults in reading and writing situations, and
- explore literacy actively (self-initiated, hands-on, and independent exploration).

Teale & Sulzby, 1986
Responsive Literacy Environments

- The appropriateness, accessibility, and number of literacy resources or artifacts within children’s environments enhance literacy modeling, interactions, and active exploration.
- Responsive literacy environments help children learn about the function of reading and writing within day to day activities.

Examples of Active and Interactive Engagement

Seventeen-month-old Allysandra and her mother share a storybook.

Here, at 22 months, Allysandra explores a book actively.
Shared Storybook Reading

Shared storybook reading is
• evidence based,
• family centered,
• child centered, and
• developmentally appropriate.

NAYEC, 1998

Shared Storybook Reading

Shared storybook reading helps children acquire
• oral language,
• phonological awareness,
• concept development,
• the conventions of print/braille and print/braille intentionality, and
• alphabetic knowledge.
Shared storybook reading helps children to develop a positive attitude about reading (i.e., gain print motivation).
Dialogic Reading

• Dialogic reading is a shared-reading technique in which the adult assumes the role of an active listener, and the child learns to become a storyteller.
• In dialogic reading, the adult reader asks questions, adds information, and prompts the child to increase the sophistication of descriptions in the book.
• The child's responses are encouraged through praise and repetition.

Whitehurst & Lonigan, 1998

Dialogic Reading

• Dialogic reading produces greater effects on children’s language skills than typical picture book reading in which children listen passively.
• It has been used successfully with children of varying ages and abilities.

Whitehurst & Lonigan, 1998
Storybook Preview

- Storybook preview is the shared exploration of the content of a book without consideration of the storyline.
- Children are given the opportunity to label or describe illustrations of interest, ask questions, and make comments to increase narrative knowledge and vocabulary.
- The caregiver’s role is to identify and scaffold children’s communicative attempts.

McCathren & Allor, 2002

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Storybook Sounds

- Storybook sounds is an intervention that focuses on the development of phonological awareness.
- During shared storybook reading, caregivers point out rhyming words or initial sounds.
- If children show an interest, caregivers can make up little games to reinforce phonological concepts.

McCathren & Allor, 2002
Storytelling

Children who are told stories, whether fictional ones or ones based on real-life experiences, gain familiarity with decontextualized language.

For example, a parent who has just come home from work uses decontextualized language to describe what happened at the office earlier in the day.

Dialogue/Conversation

- Young children who are exposed to a wide variety of words in meaningful conversation learn new words each day.
- When adults use a wide variety of descriptive language, children pick up on the words and learn their meaning in appropriate contexts.

Bardige & Segal, 2004
Dialogue

- Children with larger vocabularies as preschoolers become better readers and writers.
- Children exposed to decontextualized language often become more adept learners in elementary school.

Bardige & Segal, 2004

Assessment of Emergent Literacy

- Current level of functioning descriptions of communication and language can be used to identify emergent literacy intervention goals for children.
- Assessment of family priorities, concerns, and resources can also be used to identify communication, language, and emergent literacy priorities and goals.
- Sensory assessments describe current levels of visual and sensory functioning and sensory preferences that can help guide intervention.
Sensory Assessments and Emergent Literacy

- Functional vision assessments, conducted by teachers of children with visual impairments, describe functional use of vision across settings that can be used to identify appropriate and accessible literacy media.
- A developmentally appropriate learning media assessment (DALMA) consists of interviews and observations and is used to describe children's sensory behaviors and preferences.

Developmentally Appropriate Learning Media Assessment Tools

- The Individual Sensory Learning Profile Interview or ISLPI (Anthony, 2003a) includes questions for caregivers about how a child with visual impairments uses sensory information during activities and routines.
- The Observational Assessment of Sensory Preferences of Infants and Toddlers With Visual Impairments or OASP (Anthony, 2003b) provides a framework for direct observations of the child's sensory behaviors.
The Adult/Child Interactive Reading Inventory (ACIRI)

The ACIRI assesses the following three literacy categories through observation:
- enhancing attention to text,
- promoting interactive reading and supporting comprehension, and
- using literacy strategies.

