

I'm starting to get the feel of it!

What does research tell us about tactile and object exploration among young children with visual impairments

The early years before Braille reading is introduced are a time when young children with visual impairments can begin to develop abilities related to touch that will prepare them to learn this skill successfully.

Researchers at the Center for Early Literacy Learning (CELL) were interested in how variations in surface and object textures and other features might relate to young children's engagement in touching, exploring, and using their hands and bodies to interact with their world. Their objective was to test the long-held belief that tactile and object exploration and the ability to detect differences in surfaces or objects are important experiences leading to readiness to learn to read Braille.

The researchers examined nine studies including 82 preschool children with visual impairments. A focus of each study was use of the sense of touch for exploration of surfaces and materials that varied in texture or handling qualities and a child's ability to differentiate among them. The assumption was that the children would engage in more exploratory behavior with objects and surfaces that provided more interesting, varied shapes and textures. The types of exploratory behaviors examined included shaking objects to produce sound, manually exploring novel objects, and dropping or rotating objects of different shapes. The types of tactile exploratory behavior included things such as touching sandpaper, exploring gradient textured surfaces, and examining surface differences.

The CELL analysis found that the children



engaged in more exploration with objects and surfaces that offered more complex textures and more responsive feedback (such as sound) to a child's action. The findings provide support for the belief that the kinds of materials provided young children with visual impairments matter in terms of object and surface exploration. This is considered an important part of early literacy development for young children who are to be future Braille readers.

This *CELLnotes* summarizes findings reported in Dunst, C. J., & Gorman, E. (2011). Tactile and object exploration among young children with visual impairments. *CELLreviews* 4(2), 1-15.

Acting on the Evidence

Download free, two-page *CELLpractices* guides in versions for parents or practitioners at www.earlyliteracylearning.org

Staff of CELL have created a number of practice guides especially for parents and early childhood practitioners to encourage putting this research evidence to use in home, community, and classroom settings. All of the two-page practice guides listed below are available for free download on the CELL project web site: www.earlyliteracylearning.org. At this web address you can also find interactive posters called *CELLpops* and multimedia practice guides such as videos that illustrate practices supported by this research.

The Center for Early Literacy Learning
Specialized Practice Guide for infants and toddlers with visual impairments **Infants & Object Exploration**

The Magic Touch

Touching and handling objects and materials is an important learning pathway for infants and toddlers with visual impairments. This practice guide offers ideas about how to support exploration and manipulation through the use of toys and objects that provide differing feedback, as well as surfaces with complex or contrasting textures and shapes.

What is the practice?
This practice involves providing toys or objects that are responsive to a child's actions as well as surfaces that are complex or contrasting to the touch. The practice is especially important for infants and toddlers with visual impairment because this is believed to be a precursor of tactile readiness. The more complex the texture and the more sensory feedback the objects provide, the greater the amount of child exploration.

What does the practice look like?
The intent of the practice involves objects or toys that are responsive to a child's actions. This means that an object provides some response when a child uses their hands or fingers to manipulate the object. An example of this practice is providing a toy that has a button or pull a lever. The second part of the practice involves providing contrasting surfaces that create the most sensory feedback when touched. An example of this practice is providing a book that has varying textured pages or a paper for the child to touch and rub. The texture shapes in the book might vary from smooth to bumpy or soft to rough.

How do you do the practice?
Here are some ways you can help your infant or toddler explore and manipulate objects and surfaces.

- Provide your child toys that make a sound, play or vibrate when they push buttons, pull or twist a lever.
- A rattle is a simple toy that provides immediate sound feedback to a child's shaking action.
- Create your own responsive objects with texturally interesting surfaces by attaching small, safe-to-handle toys together with velcro. Blocks or other small objects can be joined with bits of velcro and easily pulled apart by a toddler. The sound and feel of the velcro will provide interesting sensory feedback to the child. This can lead to increased exploration.
- Fill a large container with everyday objects that vary in texture, such as a smooth plastic spoon, a soft wash cloth, or a rough scrubber. Encourage the child to put their hand inside the container or guide the child's hand on top of you and pull out objects for more exploration.
- Make your own Touch-and-Feel Book by cutting shapes out of contrasting textures, such as bubble wrap, sandpaper, felt, or different types of fabric scraps.

How do you know the practice worked?

- Does your child explore play with toys?
- Does your child smile and laugh when exploring objects?
- Is your child able to independently manipulate toys?



actile and object exploration

change, change...
Developmental changes in play skills occur every day with an unpredictable number of 'look-alikes' when the child is playing with toys. It's important to have a daily schedule for him to follow using his daily activities. Some ideas for playing and playing with it when he completes the day. Some ideas for him to play with the toys when he's not playing with the toys. The more time he spends playing with the toys, the more he'll learn about them without the need for a daily schedule. One idea is to play with the toys when he's not playing with the toys. One idea is to play with the toys when he's not playing with the toys. One idea is to play with the toys when he's not playing with the toys.

