BEST PRACTICES FOR PLANNING CURRICULUM FOR YOUNG CHILDREN

The Integrated Nature of Learning

California Department of Education Sacramento, 2016

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A Message from the State Superintendent of Public Instruction

I am pleased to present *The Integrated Nature of Learning,* a publication providing early childhood education program administrators and teachers with guidance on practices that support an integrated approach to curriculum planning. Research shows that learning for young children often leads to the acquisition of knowledge and skills across several domains.

The idea that domains overlap and influence each other is the subject of this publication. It addresses a key question: How can early educators put the idea of integrated learning into practice? Research recommends an interdisciplinary approach to developmental domains. For example, a learning activity may focus on a deep exploration of a mathematical concept while also supporting the language and literacy and socio-emotional competencies that come into play during the overall learning experience.

Designed to complement the other resources of the California Department of Education's Early Learning and Development System, this publication examines how play, learning, and curriculum work together in early education. It describes the relationship context for early learning and the role of the teacher in supporting children's active engagement in learning. Strategies for guiding young children's learning taken from the *California Infant/Toddler Curriculum Framework* and the *California Preschool Curriculum Framework, Volumes One, Two,* and *Three* are discussed. This discussion illuminates ways in which learning experiences in one domain may also foster learning in other domains.

The Integrated Nature of Learning draws both upon current research and evidence-based practice. This publication reflects the kind of early education practices that promote integrated learning in all domains with richness and depth. The result is high-quality early learning experiences that contribute to children's well-being and successful development.

Tom Torlakson

Tom Torlakson
State Superintendent of Public Instruction

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INTRODUCTION

In many ways, young children are small scientists (Gopnik, Meltzoff, and Kuhl 2000). They actively gather information about what objects and people are like. They do this throughout the day, alone, with friends, and with family members and teachers. In moments of play or in interactions with others, they investigate how one object or person relates to another. They spend their days figuring out the world around them, highly motivated to learn. Researchers who study how young children think and feel confirm that young children naturally explore, experiment, and invent as they experience objects and people in the world around them (Gopnik 2009).

For young children, their partners in learning about the world around them are their families and—when in early learning and care programs—their teachers. The California Department of Education is committed to ensuring every young child's optimal development and to supporting teachers and families as children's partners in learning. This publication addresses what teaching and learning look like when working with children birth to five. The aim of this publication is to:

- explore what it means to teach when working with children birth to five, using current research evidence as the starting point;
- apply this understanding to a broad definition of *curriculum* that includes the learning that occurs within play, within the daily routines, and within conversations and interactions.

- provide examples of how teachers observe, document, and interpret children's play and interactions in order to plan and implement curriculum, to assess learning, and to engage children and families as partners in planning the learning experiences.

As with all documents produced by the Department of Education, this publication is intended to enhance the experience of all children, including those with disabilities or other special needs. Thus, the document was reviewed to ensure universal design principles were followed.

PART I

Play, Learning, and Curriculum: How They Fit Together

How Young Children Learn: What Science Reveals

Children play in order to figure things out, much like scientists who experiment and investigate in order to figure things out. Scientists who study how infants and young children think and feel describe them as small scientists (Gopnik, Meltzoff, and Kuhl 2000) who spend their days actively gathering and organizing information about what objects and people are like. As they play, children investigate how one object relates to another or how people relate to each other. According to Gopnik, Meltzoff, and Kuhl (2000), children actively build knowledge as they interact with the world around them.

In the early twentieth century, scientists and theorists—such as Jean Piaget and Lev Vygotsky—developed widely studied theories to explain how young children acquire knowledge. Scientists have continued to study children's ways of knowing by carefully observing and listening as children pursue new skills, explore materials, solve problems, work together with others, and encounter experiences that prompt them to think and reason (Shonkoff and Phillips 2000.) Young children's actions and their explanations provide clues about how they develop ideas, master skills, and build knowledge. This research illuminates a key finding—infants and young children *actively construct concepts and build skills by interacting with objects and with people,* much of it occurring in the context of play. By nature, children are active participants in making meaning and constructing knowledge.

The body of research on the developing mind of the young child also adds to our understanding of what it means to teach and to plan curriculum for infants and young children. The long-standing image from K–12 education of an active, talking teacher who imparts information to passive, quiet children does not fit with what is known from the science of early learning and development. Young children seated at desks and quietly listening, not interjecting their ideas, represent an image that diverges from the image generated by developmental science: that of young children who seek to participate actively in an experience to build concepts, ideas, and skills. Studies show infants and young children to be highly motivated to explore new materials and to take on new challenges (Bowman, Donovan, and Burns 2000.)

It is now understood that moments often discounted as "just play" or as "fiddling around" are actually moments in which children are actively learning (Hirsh-Pasek et al. 2009; Jones and Reynolds 2011; Zigler, Singer, and Bishop-Josef 2004; Elkind 2007.) While engaged in play, children explore the physical properties of materials and the possibilities for action, transformation, or representation. Children try out a variety of ways to act on objects and materials and, in so doing, experiment with and build concepts and ideas. This active engagement with the world of people and objects starts from the moment of birth.