DeBruin-Parecki, 2000

Concept Development

- Children with disabilities may have fewer concepts about the world.
- They may not readily grasp cause-and-effect relationships, and they may not be motivated to explore because they are unable to see the enticing objects, people, and activities around them.
- Conceptual knowledge helps children understand the content of stories and conversation and is related to reading comprehension in the second and later grades.
Print/Braille Intentionality and Alphabetic Knowledge

- Children with disabilities, and children with visual impairments in particular, may not be aware of the books, magazines, and writing tools in their homes.
- They may not be tuned into the literacy activities that family members engage in, such as reading the paper or writing checks.
- Providing access to literacy materials in the appropriate media and facilitating literacy experiences promote print-braille intentionality and alphabetic knowledge.

Learning Media and Emergent Literacy

- Determining a child’s primary literacy medium or media is a complex process.
- Intervention teams should carefully and thoughtfully consider recommendations for children’s primary literacy media.
- If young children with visual impairments have access to print and braille, the primary literacy medium or media will probably emerge naturally.

Craig, 1996
Learning Media and Emergent Literacy

- If children have a visual condition that results in progressive vision loss or that may lead to future vision loss, early exposure to braille and tactile experiences should be provided.
- The developmentally appropriate learning media assessment (DALMA) should be used to provide ongoing guidance regarding children’s current sensory preferences and primary literacy medium or media.

Preparing the Infant/Toddler for Braille
Within the Family

- Read to your child.
- Assure that your child acquires important experiences.
- Include your child in home activities/responsibilities.
- Have high expectations for your child.
- Celebrate blindness/VI/difference
- Learn Braille.

The Beginning Braille Reader

- The beginning Braille reader, like all beginning readers, must acquire the readiness skills associated with the actual reading process. An important prerequisite that all readers must have to be efficient and read with comprehension is a rich background of concrete experiences involving many objects, people, places, activities, and cause and effect relationships. In addition, the child must have receptive and expressive vocabulary that corresponds to his experiences. Each individual child must develop auditory skills of identification, closure, sequence, memory for stories, and discrimination. The young reader must be able to concentrate, exert self control, and follow directions. Another important readiness factor is motivation. Once the child has experiences and language sufficient to read, he can begin a more structured reading program. There are many effective teaching programs used to provide reading instruction. Each child will have his or her own unique set of experiences.
### Braille Readiness Skills Grid

<table>
<thead>
<tr>
<th>Braille Readiness Grid</th>
<th>Developed by Anne McDonald, Director of the BBMS literacy enrichment program at the Center for the Visually Impaired</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motor Development</strong></td>
<td></td>
</tr>
<tr>
<td>Braille literacy, which includes both reading and writing in braille incorporates both <strong>FINE</strong> and <strong>GROSS</strong> motor skills.</td>
<td></td>
</tr>
</tbody>
</table>
Activities to promote Fine Motor

- The goal for the child is to do the activity independently. But above all have fun!

- Squeeze toys
- Squeeze play dough
- Taking objects in & out of containers
- Drawing
- Using a hole punch
- Putting together pop beads
- Stringing beads
- Using a crayon, pencil or paintbrush
- Building towers with blocks
- Turning pages of a book

Fine Motor skills cont…

- Picking up small beads/objects with tweezers
- Putting shapes into a shape sorter
- Sorting activities
- Buttoning, zipping and snapping—own body
- Popping bubble wrap
- Sewing cards
- Putting pegs in pegboards
- Putting clothes pins on the edge of cans or jars
- Turning knobs
- Putting coins through a small slot
- Stacking activities
- Assembling nuts and bolts
- Taking lids on and off jars
Gross Motor skills

- Learning to control head, arms & legs, and body for purposeful movement.
- Sitting, crawling, Walking
- Balancing
- Increasing strength, stamina, endurance and flexibility.

Concept Development

- Blind/VI children need to be directly taught concepts through concrete experiences using their remaining senses because most concepts are formed through vision.
- A concept is a mental representation, image or idea of what something should be.
- Real objects should be used whenever possible.
- Experiences need to be repeated many times and concepts taught in a variety of situations
- Concept development is continuous.
- Many blind children use words without understanding their meaning and must be taught needed concepts.
Emphasize the CONCEPTS of:

- Body image
- Time; position; direction; size; shape
- Association (shoe/lace)
- Discrimination (same/different)
- Sequence; quantity; sensations
- Sensory (rough/smooth, sweet/sour, loud/soft, etc.)
- Emotions; actions; colors; matching; classifying
- Pronouns
- Environment – pictures, furniture
- Gender awareness
- Number concepts (few/many, some/none, more/less)

