

Active Learning for Infants and Toddlers

EVEN THE YOUNGEST CHILDREN ACTIVELY ENGAGE THE WORLD AROUND THEM.

by Shannon Lockhart

Infants and toddlers are active learners from birth. They are intrinsically motivated to explore the world around them, investigating and engaging with the objects and people in their environment and gathering knowledge in the process. Even the youngest of children make active choices and decisions; they choose objects and people to play with and explore, initiate actions that interest them, respond to events in their surroundings, and figure out how to communicate their feelings and ideas — first by sounds, gestures, and facial expressions, and later through language — to parents and family members, caregivers, and peers. In the course of their explorations with people and things “beyond the blanket,” they rely on parents and caregivers to attend to, support, and build on their actions, choices, and ways of communicating.

Learning occurs when children can manipulate and choose materials and can freely use their whole bodies and all their senses. Even the youngest children need to be out and about exploring their environment with their whole bodies by moving their heads, waving their arms and legs, and engaging with materials and people. According to early childhood experts Geraldine French and Patricia Murphy (2005),



In active learning settings, children engage with an abundance and variety of materials that challenge their thinking skills and support their sensory, whole-body approach to learning.

active learning in infants and toddlers is “the process by which they explore the world either through: observing (gazing at their hand), listening, touching (stroking an arm or bottle), reaching, grasping, mouthing, letting go, moving their bodies (kicking, turning, crawling, pulling themselves up on furniture, walking), smelling, tasting, or making things happen with objects around them (putting things in and out of boxes, stacking blocks, rolling a ball)” (p. 29). In the process of these explorations, infants and tod-

dlers “construct a basic store of knowledge about what people and things are like, what they do, and how they respond to certain actions. What may begin as random movement — waving a wooden spoon and accidentally hitting it against a cardboard box — leads to a fascinating discovery and is repeated deliberately again and again. Through these repetitions, children gain a sense of purpose and mastery” (Post, Hohmann, & Epstein, 2011, in press).

In an active learning child care environment, teachers and caregivers support children’s natural desire to be active learners, as in the following scenario:

Five-month-old Kylee is sitting on the lap of her caregiver, Josylyn, who has a bottle brush in one hand and a medium-sized wooden spool in the other. Kylee reaches for the wooden spool and pulls it to her mouth. It drops to the floor and rolls in front of the caregiver’s legs. She looks at it but then turns her attention to the bottle brush in her caregiver’s other hand. She reaches for the bottle brush and begins sucking on the bristles. Another older infant crawls over to the caregiver where the wooden spool dropped and picks it up and rolls it again on the floor along with other spools. He continues crawling and follow-

ing the spools as he bats them around the carpet area. Another caregiver sits on the floor feeding Siara her bottle while Chrissy, a four-month-old child, holds a textured piece of cloth in her hands, waving it back and forth in front of her face as she coos and makes noises. Her primary caregiver repeats her cooing sounds and smiles at her. Siara even stops feeding and watches Chrissy as she coos and wave her hands. Over in the toy area, fifteen-month-old Felix is banging the large beads on the back of a metal cookie tin while nineteen-month-old Jayden is putting one bead after another into the cookie tin, then picks it up, shakes it around, smiles, and dumps it on the floor. Felix watches Jayden and tries to fill his cookie tin with beads too while smiling at Jayden. And at the water table there are three toddlers laughing and squealing while splashing their hands in the bubbled water. Their caregiver splashes along with them, imitating their actions and describing what they are doing.

In this scene, children are busy making choices and decisions, and engaged with many

different types of materials that challenge their thinking skills and engage all of their senses; their caregivers are down on the floor playing with them and supporting their choices. In programs based on the principles of active learning, caregivers “understand and support infants’ and toddlers’ sensory, whole-body approach to learning. They respect and accommodate children’s ongoing need for space, materials, and exploration time” (Post, Hohmann, & Epstein, 2011, in press).

As adults learn more about the infants and toddlers in their care through meaningful interactions, they can more effectively support and extend children’s knowledge and learning.

Active learning takes place at any time and throughout the day. Even during bodily care routines — which take time and fill up much of the day — teachers and caregivers can find opportunities to enhance children’s learning while also attending to their physical needs. By applying the ingredients of active learning during each part of the day, we can ensure that infants and toddlers will be engaged and challenged in their learning.