This description of the young child as an active participant in learning informs the role of the teacher who works with young children birth to five. Early childhood teaching and learning begins with teachers watching and listening to discover how infants and young children actively engage in making sense of their everyday encounters with people and objects. When teachers observe and listen with care, infants and young children reveal clues about their thinking, their feelings, or their intentions. Children's actions, gestures, and words illuminate what they are trying to figure out or how they attempt to make sense of the attributes, actions, and responses of people and objects. Effective early childhood teaching requires teachers to recognize how infants and young children actively search for meaning, making sense of ideas and feelings.

When teaching is viewed in this light, children become active participants alongside teachers in negotiating the course of the curriculum. Families who entrust their children to the care and guidance of early childhood teachers also become active participants in this process. Shared participation by everyone in the work of creating lively encounters with learning allows a dynamic exchange of information and ideas—from child to adult, from adult to child, from adult to adult, and from child to child. The perspective of each (child, family, teacher) informs the other, and each learns from the other. Each relationship (child with family, child with teacher, child with child, and family with teacher) is reciprocal, with each participant giving and receiving from the other, and each adding to the other's learning and understanding.

This chapter addresses teaching and learning with children from birth until their entry into kindergarten, typically five years of age. Two sets of documents developed by the California Department of Education are referenced throughout: (1) the *California Infant/Toddler Learning and Development Foundations* (CDE 2009a) and the *California Preschool Learning Foundations, Volumes 1–3* (CDE 2008, 2010b, and 2012); and (2) the *California Infant/Toddler Curriculum Framework* (CDE 2012) and the *California Preschool Curriculum Framework, Volumes 1–3* (CDE 2010a, 2011b, and 2013). The infant/toddler learning and development foundations address knowledge and skills that children develop from birth to age three. The companion *Infant/Toddler Curriculum Framework* addresses principles and strategies to support development of these foundational skills and concepts. The three volumes of the preschool learning foundations address the knowledge and skills children in the three- to five-year-old range develop. The three companion volumes of the *California Preschool Curriculum Framework* focus on principles and strategies to support their development.

The intent of this publication is to introduce the infant/toddler learning and development and preschool learning foundations and frameworks and to explain the integrated nature of early learning and development. Throughout this publication, the focus will be on supporting early learning and development. Two questions are of primary concern: "What does it mean to teach when working with infants and young children birth to age five?" and "What does curriculum look like in this first period of education?"

In this document, the meaning of the words *child* and *children* refer to children birth to five years of age. Early childhood professionals who support the learning of children birth to five are referred to as *teachers,* which include professionals with the job titles of infant or child caregiver, family child care provider, teaching assistant, infant and toddler teacher, preschool teacher, family support worker, and home visitor. Although each job title stems from a unique context, the goal is the same—nurturing young children and their families in ways that simultaneously support them in learning.

Robust evidence from science provides a starting point for guidance on planning and implementing early childhood curriculum. Reviews of research point clearly to three

principles with respect to how young children learn (Bowman, Donovan, and Burns 2000; Hirsh-Pasek et al. 2009; Schonkoff and Phillips 2000):

- Children actively construct concepts like number, spatial relations, causality, and story.
- Children actively build skills like drawing, moving with ease, negotiating conflicts, and confidently and respectfully communicating ideas and feelings.
- Children actively develop dispositions such as thoughtfulness, empathy, and responsibility.

These principles guide the approach to early childhood curriculum described in this chapter. Children's thinking, their feelings, and their dispositions are the center of the curriculum and inform the planning and implementation of educational experiences. This approach contrasts with a subject-matter approach to curriculum, commonly used with older children and adults, in which the subject of study (such as science, literature, or mathematics) is placed at the center of the curriculum and used to organize the daily schedule of learning experiences and the learning environment. When the curriculum is organized around children's thinking, their feelings, and their dispositions to learn and to relate with others, the focus is on providing contexts in which children have rich opportunities to build concepts and skills through meaningful exploration and active experimentation.

For example, for a group of three- and four-year-olds fascinated by the heavy equipment vehicles passing outside the yard, a teacher might use a construction site next to the school as the context for study or focus of the curriculum. The children's excitement about the ongoing construction inspires an investigation with the children of the events underway in this neighboring lot. In considering the study of the construction site, teachers can envision ample opportunity for children to build concepts related to science, mathematics, literature, the arts, and social studies. The teachers create learning contexts that engage children in finding out more about the events underway in the neighboring construction project. Such an investigation offers many possibilities for the children to explore concepts from various domains or subject areas addressed in the three volumes of the preschool learning foundations such as size, number, spatial relations, causality, story, song, drama, visual representation, and much more. With the preschool learning foundations and curriculum framework as guides, teachers can within this study tap multiple domains—social science, natural science, physical science, language arts, visual arts, physical development, and mathematics.