Listening, Attention & Expression

- Take note that the child…
  - Alerts to sounds.
  - Listens to interaction songs.
  - Can sit socially with an adult for 5-10 min.
  - Listens to and enjoys rhymes.
  - Participates in finger plays and songs.
  - Follows two step directions.
As the child gets older they should be able to:

- Use jargon and imitation
- Match sound cans
- Show interest in short stores about themselves.
- Show interest in short stores about others with participation.
- Express their ideas.
- Make up simple stories.
- Listen to simple stories on tape/CD or Computer
- Relates two events form short story
- Understands slow automated voices
- Attend to task completion (5-20 minutes)

Book & Story Skills

- From IPods to electronic readers children are bombarded with electrical images and stimulations. But with all the advances in technology, reading to children and having them read is still one of the most important skills to give a child.
- Reading can promote positive interactions between parent and child.
Different types of books for different ages

- **Newborn to 1 year** – Big bright pictures in large books with bold colors. An infant’s vision is still improving on a daily basis and the brighter, larger the pictures the more their interest will be held.

- **1 to 2 years** – Books with animals and other babies, books about family life, moms and dads. *Texture books are good to introduce now.* (May want to move or change)

- **2 to 3 years** – Books with characters from a favorite TV show or rhyming books help to expand the thought process.

Parents Role in Fostering a love of Reading

- Read to your child everyday. Start as early as possible. Books on tape can also be utilized.
- Sing nursery rhymes and children’s songs.
- Treat books as though they are special.
- Let your child make their own book with real objects and add braille.
- Read with expression.
- Let your child see you reading.
- Keep books out and available on a low shelf where she can find them.
- Practice turning pages together and placing the book right side up. Find page numbers. Talk about reading left to right.
- Explore tactile books.
Tactile Experiences

The manipulation of objects is an essential part of learning. Children with visual impairment have an inconsistent relationship with touch; many are hesitant, even fearful to reach out and explore their surroundings; yet they have much to gain by engaging their sense of touch.

Tactile Activities = “Messy”

- Getting stuck into stuff that feels gooey, soft, rough, interesting and….generally making a mess!

Mess = Fun = Learning
“Messy” Activities…

- If everything goes straight in the child’s mouth, it’s best to stick to the edible stuff. So cook and cool when appropriate.
  - Pasta shapes or spaghetti
  - Baked beans - straight from the tin
  - Lentils
  - Tapioca
  - Mashed potatoes
  - Cool Whip, Apple sauce,
  - Yogurt, Pudding, Etc…
- Put them in a wide, shallow bowl or onto a tray and let the toddler play, fill containers with it, make swirls in it or whatever he thinks of doing with it.
- Do these activities in a different place from where she normally eats or you could find her a little confused and starting to play with her food too! The best place is on the floor. Put plastic table cloth under the bowl to make cleaning up easier.

Creating A Braille Rich Environment

- Start with simple, familiar everyday objects that the child is in contact with daily (bed, chair, table, window, cup, door, cereal boxes), and label them with braille. Then when your child goes to the object show the child and say the word “chair.”
- Personalize the child’s belongings with his name. (Toys, books, backpack, coats)
- Place labels in the location the child will most easily reach for them.
- Snip off the right upper corner of a braille label to avoid reading upside down.
- Gently guide the child’s fingers across the new word in a relaxed, fun way.
- Make braille labels by using either braille paper, a braille label maker, or labels from APH already brailled or braille your own use their braillable labels.
FUN Activities....

- Braille “family jobs” on 3x5 cards i.e. feed the dog, water the plants, dust the tables, pick up your toys, put dirty clothes away. Have the child draw one card out of the box and read the message with you, then carry out the job in a fun way to reinforce the “ reading”.
- Create another box with “Special Family Activities” – i.e. go on a walk with dad, read a story with mom, play in the sprinklers with brother. The child will begin to connect braille with an action and a meaning. This is a step towards literacy!
- Take the child’s hand to experience Braille out in the community on signs, elevators, and braille menu’s. Ask for a copy of the menu to take home and pretend you are ordering food from the menu. Remember sighted children have been seeing print in their world from a very early age.

- Encourage “Scribbling.” It’s fun and important. Allow the child to “Scribble with a Braillewriter or slate and stylus.
- Share with your child what you are writing – grocery lists, notes to friends, etc.
- Leave Braille “love notes” under the child’s pillow or in his lunch box or sack when going on family outings; include print so anyone can help read it.
- Label the numbers on a toy telephone or animal names on a See’ N Say.
• Braille awareness will become more meaningful if the child has a reason for using braille!

