

Session Two, Part 1: Developing Language

Web course on Early Literacy for WSDS
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Resources for content:

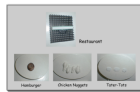
On the Way to Literacy, 2nd ed., APH

Project EDIN, Chapel Hill, NC

Project VIISA training material

Language/Linguistic Communication

- The ability to listen/watch/feel and speak/sign/indicate with understanding
- Any complex system that uses arbitrary symbols and rules to represent concepts
- Includes:
 - speaking/listening
 - signing
 - reading/writing print
 - reading/writing braille
 - more sophisticated alternative communication systems (e.g., Texas School for the Blind Tactile Symbol system, Bliss symbols)



Receptive Language of the Toddler

12 to 18 months

- Follows simple one-step commands
- Points to one to three body parts
- Identifies one or two objects from a group of objects

18 and 24 months

- Comprehends about 300 words
- Interested in listening to stories

2½ years

- Comprehends 500 words
- Listens to 5-10 minutes of a story
- Carries out two related commands

3 years

- Comprehends 900 words

Knows concept words such as *in/on* and *big/little*

By kindergarten, a child may understand more than 10,000 words



Expressive Language of the Toddler

- 10% of typical children are “late talkers”; half catch up by age 3
- Children who are VI say first words about same time as peers
- Difficult to produce speech under pressure; don’t demand
- 2 years: 65% of speech is intelligible, ~50 recognizable words
 - Tends to be a “word explosion” when vocabulary hits 50 words
 - speech production seems to become more automatic
 - the child can focus more effort on learning new words; puts words together
- 2½ years: 70% of speech is intelligible, ~200 words
 - Answers *Where?*, *What doing?*, and *What do you hear?* questions
 - Uses two-word phrases including negation (e.g., “No bed”), possessives (e.g., “Mommy car”), and pronouns (e.g., “Me Janey”)
- 3 years: 80% of speech is usually intelligible, ~500 words
 - Asks simple questions and repeats sentences
 - Uses articles such as “a” and “the”
 - Uses contractions and *-ing* endings
 - 25% of utterances are nouns and 25% are verbs



Interpreting/Responding to Early Words

- Learning to pronounce words clearly and combining them in meaningful sentences develops over a long time
- The child may know what they mean, but others may not
- The child with vision impairment may not be able to point or use the direction of their gaze as a cue to others
- Caregivers can watch for the following cues:
 - What was the child doing when he spoke?
 - Is he happy/unhappy/relaxed/tense?
 - Has a new sound/object/activity been introduced?
 - What does he usually do/expect at this time of day?
 - If I were VI, how would this situation appear/feel like?
- Make the best interpretation you can and act on it
- If a request can’t be granted, let the child know that you understood (“You can’t have a cookie now, but after lunch”)



I don’t understand what you want?

- Mothers successfully interpret their child’s words on the first try only half of the time
- If the caregiver is not understanding and the child starts to get frustrated (repeats, whines), try the following ideas:
 - Ask child to “show you” what he wants or has in mind (works best if child can move around or see)
 - Walk with child as you tell and show him where you are (“We are in the kitchen”); name some of the things the child may have in mind (“Milk is in the refrigerator. Is that what you wanted?”)
 - Offer a choice between things you think he may want, letting him touch them as you name them
 - Ask him for another word as there may be another word in his vocabulary that he can use more easily

Expanding on Utterances

- By responding to the child's utterance by adding words, you are:
 - helping him learn new language
 - challenging his thinking
 - helping him organize and find words for a more complete idea
- Example:
 - Child reaches out and touches the horse and says "horsie"
 - Adult says "Horsie...big horse."
 - Child says "nose" and adult replies "Horse has a wet nose."