Play to the music
Dawn is a 16-month-old with some developmental delays as well as visual impairment. His family child care home provides a music program. Dawn is a 16-month-old with some developmental delays as well as visual impairment. His family child care home provides a music program. Dawn is a 16-month-old with some developmental delays as well as visual impairment. His family child care home provides a music program.

-dub-
This is congenitally blind. During 16 months, her parents tried techniques to soothe her, but she was doing both things on her own and laughing. Her parents bought and played to her about it. She actually, they played and played to her. She actually, they played and played to her. She actually, they played and played to her.



Especially for practitioners working with preschoolers!

Starting Write

Invented Spelling and Writing
Before children ages 3-5 begin to spell and write like adults, they start to understand that writing uses symbols to carry meaning that others understand. To encourage their exploration and interest in written language, show them how to invent spelling. It's all about their focus on the process of communicating through writing, rather than on a perfect finished product.

What is the practice?
Beginning writers can be frustrated by not knowing the exact spelling of words they are trying to use. This can leave their motivation to write. Encourage preschool children to write using the letters that sound right to them without focusing on exact spelling or letter formation. This is the best way teachers can help children develop writing skills.


What does the practice look like?
A preschool student may sign his art project with some letters in his name, or even a drawing. Another child might make a drawing list with a combination of letters, numbers, and other symbols. These are examples of how children begin to experiment with written language. It's important for children to explore written language this way and fall about that writing with an interested adult. It allows them to gain the important motor and cognitive skills needed for their writing skills to develop.

How do you do the practice?
You can find a world of opportunities to use invented spelling in your preschool classroom. For a start, have the children complete a list of class or circle time. Post sign-up sheets of popular activity centers. Encourage children to sign their work and write their own directions or stories about their art.

- You can organize your classroom to encourage the use of writing. Include writing materials at every center, and just off and writing. Demonstrate the many uses of writing to groups or individual children. For instance, pops and pencils in the blocks center could be used for drawing signs or maps. Show how writing could be used to label work in progress, in the housekeeping center, writing materials can be used to make play menus or grocery lists. The book center can include items for children to make their own books.
- You can encourage children to take their work seriously in many ways. Have them read if about to you and show your appreciation. Display fun-filled examples of their writing, such as handwritten labels to welcome signs for class parties. Set up a classroom mail center for children to leave notes and messages for each other.
- Provide plenty of examples of conventional writing all around the room. This can be done in the form of books, posters, the calendar, and printed signs. When children struggle to get their letters, they will have access to familiar models around them.
- Some children are more concerned with "getting it right." This can cause them to be "hesitant" to write something if they are not sure if it's spelled. Support these children by helping them learn the words in letters and words. Encourage them to work with other children on how to spell something.

How do you know the practice worked?

- Are the children in your classroom eager and motivated to write?
- Do they understand that what they write carries meaning?
- Does their writing and spelling grow more conventional over the course of the year?



of more prewriting with preschoolers

Signs!
The preschoolers in Ms. Joel's class use sign-in sheets every day when they come to school. First they find their pictures on the laminated sheet by the door. Then they use markers to write their names next to their pictures to indicate they are present. Some of the children are not yet making any recognizable symbols. All they are "signing" to show others they have arrived. They use the sign-in system during free centers, too. They sign up for the most popular centers for writing their names on the waiting list of these centers. The children get to practice their writing throughout the day and learn to recognize one another's names as well.

Sign-in Charts
The preschoolers in Ms. Joel's class use sign-in sheets every day when they come to school. First they find their pictures on the laminated sheet by the door. Then they use markers to write their names next to their pictures to indicate they are present. Some of the children are not yet making any recognizable symbols. All they are "signing" to show others they have arrived. They use the sign-in system during free centers, too. They sign up for the most popular centers for writing their names on the waiting list of these centers. The children get to practice their writing throughout the day and learn to recognize one another's names as well.

Greetings
In preschool, the children have access to the sign. They also have a mailbox. Letters for each other and for their in the mailbox. They use the mailbox to send birthday messages or notes for an adult. Any class has to have a mailbox. They use the mailbox to send birthday messages or notes for an adult. Any class has to have a mailbox. They use the mailbox to send birthday messages or notes for an adult. Any class has to have a mailbox.



Especially for PARENTS

- Infants:**
 - Finger Drawing
 - Mark My Word
 - The Magic Touch
- Toddlers:**
 - All...Write
 - Art of Writing
- Preschoolers:**
 - I See Signs
 - Get Write On It
 - Art of Writing

Especially for PRACTITIONERS

- Infants:**
 - Infant Scribbling Activities
 - Let Little Fingers Do the Drawing
- Toddlers:**
 - Writing the World
 - Writing Through Art
- Preschoolers:**
 - A Place for Writing
 - Starting Write