• Make it FUN!!!

Story Boxes & Experience Books
Story Boxes

- A story box is simply a collection of items in a box or bag that corresponds to the items mentioned in a story. It is a way for young children with visual impairments to experience a story.

Important things to remember about story boxes…

- **Give the child lots of time.**
  - It takes more time to figure out what an object or shape is through tactual exploration than through vision. A tactual learner needs to examine parts of an item separately than put the information they have gathered together to gain full understanding of the item.

- **Think beyond words on a page.**
  - Words are just symbols representing ideas and concepts. Without meaning, words are a series of disconnected sounds and letters. Hands-on experiences help to provide meaning to words.

- **Just do a little at a time.**
  - You need not present all the items in a box with each reading. Determine the child’s interest and attention so as not to overwhelm them with stuff.

- **Share the story with others.**
  - Get everyone in the family involved, including siblings. Share the story box with young sighted siblings. They are very popular.
3 Steps to Making a Story Box

1. Choosing a Story
   - When selecting a story for your child, choose one that is simple and talks about familiar objects and concepts. Story Boxes range from very clear hands-on topics to the more complex and abstract.
   - Initially a box might contain items that your child uses during daily routines. You can make up a story about the routine or family activity. Your child may be the main character of your story. It can be about a trip to visit grandma, bath time or mealtime, a playtime with dad. In this case no book is really needed.
   - Choose books that have characters and items that are readily available. Remember the complexity of the story and the number of items presented should be suited to your child. Often simpler is better.
   - Also choose a story to match your child’s attention span. Short and sweet works well for young children. Choose a book that does not rely on visual experiences or pictures to provide meaning to the story. Choose books that are predictable and that have rhyme and rhythm.

2. Constructing the Story Box
   - Begin with appropriate book then select corresponding items. You may choose to go on a shopping spree but often collecting familiar objects from your house will do just fine.
   - Place the book and items in a storage container.
     - Zip-Lock Bags
     - Shoe Box
     - Plastic container
   - Label the exterior of the container so that your child will identify which story they are getting.
3. Reading the Story

- Handle the objects in the box one at a time giving the child lots of time to explore. Comment on the item’s size, shape, texture and then name the item.
- Children with blindness/VI benefit from an adult’s modeling the function of the item, so if it’s a spoon, pretend to eat. If it’s a mitten, try it on. Allow the child to explore freely. Compare items.
- After tactually exploring the items place them aside. Read the story and once again present the items as they are mentioned in the story. Avoid clutter. Too many items at once can be very confusing.
- When reading HAVE FUN! Use sound effects and dramatic intonation to peak your child’s interest.
- When you are finished with the story box put clear closure on the activity by having your child help place the objects back in the box, thus providing another opportunity to handle the objects.

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Early Reading Behaviors

- Child enjoys listening to story.
- Child talks about the pictures.
- Child completes familiar lines in story based on memory.
- Child uses physical and visual cues surrounding print to make up story.
- Child pretends to “read” story books; may run finger along printed or brailled text.
- Child associates some letters with their representative sounds.
- Child recognizes key words in familiar stories.
Ideas for story boxes

- **Blueberries for Sal** by R. McKloskey.
  Contents: Large pail, small pail, berries to cover large pail bottom, (4) berries to clunk in small pail.

- **Jennifer's Messes** by Suzette Wright.
  Contents: Cheerios, barrettes, (2) coins, comb, pencil, keys, doll purse, pretzel.

- **Goodnight Moon** by Margaret Wise Brown. Available in print/braille from Seedlings.
  Contents: balloon (mylar), picture frame, three plush bears, doll house, furry mouse, bowl, plush kittens, mittens, toy phone, clock, socks, comb, brush, star shape.

- **Listen to the Rain** by Bill Martin, Jr.
  Contents: Tape of rain sounds, raincoat, boots.

- **Roly Poly Man** by Suzette Wright.
  Contents: Play Doh.

- **Strega Nona** by Tomie de Paola.
  Contents: Pasta, pot with lid, bowl, fork.

- **If You Give a Mouse a Cookie** by Laura Joffe Numeroff.
  Contents: Cookie, cup, mil container, straw, mirror, scissors, dust broom, sponge, blanket, pillow, crayons, tape, paper.