"More"

- Typical children don't use more until later on
- Too often with children with multiple disabilities, the sign for "more" is introduced too soon and they use it for everything they like and you don't know which activity they want more of
- For example, the child enjoys swinging:
 - stop the swing, ask if they want to swing and pause
 - take a body movement such as legs kicking or a vocalization as the indicator for "more swinging"
- When they have a consistent body movement for swinging, and many other games, then introduce the sign for "more"... "more swinging" "more rocking"
- If they want "more cookie" it is better to encourage them to say or sign "cookie"
- Later, when they can say or sign "cookie" and use other words/signs, then add the word/sign "more" to get "more cookie"



Small Differences in Language Use

- A young child with visual impairments tends to learn specific names, "carrot", "corn", and fewer names for broader categories, "vegetable"
- To help with this, give them opportunities to handle and compare related things as you use specific and general name:
 - "We have a carrot and corn."
 - "Which vegetable-the carrot or corn- do you want today?"
- Over-extension is when a child uses the same word for other similar things (e.g., all animals are called dogs)
- Casually model the correct name and offer additional information ("Yes that animal is like a dog, but is meows and we call it a kitty.")



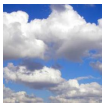
Small Differences in Language Use, cont.

- Children with BVI use more words that name things and fewer that name actions
- Help him experience things as you name the action (“You are *walking*.”)
- These children are also more likely to use words that refer to themselves and their own actions rather than those of people around him
- Talk to the child about activities of family members as you involve him (“Dad is washing the dishes. You can help him wash”)
- Children with vision impairments often use “empty words”, words they have heard but don’t understand the meaning of; tie words to meaning; build concepts



Model Words in Many Ways Every Day

- At first, keep your sentences short and simple, stressing the word you are helping the child learn (That’s a *shirt*.)
- Provide descriptive language (It feels *warm*.)
- Comment on what the child is doing (Taking it *out*.)
- Be careful not to give too many directions or ask too many questions; this approach is too controlling
- Use words and concepts the child knows to help them learn about new word meanings, example:
 - compare clouds to the feel of steam in the bathroom-damp and clammy
 - they are large and small and many shapes
- Language and experiences together build meanings that are greater than the sum of the two



“Wh” Questions

- Most children ask *who, what, where* questions before *how, when where*
- Provide answers the child can see or touch
- *How, when, where* are more abstract
- *When, where* require concepts related to time
- *How, why* require reasoning and cause/effect
- Children ask *why* questions only after they are able to make statements about cause and effect
- Answer these types of questions appropriate to the child’s age and level of concept development; keep explanations simple



Questions

- Children with visual impairments often overuse questions in their conversations:
 - because of the need to know about what they don't see
 - to maintain contact with others
- When children use questions inappropriately, model more appropriate language use and ways to stay in touch
- Avoid asking **them** too many questions
- Help children listen to the answers to appropriate questions
- Teach them how to ask appropriate questions that will get them the information they need
- As the child's language becomes more advanced, ask open-ended questions ("What will happen next?")
- These challenge children intellectually and facilitate conversation by encouraging them to tell their stories
- Open-ended questions can't be answered in just a few words

Pronouns

- All children initially make mistakes in using pronouns
- Children with visual impairments may experience prolonged difficulty mastering correct use of pronouns
- They learn to use "I" later than others as they require more time to gain a sense of self separate from others
- Pronouns can change referent a few times in a sentence
- Without visual cues, it is easy to misinterpret whose turn it is or what is happening
- Touch and verbal cues can help (e.g., "Adam, you put it in" as he is touched)
- Adults can model correct use of pronouns in three-way interactions (e.g., "Adam, give the puzzle to Elli, *she* needs a turn.")