The Ingredients of Active Learning

Materials. In an infant and toddler setting that values active learning, the environment is rich with an abundance and variety of materials that are easily accessible (e.g., stored on low shelves, in baskets on the floor, in see-through containers) and allow children to explore and play at their own pace. Since infants and toddlers are sensory-motor learners, they need to have materials that appeal to all of their senses and challenge their motor growth, which is developing quickly (see related article, p. 18). It is important to provide infants and toddlers with items they can see, smell, hear, touch, and taste — a variety of natural, recycled, and real-life materials in a range of different shapes, sizes, colors, and dimensions — to support their exploration and learning. Familiar, everyday objects (e.g., wallets, telephones,



In an active learning setting, caregivers support children’s choices by paying close attention to their actions and gestures, interpreting and building on children’s preferences.



The choices young children make about the materials and activities they want to explore give them a sense of their own ability to shape their experiences and their relationship to the world around them.

eyeglasses) give children the opportunity to imitate people and routines they see at home. To support children's movement and motor development, children need materials (e.g., balls to crawl or run after, assorted push-and-pull toys) that allow them to use their large muscle groups. Materials should also offer challenges to encourage children's problem-solving skills. For example, children are solving problems when they try to put all the toy animals into a purse or drop objects of different sizes into a water bottle.

The more ways young children explore, use, and manipulate materials, the more learning occurs.

When we offer materials that appeal to children's sensory-motor development and encourage problem solving, children become more engaged in activities. In addition, as infants and toddlers feel success with materials, they will want to repeat their actions; through repetition, children build on their knowledge, gaining a sense of mastery and developing more complex thinking skills and abilities.

Manipulation. The second ingredient of active learning is manipulation, which goes hand and hand with materials. Infants and toddlers need to be able to have real objects at hand that they can manipulate and explore to learn their functions and then learn to use in ways that make sense to them. For example, an infant grasps her pacifier, puts it in her mouth, then takes it out to look at it and turn it around

a bit, and finally puts it back in her mouth; or, a toddler uses a wooden mallet from the play dough shelf to pound the floor (Post, Hohmann, & Epstein, 2011). The more ways young children explore, use, and manipulate materials, the more learning occurs.

Choice. The third and most important ingredient in active learning is choice. Too often, caregivers do not offer choices to infants and toddlers. When children's initiatives are thwarted by adults and caregivers (e.g., "Sit still," "Stop banging"), they may come to doubt their own capacity to shape their own experiences and their relationship to the world around them. Conversely, in an active learning setting, caregivers support children's choices by paying close attention to children's actions and gestures, interpreting their preferences and building on them. Consider this example: "When infant Halley crawls away from her caregiver to the tub of balls, her caregiver interprets Halley's actions to mean *I really want to play with the balls right now*. Rather than attempt to direct children to learn specified things at certain times, caregivers support and build on children's *self-motivated* choices and learning initiatives" (Post, Hohmann, & Epstein, 2011, in press).

Infants and toddlers make child-size choices throughout the day. As stated earlier, infants choose who to go to, what to look at, what to reach for, and they know when they are tired or hungry. For toddlers, choice opens up a whole world of exploring and investigating on their own terms and learning at their own pace. Even when they have to perform a task, they are more apt to follow the routine when offered a choice. For example, since it is not a choice to walk around with a dirty diaper, children can choose to walk, hop, or be carried to the changing area. In many cases, caregivers need to interrupt

The Five Ingredients of Active Learning

An active learning environment builds trust, autonomy, and initiative in young children. To ensure infants and toddlers enjoy these benefits and flourish in their program settings, HighScope has five ingredients of active learning that serve as practical guidelines for caregivers:

1. **Materials** — There are abundant, age-appropriate materials the child can use in a variety of ways. Learning grows directly out of the child's direct actions on the materials.
2. **Manipulation** — The child has opportunities to explore (with all the senses), manipulate, combine, and transform the chosen materials.
3. **Choice** — The child chooses what to do. Since learning results from the child's attempts to pursue personal interests and goals, the opportunity to choose activities and materials is essential.
4. **Child communication, language, and thought** — The child communicates his or her needs, feelings, discoveries, and ideas through motions, gestures, facial expressions, sounds, sign language, and words. Adults value, attend to, and encourage the child's communications and language in a give-and-take manner.
5. **Adult scaffolding** — Adults establish and maintain trusting relationships with each child in their care. Adults recognize and encourage each child's intentions, actions, interactions, communications, explorations, problem solving, and creativity.



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Key Developmental Indicators: What Infants and Toddlers Learn

HighScope Key Developmental Indicators (KDIs) for Infants and Toddlers

A. Approaches to Learning

1. **Initiative:** Children express initiative.
2. **Problem-solving:** Children solve problems encountered in exploration and play.
3. **Self-help:** Children do things for themselves.