- **Suppertime for Frieda Fuzzypaws** by Cyndy Skekeus.
  Contents: Cookies, plate, cup, pasta, paper, crayon, paper cookie.

- **The Foot Book** by Dr. Seuss. Available in print/braille from Seedlings.
  Contents: Slippers, towels, cotton balls, toy clown, big shoes, small shoes.

- **The Jacket I Wear in the Snow** by Shirley Neizel.
  Contents: Red wool hat and scarf, zippered jacket, sweater, boots, long underwear, socks, jeans.

- **The Little Engine That Could** by Watty Piper. Available in print/braille from Seedlings.
  Contents: Dolls, balls, toy engine, sailboats, toy animals, clown.

- **The Longest Noodle** by Suzette Wright.
  Contents: Noodle, fork, shoelace, jump rope, ribbon, yarn.

- **The Sweet Smell of Christmas** by Patricia Scarry.
  Contents: Cinnamon, pinecone, candy cane, spirit of peppermint, ginger, cocoa.
Making an Experience Book

- In tactile experience books, artifacts from an event experienced by the child are actually incorporated onto the pages of a simple, sturdy book.

Selecting a topic

- Selecting a topic for a tactile experience book is as easy as examining the objects that are part of the environment in which a child with visual impairments spend time. Events can be planned specifically to collect items for a book, or items can be collected as part of a naturally occurring event.
Selecting Items

- **Use items that the child has had contact with tactually.** (Using car keys to represent going for a ride will not be appropriate unless the child has in some way used the keys, perhaps to unlock the car door.)

- **Items must be real, not miniature representations of an object.** (Miniatures do not provide the same detail to a visually impaired child. For example a toy car would not be appropriate unless the child played with the toy car during the car ride. A better representation may be a swatch of fabric from the child car seat belt buckle that the child has helped to fasten.)

Choosing the background for the book

- Choose material that is easily handled by the child.
- Heavy cardboard should be used for the cover and pages.
- Fasten book together with metal rings (they seem to be more durable).
Assembling Your Book

- Use only one item per page.
- Do not glue the item to the page. (It creates a different experience that the same object held in hand.)
- Items may be fixed to the page with velcro so the child can experience them in 3 dimensions.
- Zip-lock bags that have been glued or stapled to the page can hold items for the child to remove and experience them.
- If you are using large items that are too bulky for the page you can attach it to a string on a particular page and store it outside of the pages, and can be pulled to the child when that page is read.

- Use an object that will help your child to identify the front cover of the book and distinguish it from others in their collection.
- The Braille text should be created on heavy Braille paper in one continuous line. Words should not be cut apart and placed on the page as single units or phrases. Do not glue directly under the Braille because it can reduce the sharpness of the Braille.
- Placement of the Braille should be in the same place on each page.
- Use contracted or uncontracted Braille. It is your preference.
- Use print on the pages also, so that visual readers can share in reading the story.
- Use repetition and short sentences when creating your story.
Example…

“My Garden Walk” by Mary
Title cover: “My Garden Walk” by Mary: Glued to the center of the cover page were several pebbles from the path on which Mary had walked.
Page 1: Brailled sentence at the bottom of the page read: “I went for a walk in the school garden. I found 1 piece of tree bark.” Glued to the center of the page was a large piece of tree bark.
Page 2: Brailled sentence “On the ground were 3 stones. Count them with me.” 3 stones, one small, medium, and large, were glued onto this page.
Page 3: Brailled sentence, “I have 4 limbs from a tree.” Arranged in increasing size were 4 limbs from various trees.
Page 4: Brailled sentence, “I picked 3 leaves, one large, one medium, and one small.” In descending size, three different leaves were glued onto the center of the page.
Page 5: Brailled sentence, “I petted one bunny rabbit.” In a plastic Zip-lock bag glued to the center of the page was bunny fur found on the ground near the bunny’s cage.
Page 6: Brailled sentence, “I picked a flower.” One flower from a bush was attached to the center of the page.
Page 7: Brailled sentence, “I had fun walking with Ms. Joan.” Stapled to this page was the elastic from the handle of a discarded cane like the one used by Mary.