Perseveration

- Children with visual impairments often perseverate on topics of interest, often because they don't have a wide range of experiences to pull from when talking with others
- Additionally, children with visual impairments often do not express interest when new topics are introduced, perhaps because they don't know enough about it to talk about it
- Strategies for decreasing perseveration include:
 - involve child in daily activities to build concepts and interests
 - model the expression of feelings and help the child put their feelings into words
 - talk to them about what others are doing and interested in



Art of Conversation

- The child may have a hard time taking turns in conversations
- Redirect the child when they interrupt or inappropriately change the topic:
 - “Are you still talking about...?”
 - “Could we talk a little more about....?”
- Also model how to change subjects:
 - “That reminds me of... I just noticed that.”
- When the child uses improper grammar, just restate the child’s sentence using the correct grammar and complete sentences
- By age 4, most children use proper grammar most of the time



Conversation

- Children learn new words from participating in meaningful conversations among children and with adults
- When conversing with children, do not limit vocabulary to words they already know; they learn new words readily
- As children learn language and their world expands, conversations will:
 - become longer and last for more turns
 - sentences become longer and more complex
 - cover a wide variety of topics
- Over the first 3 years of life, a child who has spent time in extended conversations with caregivers about a range of experiences has heard 30 million more words than children whose parents have not engaged them in that way



Decontextualized Dialogue

- Decontextualized dialogue is conversation about subjects beyond the present:
 - the past
 - the future
 - distant places
 - imaginary worlds
 - things that “might have been”
- It is used to expose children to concepts and experiences that they do not have direct access to,
 - teach children words that indicate time
 - help children remember events
 - help children ask or respond to open-ended questions
 - help children learn to problem solve.



Play

- Children learn through play
- Children learn the most from activities they enjoy
- Adults can promote exploration, conversation, and imagination during play to help children become avid learners

- Collaborative play areas encourage conversation among children:
 - Sandboxes, water tables
 - Forts, playhouses, lofts
 - Theatrical stages and puppet stages
 - Bulletin boards
 - “Block areas” with blocks for building imaginary worlds



Conversation with Other Children

- By the time the child is 5 he should be able to carry on a limited conversation with peers
- During conversations with other children, children can:
 - learn new words
 - practice the words they know
 - exchange ideas and information
 - issue orders and invitations
 - negotiate sharing and turn taking
 - plan and act out imaginative play scenarios
- The child who is visually impaired will need help:
 - begin with helping them interact with one other child at first
 - model a greeting, exchange of names, a few things
 - model how to take turns, guide, support



Recall and Story-telling

- Talk about the past, future and other events that are not in the here-and-now
- This gives language that uses a different structure, vocabulary and style
- Storybooks and most material read in school uses this type of language
- Give opportunities to tell personal stories to help child develop a sense of “story grammar”
 - stories have a beginning/middle/end
 - certain words indicate the sequence of events (before, after, next)
 - descriptions and details can improve the telling
- Model how to use words like first, later, to give order to things
- Having conversations based on spontaneous comments from the child improves the child’s recall of the event



Word Concepts to Model and Teach

- Categorization- "Those are red shoes." "Balls are round."
- Comparison- "My piece is too big. Your piece is too wide."
- Quantity- "There are a lot of spoons in this drawer, but only one fork"
- Multiple meanings- "A dog has legs. This chair has legs."
- Time/Sequence- "It's 6:15, time for dinner. Today we are having spaghetti. Yesterday we had pizza."
- Cause-effect- "The block tower will fall if you pull one out."
- Structure words relate parts of a sentence to each other- "Puppy will feel better *because* we gave him food."
- Direction/position- "You are *in* the tub. Climb *up* the slide."
- Use more complex language ideas- "If you call me, I will come get you."
- Many young children enjoy learning rare or unusual words, such as dinosaur names or the names of storybook and cartoon characters

Theory of Mind

- This is being able to put yourself in another person's mind
- It is language we can't see; abstract thought
- Typically developing children have it by age 5 or 6
- Words that require this understanding are: *know, worry, remember, hope, sorry, pretend, nervous, idea, forgot, etc.*
- For example, can you show a child a *remember*?
- Children can be helped to understand these types of words if parents talk out loud about what's going on in their own head or what they think is going on in the child's; examples:
 - "I *worry* that I may fall down on this icy sidewalk."
 - "I know you are *frustrated* because you can't have the ball right now."
 - at the grocery "I *forgot* the grocery list we made this morning, Elli."