B. Social and Emotional Development

4. **Distinguishing self and others:** Children distinguish themselves from others.
5. **Attachment:** Children form an attachment to a primary caregiver.
6. **Relationships with adults:** Children build relationships with other adults.
7. **Relationships with peers:** Children build relationships with peers.
8. **Emotions:** Children express emotions.
9. **Empathy:** Children show empathy toward the feelings and needs of others.
10. **Playing with others:** Children play with others.
11. **Group participation:** Children participate in group routines.

C. Physical Development and Health

12. **Moving parts of the body:** Children move parts of the body (turning head, grasping, kicking).
13. **Moving the whole body:** Children move the whole body (rolling, crawling, cruising, walking, running, balancing).
14. **Moving with objects:** Children move with objects.
15. **Steady beat:** Children feel and experience steady beat.

D. Communication, Language, and Literacy

16. **Listening and responding:** Children listen and respond.
17. **Nonverbal communication:** Children communicate nonverbally.
18. **Two-way communication:** Children participate in two-way communication.
19. **Speaking:** Children speak.
20. **Exploring print:** Children explore picture books and magazines.
21. **Enjoying language:** Children enjoy stories, rhymes, and songs.

E. Cognitive Development

22. **Exploring objects:** Children explore objects with their hands, feet, mouth, eyes, ears, and nose.
23. **Object permanence:** Children discover object permanence.
24. **Exploring same and different:** Children explore and notice how things are the same or different.
25. **Exploring more:** Children experience "more."
26. **One-to-one correspondence:** Children experience one-to-one correspondence.
27. **Number:** Children experience the number of things.
28. **Locating objects:** Children explore and notice the location of objects.
29. **Filling and emptying:** Children fill and empty, put in and take out.
30. **Taking apart and putting together:** Children take things apart and fit them together.
31. **Seeing from different viewpoints:** Children observe people and things from various perspectives.
32. **Anticipating events:** Children anticipate familiar events.
33. **Time intervals:** Children notice the beginning and ending of time intervals.
34. **Speed:** Children experience "fast" and "slow."
35. **Cause and effect:** Children repeat an action to make something happen again, experience cause and effect.

F. Creative Arts

36. **Imitating and pretending:** Children imitate and pretend.
37. **Exploring art materials:** Children explore building and art materials.
38. **Identifying visual images:** Children respond to and identify pictures and photographs.
39. **Listening to music:** Children listen to music.
40. **Responding to music:** Children respond to music.
41. **Sounds:** Children explore and imitate sounds.
42. **Vocal pitch:** Children explore vocal pitch sounds.

children's play in order to change their diaper, which may create anxiety in children about whether the materials they're using will still be there when they get back. They may choose in that case to take the object they are playing with along with them while they have their diaper changed. When we respect children's choices, routine tasks will go more smoothly and children will be less likely to resist.

Infants and toddlers communicate in many different ways and it is important for caregivers to be attentive to children's cues and what they are trying to "say."

Choice is different for nonmobile children than it is for mobile children. Mobile infants and toddlers can access materials on their own because they can move their bodies to the objects or people they want to reach. However, nonmobile infants and toddlers must rely on caregivers to provide materials and initiate experiences for them. Thus, it is important that caregivers provide nonmobile children with a variety of materials that challenge their sensory and motor development. If we only provide plastic rattles or cloth books, we are limiting their experiences. Caregivers can collect toys and materials in a "treasure basket" or any open container (e.g., bins, baskets, bags) and place it within reach of nonmobile infants and toddlers to explore. Natural and household items (e.g., egg whisk, natural sponge, leather ball) engage children's minds. According to Geraldine French and Patricia Murphy, HighScope consultants in Ireland, this type of basket "offers choice and variety, and encourages exploration and independence. Babies spend as long as they want picking up each piece, feeling it, mouthing it, banging it, exploring it" (2005, p. 64).

Child communication, language, and thought. The fourth ingredient of active learning is child communication, language, and thought. Infants and toddlers communicate in many different ways and, as caregivers, we need to be attentive enough to what they are trying to "say." Early childhood specialists Betty and M. Kori Bardige (2008) write that "babies come into the world primed to communicate

with adults, who are primed to communicate with them. Their survival and well-being depend on their ability to connect with their caregivers” (p. 4). When we develop strong relationships with our children, we learn to read subtle cues so that children will not have to resort to outbursts in order to communicate to us what they want or need. Early in their lives, “children’s discoveries about themselves and their immediate environment come through action.... It is also through action that they express what they discover and feel to attentive adults — by crying, wiggling, stiffening, turning away, making faces, clinging, cuddling, cooing, sucking, and looking” (Post, Hohmann, & Epstein, 2011, in press). A growing number of infants and toddlers are also learning to communicate with caregivers using sign language, which reduces their level of frustration in trying to express their needs and feelings to adults and caregivers. Using sign language with children also opens up a world of knowledge about the infants and toddlers we work with and helps us to understand them more fully. As young children grow and gain the ability to speak and communicate verbally with others, our communication and language skills need to grow with them and challenge their abilities.

