



## Cognition: Awareness, Thinking & Learning in Young Children

Infants love to listen to voices and prefer speech to other sounds. They love to hear the different sounds, pitches, and tonal characteristics of speech that adults tend to use naturally with babies (which we call baby talk). It is through hearing your words over and over in early conversations that an infant's language capacity grows. Engaging infants in communication begins to provide a solid basis for later success in learning. This pathway to literacy starts with everyday adult behaviors as simple as talking to an infant about what you are doing while changing his diaper, dressing him, or fixing a bottle. Hearing your familiar voice also reassures an infant of your closeness and love.

Providing infants with experiences that promote early language and literacy does not have to require more work or extra time. In fact, talking, singing songs, and communicating with infants throughout the day can make caregiving more enjoyable and sometimes easier. Young infants often settle down to the rhythm of rhymes, chants, and songs. Infants become especially vocal when in a good mood, such as after being fed, and they often respond positively to social interaction at this time. Having early conversations with an infant can help make transitions easier and relieve stress for the both of you. Such conversations early in a baby's life help to foster healthy social-emotional development.

Research has shown that children who receive warm and responsive caregiving and are securely attached to their caregivers can more easily deal with difficult times when they are older, such as starting a new school, making friends or moving to a new place. They are also more likely to be curious, get along better with other children, perform better in school and manage stress more easily. These earliest conversations in the child's native language not only provide the basis for learning language, but also the foundation for later success in learning and in school.

Toddlers at this age are beginning to understand that symbols stand for the objects and things they experience. (This process is referred to as symbolic representation.) For example, they are able to look at pictures of family members and recognize a specific individual without confusing the picture with the actual person. In addition, you might see the toddler in pretend play - like saying "hello" to mommy on a toy telephone or pretending to eat a plastic apple. This type of symbolic play is still in its beginning stages; however, this is the base upon which more complex fantasy play will be built later.

Why does a child insist on getting his rubber duckie every time you read the "Duck Story?" Symbolic thought is an important step in learning to read and write. A child will be very excited to realize the words in a story refer to something in his own life that he can see, touch, and explore. Soon, he will realize that letters and words represent thoughts and be able to enjoy the story in his mind.

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The toddler's growing ability to engage in symbolic thought and play depends on multi-sensory, association areas of the brain, which are located in the frontal, parietal, and temporal lobes, and which develop quite slowly. As toddlers move through their second year, their beginning ability to think symbolically will take second seat to more basic sensory and motor experiences, such as pouring and sifting sand and climbing through tunnels.

Toddlers at this stage are still primarily learning through hands-on experiences. Telling (or "teaching") the toddler that mixing red and blue paint makes purple is not going to get through as well as allowing her to experiment with the colors herself. Providing toddlers with a variety of sensory, motor and pretend play opportunities is a great way to support their development and doesn't require that you "teach" them. Once the child has been given opportunities to work with the paint (or other materials), the memory of that sensory experience can last for a surprisingly long time.

Another activity that serves as a memory booster is music. For reasons we don't yet understand, songs, rhythms, and chants seem to linger in young children's minds especially well. (Remember how you learned the letters of the alphabet?). Somehow, the association of melody and lyrics encourages young brains to take hold and store the words of songs better than those of regular conversation.

How much can their brains hold? Toddlers' memories are quite good over the short-term, (although they do not yet have a developed sense of time.) However, they have great difficulty in remembering when a particular event took place. In other words, the details of certain events seem to be more memorable than the timing of events. For example, they may be able to name several animals seen on a recent zoo trip, but would not be able to understand that this took place one week ago. Conscious memory is still not fully up to speed. This probably reflects slow maturation of the hippocampus (a critical memory area of the brain, located in the temporal lobes) and its connections to the cerebral cortex. However, experiences that do stand out-like the trip to the zoo or discovering that mixing red and blue makes purple-do seem to make lasting impressions in the young toddler's mind. These experiences serve as an important base from which the toddler will construct ideas about the world around her.

#### What you can do:

- Provide a secure and supportive environment. Toddlers who feel safe, trusting and comfortable will freely explore the environment. Cognitive growth comes from on-going exploration.
- Encourage exploration in an environment that provides a variety of sensory experiences, such as sand and water play, play-dough, finger paints, etc.
- Provide props such as play telephones, food, hats, etc. to encourage pretend or fantasy play.
- Resist pressure from others to "teach" toddlers specific academic skills such as colors and shapes. They will learn these readily if you refer to them in the course of your natural daily conversations. ("Do you want a red apple or a green apple?" or "Can you hand me the blue ball?")
- Model pro-social, sharing behavior in your everyday encounters with children, parents and staff.