Echolalia: Repeating What Others Say

- Imitation is a normal part of learning to talk in young children using 1-2 words at a time
- It involves simplification of language structure without confusion between questions and answers, *I* and *you*, *yes* and *no*
- Children who use echolalia have:
 - great memory for what they hear but poor understanding
 - difficulty requesting/rejecting, making choices, directing another person's actions, returning greetings, and answering questions
- Often, echolalia serves a purpose:
 - an attempt to communicate (agree or protest)
 - to confirm what the other person just said
 - to get the adult to repeat or explain themselves
 - a way to keep in contact with others, keep a conversation going or to find out who is in the room

Forms of Echolalia

- Two forms-immediate and delayed
 - Immediate**
Mom: "Want a cookie?" Child: "Want cookie?"
 - Delayed**-occurs hours, days, weeks later
(later, wants another cookie when mom hasn't offered it)
Child: "Do you want a cookie?"
(function of these echoes is to make a request)
- Echoes may be exact word-for-word or mitigated
 - Word-for-word**
Sister: "I want to watch TV." Child: "I want to watch TV."
 - Mitigated** (*more nearly appropriate*)
Mom: "Do you want to play blocks or slide?"
Child: (moves toward slide) "Or slide."
(function is answering a question)

Echolalia in Children with BVI

- Some like the way words sound; a type of self-stimulation
- Echoing words may become a habit, a way to pass time or a way to handle stressful situations
- If you sense it is being used to pass time, guide the child into another activity that he enjoys
- If he seems to be using it to cope with stress, help him find more appropriate ways:
 - ask for adult help
 - leave the situation
- Rather than scold, show him another way to handle his emotions



Strategies for Echolalia

- How you respond will depend on why you think the child is repeating words
- If the child is using it to maintain contact:
 - model questions he can ask to keep the conversation going
- If the child is using it because he does not understand:
 - give additional information to make your meaning clearer
 - demonstrate how he can let you know he does not understand, e.g. "What do you mean?"
- If he repeats a direction as a way of protesting:
 - model other ways to state his unhappiness, e.g., "You mean you don't want to put away the toys"
- If he repeats your question, he may not know the answer or how to respond:
 - teach a phrase like "I don't know where the..."

Strategies for Echolalia, cont.

- Provide additional environmental information to expose children to rich language and concepts
- Expand on the child's language to model the next step in language use
- Don't talk constantly—give children time to listen and process
- Include a third person in the conversation to serve as a model of appropriate language
- Respond to the communicative intent while providing a simple model of appropriate language
- Provide positive reinforcement for appropriate language
- Think about how your words will sound if the child repeats them back; say it the way it should sound when it gets repeated back to you

Summary

- Language and literacy are woven together
- The ability to listen, understand, speak and be understood are at the heart of literacy
- Children who do not hear a lot of talk and who are not encouraged to talk themselves often have problems learning to read (Ambruster, Lehr and Osborne, 2003)
- Even though a child may link print or braille shapes to the sounds of spoken language,
 - he will be literate only *if* and *when* he is able to recognize those sounds as words that have meaning
 - he will be able to write only if he can first put into words the meaning he hopes to communicate



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Concepts

- Concepts may be acquired from:
 - sensory perceptions (brush-bristles)
 - interactions with people, objects, events
 - matching, comparing, classifying, and grouping
- The quality and quantity of experiences available to children with visual impairments will impact their concept development
- Concepts can be:
 - Concrete*: knowledge of specific characteristics
 - Functional*: understanding purpose or function
 - Abstract*: understanding of characteristics and purposes and ability to generalize to other uses and situations



What is a Concept?