Other Tactile Experience Books

- Use everyday experiences to make a book such as…
  - “My Bathroom” (“In my bathroom there is…” and repeat this statement for each page with the item that goes with it.)
  - “Things in Mommy’s Purse”—store items in a purse and have all items removable for easy exploration and manipulation. Let the child make up their own story with the items.
  - “Things in My Hair”… (See next slide…)
Tactile Experience Books Can Support Emergent Literacy Development

- Students will practice
  - Turning pages.
  - Orienting books.
  - Exploring objects.
  - Using the hand movements associated with Braille.
  - Experiencing independent pleasure reading.
  - Connection between words that describe their environment.
  - Experiences with writing and symbols of writing.

**Things for My Hair**

Title Cover: “Things for My Hair” A hairbrush was attached to cover with Velcro.

Page 1: “Shampoo to clean my hair. Conditioner to make it soft.” Small travel-size containers filled with a little shampoo/conditioner attached at the center of the page with Velcro.

Page 2: “A brush and combs for my hair.” Two combs and one small brush were attached to the page with Velcro. A large brush was attached to a string and hung outside of the book.

Page 3: “Hair rollers to help curl my hair.” Various sizes and makes of rollers were placed into a small plastic bag. The bag was fastened at the top of the page with Velcro.

Page 4: “Large and small barrettes hold my hair in place.” Various sizes and types of barrettes were placed in a bag, and the bag was fastened at the top of the page with Velcro.

Page 5: “Bobby pins hold my hair in place.” Large, small, and medium-size bobby pins were placed in a bag that was attached to the page.

Page 6: “Ponytail holders keep my hair in a ponytail.” Same as pages 4 and 5.

Page 7: “Clincher combs keep my hair back.” Same as pages 4 and 5.

Page 8: “Headbands keep my hair out of my face.” Same as pages 4 and 5.
It is observed that students with visual impairments do not experience the same immersion in literature than children with vision do. Because of the scarcity of Braille materials, children who are blind or have very low vision do not automatically participate in early literacy. Instead their ‘Braille immersion’ must be deliberately orchestrated by teachers and parents. The addition of tactile experience books to the bookshelves of young children with visual impairments is very important.

Sandra Lewis 2003

Beginning Braille
Teaching Efficient hand Use

- **Posture**
  - Feet firmly on the floor, providing stability.
  - Forearms at 100 degrees with upper arm.
  - Use both hands, unless physical disability precludes this.
  - Adjust the furniture and chair height to fit the child's needs.
- **Emphasize:**
  - Light touch
  - Smooth left-to-right movement
  - No SCRUBBING!
    - It decreases reading speed and fluency.
    - Indicates inability to recognize the letter or symbol.
    - Develops bad habits that will hamper efficient braille reading.

Strategies for Teaching Tracking

- **Develop a systematic way of finding the top line.**
  - Example: cut off the tip of the right top corner of the page or punch hole in upper right corner.
  - Be consistent.
- **Start with double or triple spaced lines.**
  - Same-character rows of even line lengths.
  - Same-character rows of uneven line lengths.
  - Dots 2,5 with “hidden” character in various positions.
Teaching Tracking skills

- Learning good tracking skills at a young age will provide many benefits as your child becomes a fluent braille reader.
  - Maintaining contact with the braille line while reading braille.
  - Good tracking skills contribute greatly to long-term fluency and speed.

Teaching Tracking Skills

- Smooth tracking is easier when no discrimination is involved
  - Tracking skills can deteriorate when character recognition is introduced into the task
Tracking Sequence

- **Stage 1**
  - Track across a single raised line, texture or sequence of Braille characters.
  - Two hands move together with pointer fingers touching.
  - Four fingers in contact with the line.
  - Fingers move across the line, then back, retracing the line.
  - Drop down to the beginning of the second line, two hands moving together.
  - This technique may last for years, unless student is a super efficient braille reader.

Developmental Sequence

- **Stage 2**
  - Use both hands to track across the top line, then drop diagonally down to the beginning of the next line.
  - May require teaching the concept of “diagonal”
Diagonal Drop

- The right hand finishes reading the line while the left hand drops diagonally down and locates the beginning of the next line of braille.
- The right hand lifts from the page and meets the left hand in the middle of the new line.

Tracking Sequence

- Stage 3
  - By 5th or 6th grade
  - The hands should separate in the middle of the line of braille.
    - The right hand finishes reading the line while
    - The left hand drops diagonally down and locates the beginning of the next line of braille
    - The left hand starts reading the new line as
    - The right hand lifts from the page and meets the left hand in the middle of the new line.
Tracking

- Tracking Guides
  - Use a pencil, teacher's hand as a guide or frame, or a grooved ruler.