How do children make the leap to reading signs, words, and sentences? Children are born with a natural curiosity that propels them to learn. Nurturing a love of books, storytelling, and writing through daily exposure allows the unfolding of reading to happen naturally. Children go through the stages of exploration, repetition and anticipation, development of a basic understanding that words are symbols for ideas, identification and matching letters and words, and then focusing on meaning.

When children are given books to play with, are told stories by adults, and see others enjoying and using reading in meaningful ways, early literacy skills begin to develop in different stages:

- Book handling behaviors--behaviors related to a child's physical manipulation or handling of books, such as chewing on a book or holding it with both hands.
- Looking and recognition--behaviors related to how children pay attention to and interact with pictures in books; behaviors that show recognition of and a beginning understanding of pictures in books, such as when a child smiles or laughs at a familiar picture.
- Picture and story comprehension--behaviors that show a child's understanding of pictures and events in a book, such as performing an action that was shown or talked about in a book.
- Story-reading behaviors--behaviors that include children's verbal interactions with books and their increasing understanding of print in books, such as protesting when an adult leaves out a word in a story.

As you share books with your toddler, there are many opportunities for you to explore and learn together:

- Reading aloud to children helps them begin to hear the "sounds" of words and print--another important skill in figuring out new words as they begin to read.
- Help a child to make the connection of print to daily living (labels on cans, signs, paying bills by writing checks, taking messages in writing).
- Write the child's name in simple block letters on papers, works of art, etc.
- As you write the child's name on drawings/pictures, say, sing or chant the letters out loud (J-A-N-E spells JANE).
- When interest is expressed, show a child how to write his name, starting with one letter at a time; children will often express interest in finding other words that start with the same letter as their own name.
- As letter identification starts to interest a child, look for alphabet books that link letters to familiar objects, books that stress alliteration ("Sammy's slithering snake suddenly stood still") or books with rhyming.
- Set a good example--children of readers are much more likely to end up readers themselves; before they can become readers, they must learn why people read and what people do when reading.
- Keep writing materials such as markers or crayons and paper, as well as books, available and within easy reach for children to get by themselves.
- Talking, storytelling, singing, rhyming, and reading aloud help children to begin to notice and even understand the different sounds and meanings of spoken words.



It is within the context of nurturing relationships and the daily interactions around care giving and free play that toddlers' brains get exercised. As you carry out daily care giving routines - feeding, toileting, napping, - and as you talk, sing, touch, move, play, and listen to your children, you are engaging in toddler curriculum. As you provide play experiences that allow your toddlers to problem solve, converse, develop self-care skills, engage in gross and fine motor activities, interact with peers and a variety of objects, and discover that they can influence the people and things around them - you carry out appropriate toddler curriculum.

Why do children ask "why" so many times?

Young children are very curious about why things happen and their constant "why" questions are a frequent part of their developing vocabulary. They are showing a thirst for understanding the world around them and a craving for communication ("why" is often linked to gaining more information which, in turn, may alter the way in which they understand the world or a particular word). Children are highly motivated to learn; they are not trying to deliberately bug you. It doesn't take long for a child to figure out that the question "Why?" yields not only information but keeps the conversation going.

Although you might want to fix this "broken record" by not answering the next "why?" try to be patient with the many questions. Getting answers to questions feeds a child's natural curiosity, increases his appetite for learning, helps him better understand the meaning of the words he hears and uses, and encourages the desire to communicate. Try answering the "why" with "Why do you think?"

You can also try turning the tables while reading a book by asking questions such as "Where do you think he's going?" or "Why do you think the boy is sad?" Have the child point to people and objects in the pictures. By asking questions about the pictures in a book, you help a child to become a storyteller, as well as foster creativity and problem solving.

Encourage conversation by sharing an interest in the child's thoughts and opinions. You can support the efforts of the child to communicate complete thoughts by waiting patiently for him to finish, supplying words when needed, and letting him control the flow of the conversation. Encourage efforts to use new words and to describe complex topics. "Why?" often leads to more sophisticated learning and a better understanding of the words a child hears and uses in his daily conversations, book sharing, and stories.