- Concepts are a child's understanding or mental representations of people, places, things and events (duck-hard beak, soft with feathers, 2 webbed feet)
- They allow the child to:
 - identify objects and what they do (duck "quacks", swims, flies)
 - predict what will happen next (wiggles when held, may poop)
 - determine their role in a wide variety of interactions (better to just watch it, throw corn for it to eat, not scare or chase)
- Concepts provide the foundation for all learning and give meaning to the language a child hears, speaks, reads, writes



Object Concepts and Schemes

- *Object concept* refers to understanding what an object is and, later, its function and meaning
- Through repeated and meaningful experiences with objects such as bottles, rattles, and rubber squeak toys, infants begin to recognize the sensory features of objects
- Deliberate actions that involve objects are called *object schemes*. Examples of object schemes include:
 - bringing a toy to mouth, banging toy on surface (simple)
 - crumpling paper, rolling a ball (complex)
 - putting on a shoe, peeling a banana (functional, social)

Object Constancy

- Object constancy is the ability to perceive an object as unchanging even under different conditions of observation (e.g., seeing half of the object, feeling legs of table vs. top)
- Children acquire object constancy through multiple, hands-on experiences with objects (playing under the table, standing next to the table, sitting on top of the table)
- Children need to learn to use and play with objects in different positions (on stomach, back, sitting, standing)



Generalized Concepts

Example: Apples come in different colors, they can be the actual apple, an apple cut up, applesauce, dried apples, apple pie, apple juice.....



Linking Language to Concepts

- When objects are labeled for the child, they are alerted that this is a category of things
- By hearing the word “chair” to refer to kitchen chairs, folding chairs, reclining chairs, etc., the child may begin to notice the common features of chairs (4 legs, seat, back) even though there are differences (size, shape, texture, color)
- The couch in the living room and bench at the park are not called chairs, even though they have similar functions and features (you sit in them)

Linking Language to Concepts

- The child may notice in time that chairs only seat one person, but couches and benches seat many
- Talk to the child about the various features of objects, their likenesses and differences
- A known concept can be used to teach a new one (e.g., stands in the stadium, common features as a bench)

Are the Underlying Concepts in Place?

- Watch for signs the child has learned language without the underlying concepts, example:
 - Child has discovered trees are outdoors with a round trunk
 - One day, he feels a lamp post and calls it a tree
- Take time to explore a tree again:
 - point out the texture of the bark
 - lift child to feel branches and leaves
 - feel the roots
 - talk about how they are living, grow, and change
- Explore the lamp post and point out:
 - metal, smooth
 - man-made for a purpose
 - try to point out the light way above



Acquisition of Environmental Concepts

- Allow children to explore environments in a systematic manner without intruding
 - Provide simple, appropriate descriptions as children explore
 - Help children identify landmarks
 - Help children identify sensory features of different areas—textures, sounds, smells
 - Keep furniture, favorite toys, and personal items in predictable positions
 - Bring the environment to the child (e.g., snow indoors in a big pan to play in for child who is medically fragile)



Acquisition of Environmental Concepts, cont.

- These are best taught within daily routines:
 - Storage/retrieval of favorite toys/personal items
 - Food preparation and storage
 - Self-care activities
 - Other chores around the house (e.g., help with laundry, dishes, yard work, cleaning room)
- Provide simple verbal interpretation while allowing children time to process and respond
- Task-analyze daily events into small actions that can be easily accomplished so that the child participates in daily activities as independently as possible
- Repeat experiences often and in a consistent way



Avoid the “Good Fairy”

The child who is visually impaired needs to experience and know where things come from, where they go back to, and where they are kept so that later they can learn to get items themselves and return them. Otherwise that cup or toy just come out of the air and the child learns to passively wait for others to hand them things.