- Always encourage children to keep as many fingers as possible on the raised practice line or line of braille text. (Even with consistent prompting, not all children will read with six or eight fingers.
- Some children with additional disabilities may benefit from widely spaced lines and rote verbal cues such as “across, back, down to the next line.”
Personal Styles of reading

- Students will develop personal styles.
- Students with multiple impairments may stay at Stage I for a longer period of time.
- Some readers keep the left hand at the beginning of the line as a marker, then drop it down to the next line.
- If a student insists on reading with only the right hand, have him/her use the left hand as a marker.
- If the student insists on reading with only the left hand, teach him/her to keep the right hand in contact with the left.

The Braille Cell

Braille symbols are formed within units of space known as Braille cells. A full Braille cell consists of six raised dots arranged in two parallel vertical rows, each having three dots. The dot positions are identified by numbers one through six. Sixty-three combinations are possible using one or more of these six dots. Cells can be used to represent a letter of the alphabet, number, punctuation mark, or even a whole word.
The Braille Alphabet

Letter Identification

- Make Learning Braille Fun! Fun and inventive games make learning braille something your child will enjoy.
  - Using objects such as a muffin tin & tennis balls to create the braille cell and letters.
  - Small paint pallet with 6 holes and puff balls.
  - Tactiles.
  - Braille alphabet blocks, Pop-a-Cell, Lots-of-Dots
  - Braille Doll
Materials to promote early Braille Learning

- APH Materials (available from your PIP Advisor)
  - Patterns Pre-Braille (Circle, Line, Shape books).
  - Touch & Tell
  - On the Way to Literacy Series
  - Tactual Discrimination Worksheets.
  - Flip-Over Concept Books: Line Paths
  - Teaching Touch
  - Alphabet Scramble
  - Swing Cell
  - Big Cell
  - Peg Kit
  - Textured Matching Blocks
  - Textured Sorting Circles & Shapes
  - Picture Maker

Naming Letters

- Start with easier and very different letters such as A, L, or G.
- Move toward more difficult/similar letters.
Types of Braille

- **Grade 1**: composed of the alphabet letters, numbers, and punctuation marks.

- **Grade 2**: includes all of Grade 1 Braille plus nearly 200 "contractions" that are representations of groups of letters or whole words.

- **Grade 3**: contains more contractions than Grade 2 Braille and is generally used for personal note taking.

- **Nemeth Code of Braille Mathematics and Scientific Notation**: Braille notation for science and math

- **Music Code**: music notation

- **Braille Computer Code**: reflects characters used by computers, primarily used by programmers and users of assistive computer technology

Grade 1 vs. Grade 2 Braille

- When every letter of every word is expressed in Braille, it is referred to as **Grade 1 Braille**. Many newly blinded adults find Grade 1 Braille useful for labeling personal or kitchen items. Books or other reading materials can also be transcribed in Grade 1 Braille.

- The system often used for reproducing textbooks and publications in English is known as **Grade 2 Braille**. In this system, cells are used individually or in combination with others to form a variety of contractions or whole words.
The Perkins Brailler

Building hand and finger strength

- Using a Perkins Brailler takes finger and hand strength. Some activities to help your child build up strength are…
  - Pop-Beads
  - Modeling Clay
  - Clothespins (pinch type)
  - Snapping
  - Popping Bubble Wrap
  - Push Pins/Cork Board
  - Pegs/toys into holes
  - Toy Piano
  - Toy Telephone
Braille Writer Exposure

- Free Play
- Pushing Keys
- Loading Paper
- Proper finger-to-key association
- Patterns (straight lines, waves, steps)

Recommended Reading

- *Beginning With Braille: First-hand Experiences with a Balanced Approach to Literacy*, Anna M. Swenson (APH)
Games are fun and they help children Learn!

Adapted Games

• Nearly all games can be adapted to meet your child's needs. Either by adding braille or textures to the game board.
Items you may need to adapt games for the child…

- Wikki Sticks
- Puff paints
- Brailler
- Modeling Clay
- Raised line stickers
- Sand Paper
- Any materials or fabric that you can attach to change the texture of the game pieces.