Adult Scaffolding. The last ingredient of active learning is adult scaffolding, which

includes the strategies that we use throughout the day in our interactions with infants and toddlers to support and extend their learning. It is only through trusting relationships that infants and toddlers will develop the confidence they need to explore their environment and grow and learn. According to developmental psychologist Jillian Rodd (1996), children in trusting relationships with caregivers learn “that the world in which they live is a safe and friendly place and that the people who care for them can be trusted to meet their needs promptly, responsively and consistently. If infants learn that they are valued, cared for and respected as significant members of the group, they will have a strong foundation from which to confidently explore and learn about the world” (p. 21). Conversely, through our interactions with young children, we learn more about who they are and how they understand their world, which helps us continue to extend their knowledge and learning.

Using the Key Developmental Indicators (KDIs)

When all the elements of active learning are in place — materials to explore bodily, with all the senses; opportunities to make choices; opportunities to communicate discoveries and feelings; and the ongoing, responsive support

of trusted adults — what do infants and toddlers actually learn? To answer this question, caregivers and parents in HighScope settings turn to a set of guidelines called the *key developmental indicators* (KDIs), which frame the content of early learning and development (Post, Hohmann, & Epstein, 2011). (See Sidebar, p. 8).

There are 42 key developmental indicators divided into six areas: 1) approaches to learning; 2) social and emotional development; 3) physical development and health; 4) communication, language, and literacy; 5) cognitive development; and 6) creative arts.

Through trusting relationships with adults and caregivers, infants and toddlers will develop the confidence they need to explore their environment and grow and learn.

By looking at situations and activities through the lens of active learning and the KDIs, caregivers can identify infants’ and toddlers’ developing skills throughout the day and become better planners of activities to support children’s learning. Consider the scenario described earlier in this article (see pp. 5–6). Using the KDIs as a guide, along with the five ingredients of active learning, we can take a closer look at what is happening and look at ways to plan for these children daily:

Kylee

Kylee is making a few different choices. Her first choice is to explore the wooden spool, which falls to the floor and rolls away. Instead of pursuing the spool, she turns to the bottle brush and begins exploring it with her mouth. This exploration falls under several different areas of development. One area is cognitive development (22. Exploring objects). Kylee explores both the wooden spool and the bottle brush with her hands and mouth. Another area is physical development and health (12. Moving parts of the body). In addition, since Kaylee is forming an attachment with her primary caregiver by interacting and communicating with her as they play, she is developing skills in the area of social and emotional development (5. Attach-

Infants and toddlers who learn to express their wants and needs using sign language may experience less frustration in communicating with adults and caregivers. This infant (below) is learning the sign for MILK, as her caregiver models the hand gesture.



ment and 6. Relationships with adults). One activity that her primary caregiver can plan for the next day would be to provide Kaylee with different types of materials she can easily grasp and hold onto while her caregiver describes what Kaylee is doing and imitates her actions.

When all the ingredients of active learning are present throughout the program day, children are more engaged, experience fewer frustrations and power struggles, and learn and grow.

Felix and Jayden

Felix and Jayden are both making choices about what to do with the beads and tins, each manipulating them in his own way. Felix is banging while Jayden is interested in filling and dumping. As these children each use the beads and tins in their own way, several KDIs are evident in the areas of cognitive development (22. Exploring objects, 26. One-to-one correspondence, and 29. Filling and emptying); social and emotional development (7. Relationships with peers, 10. Playing with others, and 8. Expressing emotions); and communication, language and literacy (16. Listening and responding and 17. Nonverbal communication), as the children look to each other for guidance and play. In identifying the KDIs, the children's primary caregiver can use them as guidelines to plan for the next day's activities, such as plan-



Through careful observation, caregivers can determine when and how to help children follow through on their intentions. Children may need a suggestion, additional materials, or simply a caregiver's attentive presence.

ning a group time with materials that would encourage a more challenging activity involving filling and dumping (e.g., placing baby food jar lids in a plastic jug or pushing sponges down into a container through a small hole in the lid).

This same method of looking at the ingredients of active learning and seeing development through the lens of the KDIs can be applied to all parts of the day to ensure that all ingredients of active learning are present and that children are developing. If one of the ingredients of active learning is not present, then there will likely be issues surrounding that part of the day; children will let us know when they are

not given choices or when we are not supporting their needs. When all of the ingredients of active learning are present throughout the day, children are more engaged, experience fewer frustrations and power struggles, and learn and grow. ■

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