Encouraging Exploration

- Children who move about and explore their surroundings acquire concepts about the world that promote cognitive development
- As child begins to scoot, walk and get around she will find new things each day (e.g. emptying kitchen cabinets)
- If child is not independently mobile, caregivers will need to give them opportunities to be in different areas and help them explore
- Safety proofing areas will be very important
- Look for ways to foster curiosity and independence
- Many skills are needed for exploring:
 - use hands and fingers separately; feel differences in texture/shape
 - move from random to purposeful exploration
 - recall and fit together specific experiences throughout the day



Encouraging Exploration, cont.

- Encourage use of senses (actively touch, listen, notice details):
 - mud is dirt that is wet
 - wet sand sticks together but dry sand does not
 - my dog's bark is different from the neighbors dog
 - the trash can outside is as tall as I am
- Help the child investigate how things are related:
 - smell food cooking, then taste it afterwards
 - hear and feel vibration of washing machine
 - hear difference in sound of pushcart going from linoleum to carpet; how it is harder to push on the carpet
- As the child's "network" of concepts expands, exploration becomes easier and learning increases



Begin with the Child, Follow Their Lead

- By watching what the child is saying or doing, you may notice moments when the child is trying to figure things out
- These are "teachable moments"
- The moment usually occurs during a play activity or daily routine
- Example:
 - Ellen is playing store with her older sister who is working the new play cash register
 - Ellen leans over, curiously watching sister
 - Mom asks "Do you want to be the cashier?"
 - Mom suggests that the sister show Ellen how the toy register works and they switch roles
 - Ellen learns how it works and how to play the roll of cashier and is pleased with herself



Using Hand-Under-Hand

Introducing a new object:

- Hold object in hand and place back of your hand under child's palm
- Slowly rotate your hand with the object so the child will come in contact with it slowly
- Child decides whether to touch it, take it or remove hand
- Don't force child to take it



Introducing an item with a large surface:

- Put your hand on the surface and encourage child to place their hands on top of yours
- Slide your hand back gradually to allow child's hands to come in contact with surface as you gently explore it, guiding child to do the same



Questions for Object Concept Activity

- Where in the house is the object usually found?
- What do sighted children observe adults doing with it?
- Would sighted children participate in the adult's activities with the object or watch?
- What concepts about the world do these children gain through observing adults using the object?
- Would children with VI know the room or location of the object if they were not specifically shown?
- Would children with VI be able to observe adults using the object in the same way? Differences?
- How can adults involve children in activities with the object?
- If the item is not common to every home, how might you assist the family in teaching the child how it is used?



Key Underlying Concepts

- There are some key basic concepts that underlie many other concepts that are critical and often take longer for children with visual impairments to grasp
- They are found on Cognitive sections of developmental scales and include:
 - Object Permanence
 - Cause-Effect
 - Means-End
 - Number Concepts and Quantity
 - Spatial Relationships
 - Grouping (sort and match)
 - Time, Size, Shape
 - Pretend play and open-ended play



Object Permanence

- Object permanence is the child's understanding that objects and people still exist even when they can't be touched, seen, heard
- Sighted infants develop this skill around 9 months
- Children with severe VI may not realize that the toy that was just heard or touched still exists when it is not being touched
- *Strategies for promoting object permanence:*
 - Recognize signals that convey interest in items recently removed from touch
 - Play peekaboo and hide/find games
 - Provide tactile and, later, sound cues to encourage reaching for objects
 - Provide organized and consistent play spaces
 - Involve child in the retrieval of desired objects (e.g., book from shelf, diaper from drawer, clothes for dressing)



Cause and Effect

- Infants learn they can make things happen and control the environment by observing multiple examples of cause and effect daily routines:
 - Variations in vocalizations result in responses: feeding, diaper, comforting
 - Light switch is flipped and lights are turned on and off
- Infants use eye gaze, or joint visual attention, to secure items of interest —toys, bottle, blanket, etc.
- When vision is absent, it is hard to feel both the cause (ball rolls into stack of blocks) and effect (blocks topple over)
- *Strategies to promote cause-effect*
 - Tell and show (press button that starts dishwasher then feel its vibrations and hear the water running)
 - Explain things happening around the child and encourage them to investigate
 - Making a mess can teach important concepts (push almost empty glass of milk off kitchen table and feel/clean up mess on the floor)