- The American Foundation for the Blind www.afb.org has assembled a Toy Guide http://www.familyconnect.org/parentsitehome.asp?SectionID=83 where they make recommendations about toys that are appropriate for children who are visually impaired.
Aditional resources for finding already adapted games…

- American Printing House for the Blind [www.aph.org](http://www.aph.org) has created several games for visually impaired children. Your child’s teacher of students with visual impairments may be able to loan you games from APH, so check with him or her before making a purchase.
- LS&S [http://www.lssproducts.com/](http://www.lssproducts.com/) not only has games but many other products for people with visual impairments.
- Maxi Aids [http://www.maxiaids.com/](http://www.maxiaids.com/) also has more than just games for people with visual impairments.
- Exceptional Teaching Aids [http://exceptionalteaching.net](http://exceptionalteaching.net) has games and toys that have been adapted for children with visual impairments. They also have a lot of educational materials that may be helpful to your child in school.

Favorite Resources!

- **American Foundation for the Blind**: AFB provides support and services for the blind and visually impaired. Their web site offers a *Services Locator* and a great *Bookstore*. Some books published through AFB press can only be found here.
- **National Federation for the Blind**: NFB produces the often quoted publication *Future Reflections*, a magazine for parents and teachers of blind children. You can download the magazine directly to your computer for free.
- **FamilyConnect**: An informative site including videos, stories, and forums developed by the American Foundation for the Blind and the National Association for Parents of Children with Visual Impairments.
- **The Hadley School for the Blind**: This is a great resource for parents of blind children. The Hadley School offers free online courses on everything from helping your young child develop to beginner’s braille.
- **Perkins Panda**: The Perkins School for the Blind has created a really fun kit designed to introduce toddlers to Braille. The kit includes print-braille books, a big stuffed bear (with tactile paws and nose), audio versions of the stories, and toys that represent the activities in the story books.
- **Seedlings**: A great place to buy braille children’s books. Sign up for two free books through the *Book Angel Project*.
- **National Braille Press**: Another great place to buy braille children’s books. We love their *Children’s Braille Book Club* where you get a new braille book in the mail every month for $100 a year.
- **Free Braille Books Program**: Sign up for free braille books through the American Action Fund.
Additional Resources…

- **BrailleInk**: BrailleInk is a non-profit organization dedicated to enhancing the experience of reading by providing materials with both print and braille in a unique, easy-to-use format that encourages shared reading and promotes braille awareness.

- **APH Guide to Designing Tactile Illustrations for Children’s Books**: A very nice (and thorough) online guide to creating accessible books for blind babies and toddlers. Lots of great hands-on ideas. This could be a great way to get your older kids involved in a craft project that will help your younger child with a vision impairment! The guide is also available as a downloadable pdf or a Braille brf file.

- **I read with My hands**: A wonderful set of tactile books and activities designed specifically for blind and visually impaired children. If you’re tired of the same old “touch and feel” books that present very little tactile feedback for your child, you'll definitely want to check out these amazing books.

- **Braille Through Remote Learning**: Offers self-led courses on Braille.

- **Braille Bookstore**: Great selection of braille books, braille dictionaries, and even braille flash cards. They also carry fun games like braille playing cards or braille dice.

- **State Pals**: This is NFB’s pen-pal program for kids who read and write braille.

- **National Library Service for the Blind and Physically Handicapped (NLS)**: This is the Federal Library of Congress service that provides free braille books and audio books to blind patrons. Check out their [NLS Kids Zone](http://www.nls.gov/children/) for children’s books and events.

- **Tactile Vision**: A company that specializes in creating tactile books, calendars, and greeting cards. We love their Christmas cards!

- **Accessible Children’s Magazines**: Search the database and sign up for free Kids Magazines in audio, large print, or braille. APH also offers the [Squid Tactile Activities Children’s Magazine](http://www.aph.org/publications/squid-mag.htm).

- **Hungry Fingers**: Some lovely, simple and often wooden resources to help blind children to understand, interpret and produce tactile graphics (drawings). Many of these resources also help with spatial awareness and understanding.

Other Materials

- **TacTiles** *
- **Tactominoes** *
- **Touch and Match Guessing Game** *
- **Tactile Game** *
- **Touch and Match** *
- **Magnetic and/or Cork Boards**
- **Muffin Tins w/balls (can also use half egg cartons)**
Other Materials (cont’d)

- Assorted Fabrics
- Assorted small 3D objects
- Modeling Clay
- Clothespins
- Bubble Wrap
- Peg boards
- Sorting toys

Recommended Reading

- *Beginning With Braille: First-hand Experiences with a Balanced Approach to Literacy*, Anna M. Swenson (APH)