Means-End Relationships

- Problem solving to identify a method for securing a desired object/task:
 - Wiggling the body to move closer to an object
 - Reaching with the mouth when both hands are holding objects
 - Grabbing mom's hands to help with pat-a-cake
 - Inverting the cup to obtain the snack
- Give the child chances to use simple every-day tools and experience the end result
- Some objects can be used as tools to achieve a particular result:
 - using a spoon to get food to the mouth
 - using a basket to carry things from place to place
 - standing on a stool to reach cookies on the counter
 - using toys or objects such as kitchen utensils/drumsticks to probe alongside the body and explore the space beyond reach to learn more about the environment



Body and Spatial Concepts

- As infants learn about their bodies, they also learn about the space that their bodies occupy and the surrounding space
- In order to move effectively and efficiently, children must use sensory information to establish their position in space and their relationship to significant objects in space
- To achieve this spatial orientation, children must understand self-to-object and object-to-object relationships
- Cognitive maps of these relationships facilitate efficient travel
- Vision permits simultaneous perceptions of multiple objects and allows individuals to perceive distant environmental features
- Most environments have abundant visual information that is continuous, unlike auditory or olfactory input
- Children with some useful vision have better spatial concepts than children without vision



Strategies to Teach Body and Spatial Concepts

- Touch and explore the relationships of objects in a more confined space easier to examine by touch
- Teach *self-reference* first, how their body relates to other things (in, on, under, up, down, between)
- Then teach *body-to-object* (hat on my head)
 - play body/movement games
 - negotiate barriers and use push toys
 - search for dropped objects or things that roll away
 - get toys out and put them away
 - scoot or trail along walls to move place to place
- Teach social posture: head up, look at person talking to you
- Teach *object-to-object*
 - hit drum with stick, stacking, container play
 - put object in, under, over, next to another, etc.
- Provide opportunities to explore vertical space with body (being thrown up in air, climbing equipment)



Concepts about Rooms and Buildings

- **Refrigerator Box House**
 - learn about windows, walls, doorways, ceiling, floor, corners, open/close
- **Explore a Closet**
 - learn that this larger space has all the same things as above
- **Explore the Bedroom**
 - lift high to feel ceiling above, bend low to find floor under the feet, corners, walls, window, door/doorway



Concepts About Time



- Begin with establishing consistent routines that happen at certain times of the day
- Talk about what the child is doing now, what will be happening next, and what he did (past, present, future)



- Use calendar systems
- Talk about the actual time of day (morning, afternoon, night)

Number Concepts

- Child first comes to understand "one" through daily experiences "You can have one cookie. You have a mouth"
- Next, "two" is learned by holding an object in each hand
- Learning about numbers greater than two is harder and the child must touch each object as it is counted; one-to-one
- In learning to compare quantities to learn about few/many or more/less, the child with low vision must actively touch groups of objects since they can't do it with a glance
- If the groups are not small enough to fit beneath the hand, they will have to feel each item individually and use recall
- Explore groups of objects with the child:
 - bowl with a few cereal bites and one with a lot
 - setting the table, counting people and spoons needed



Concepts About Shape

- *Three dimensional* shapes:
 - shapes of objects (round-ball, apple, plate; triangle-pyramid shaped object; square-block, box)
 - shapes of real objects (fuzzy square pillow, egg) may not be as easy to recognize as that of simple forms (block, ball)
- *Two dimensional* or flat shapes:
 - label shapes of objects (round-plate, coins; square-book; triangle-coat hanger;)
 - play with flat shapes and geometric form boards put together shapes to make designs/pictures
- *One dimensional* or line/raised line drawings:
 - label shapes of objects in pictures, textured, raised line or drawn); draw around objects
- Later, child's concept, for example, of "round" can mean round like a ball, rim of a cup, circle of children, table top



Sorting and Matching

- Playing with materials that can be compared and grouped according to likenesses and differences helps the child learn about *same/different*
- When exploring an object, comment on features that are like/not like familiar objects ("This ball is red like your ball, but bigger.")
- Sample game with toy vehicles:
 - child picks out the trucks to play with and parent the cars
 - child rolls big trucks down the ramp and adult the little cars
 - compare which ones go fast and which go slow
- Child with BVI may group according to features more meaningful to them (e.g., by sound or a texture); ask them about their grouping
- Routines provide opportunities for grouping (laundry, putting away dishes or groceries)
- Many toys used in play can be matched/sorted (geometric shapes, textured blocks, sound toys)



Providing Complete Experiences

- As child grows, she can play a more complete roll in day to day activities such as fixing a snack, going to the store, chores, etc.
- Most children learn through pictures or TV; the child who is BVI must be a *doer*
- Plan experiences that are complete, for example, a trip to an animal farm:
 - Does the child have the basic underlying concepts needed? (animals on farm, what we get from them-eggs from chicken)
 - Shortly before the visit, talk about what you will be doing, explain new words, show big pictures or models of animals
 - Talk to the farm ahead to be sure you will be able to get close, touch and interact with animals and things on the farm
 - Plan for follow-up (buy eggs at store, let child help crack them open, cook them, eat them; show they can be cooked more than one way)



Open-Ended Play Experiences

- Children need opportunities to work with materials where there is no set right or wrong way to play; sparks creativity; messy:
 - things of different sizes, shapes, textures and containers to put them in; pans, lids and small toys
 - play in water, sand, mud with containers of different sizes and shapes (learn about quantity, volume, weight)
 - bath time play in the water (pour, fill, empty)
 - play dough, blocks, construction toys allow child to experiment with shape, space, part-whole relationships
 - sound making toys and musical instruments let child learn about cause-effect, pitches, loud/soft
 - boxes, baskets, dishes that nest and stack; use with dried beans, rice



Pretend Play

- Pretend play gives the child a chance to act out her understanding of events and roles (fixing dinner, driving the car, being doctor)
- At first, props will need to be the real thing (dishes they eat/drink from daily); in time, they can learn that the small plastic toy dishes represent the real ones; much later, they may substitute for props or not need them at all
- Miniature representations take longer for the child who is BVI to understand; compare them side-by-side (toy chair to real chair; the parts)
- Pretend play will need to be modeled and narrated
- Facilitate pretend play after a real outing (just went grocery shopping, so play grocery when get home)
- Child may enjoy pretending to be a character in a book or pretend to read a book to others, write a shopping list, etc.)



Experiences and Concepts Featured in Early Stories

- At the first grade level, the experiences needed to understand stories fit in the following subject groupings:
 - experiences with friends and pretending
 - working together, sharing, helping
 - looking for or finding something
 - experiences at home and in the community
 - experiences with living creatures, nature, plants, insects
 - getting in trouble
 - experiences with eating
 - experiences with weather
 - experiences with books
 - visiting a farm
 - experiences with different forms of transportation
- Children with visual impairments will be expected to know roughly the same things as their sighted peers in school



Summary

- A young child develops networks of related concepts as earliest experiences unfold
- As the child adds to this store of experiences, existing concepts are refined and new ones added
- For a child with BVI, concepts must be built through many direct, hands-on experiences with a wide variety of things, places and activities
- Caregivers can support concept development by:
 - actively involving the child in daily routines/hands-on activities
 - giving words for experiences and the concepts being formed
 - encouraging use of all senses in exploration
 - providing special support for key concepts that underlie others
 - planning for broad and complete experiences
 - providing materials and opportunities for both open-ended and make believe play linked to real objects and experiences