A teacher might plan a field trip to the construction site with a small group of children to see up close one of the large pieces of equipment, such as a dump truck. With long pieces of yarn, scissors, and clipboards filled with paper for drawing, these children might return and report to their friends about the gigantic size of the dump truck. During a large-group gathering, one child might share a drawing made while at the periphery of the construction site that consisted of a collection of straight lines forming a semblance of a rectangle, a square, and some circles. The teacher might invite the children to find a rectangle, a square, or a circle in the drawing. He or she might hold up the length of string the children had cut as a way to remember how high the big truck tire was. This suggestion prompts a discussion among the children about whether the child is as tall as the tire.

The teacher might then explain that, on the grass-covered hill by the fence, the small group will find the wagon from the walk, which is filled with large chunks of dirt hauled by the dump truck. With the group, she wonders aloud whether any of the toy vehicles in the block play area would work to haul these chunks of dirt, just like the big dump trucks were doing. Before asking the group to transition from talk time to play time, she asks for volunteers who would like to join her in the writing area to compose a thank-you letter to the workers for a tour of the dump truck and to make some drawings to include with the note.

In this simple investigation of a local event, teachers are teaching, and children are learning. Children are active participants in constructing ideas in a meaningful context. They experience joy in pursuing an investigation that attracts their interest and while doing so, they also build concepts that are foundational to math, science, social science, language, and art. Although the teachers use these domains of study to inform the children's experiences, they do not organize the daily schedule around these subjects, nor do they organize their plans around these subjects. They may plan an activity that starts with a focus on an aspect of a particular domain, but are mindful of how the children's responses to that activity relate to learning and development in all domains.

Curriculum centered on meaningful and locally emerging contexts offers children many opportunities to use, build, and master skills and concepts that are described in the California early learning foundations (for infant/toddler and preschool children). Children explore key concepts in mathematics, science, and literacy, like number, spatial relations, causality, representation, and story comprehension. Children build those concepts through a series of engaging experiences; some prompted by teachers' ideas, some prompted by children's ideas, and others prompted by ideas offered by children's families. Effective teaching begins with careful listening, to discover children's ideas and feelings, which will often inspire new contexts for learning. Each setting and each group of children and families inspires curriculum that is unique to that setting.

Early childhood curriculum seen from this perspective is responsive to what children, families, and teachers bring to teaching and learning. It incorporates the unique contributions of the surrounding community, which can provide meaningful opportunities for children to explore, experiment, create, and investigate. Early childhood curriculum that reflects the unique contributions of each group of children, families, and teachers ensures a harmonious fit for young children's learning. When informed by the California early learning foundations and curriculum framework, curriculum that emerges from the community served holds rich potential for supporting each child's active search for knowledge.

Play as a Context for Building Knowledge

To understand what it means to teach children birth to age five, it is important to consider what knowledge looks like in the mind of a young child. For older children and adults, *knowledge* is described as concepts and skills specific to each academic domain, such as science, language arts, social sciences, the arts, physical education, and mathematics. Because the California preschool learning foundations and curriculum framework were written to align with the content standards and curriculum

framework for kindergarten through grade twelve (K–12), a parallel and domain-specific description of concepts and skills organizes the preschool foundations and curriculum framework. Eight of the nine domains covered by the preschool learning foundations correspond to domains that the K–12 content standards address: language and literacy, mathematics, English-language development, visual and performing arts, physical development, health, history–social science, and science. In addition, the preschool learning foundations include the social–emotional domain. It is noteworthy that social–emotional development has recently cited as an important factor in adult success (Jones, Greenberg, and Crowley 2015).

The domains provide a way to categorize and discuss concepts germane to each essential area of knowledge and skill development (U.S. Department of Health and Human Services n.d.), including those recently found to be predictive of kindergarten readiness, namely, mathematics, self-regulation, and language and literacy (Duncan et al. 2007). Taken together, they provide the research basis for understanding the concepts and skills that serve as a foundation for later learning. However, children from birth to five do not build or acquire their knowledge and skills in domain-specific categories one domain at a time. They relate to each learning experience as a whole experience. They naturally cross the boundaries of domains and simultaneously build concepts related to social–emotional development, science, mathematics, language, social sciences, the arts, physical development, and health.

Consider the following vignette from the *California Infant/Toddler Curriculum Framework* (CDE 2012, 23). Reflect on what knowledge this infant might be learning within a simple moment of play. Consider as well what the teachers did to make such learning possible.

VIGNETTE

Jacob [10 months old], lying on his stomach, holds a round, plastic, open-weave basket. He waves it with a stiff arm. He drops it to the ground and watches as it lands upright and wobbles on its circular bottom. Jacob watches as the wobbling basket slows and then stops. With his open palm, he taps the edge of the basket with enough force to set the basket wobbling again. He watches as it settles to a stop. Again he taps the edge, but this time much harder. The basket flips over. Jacob's eyes widen as he inspects the now upside down basket lying perfectly still on the floor. Jacob slaps his hand onto the basket and moves it from side to side with his hand. As he does so, the basket makes a scraping sound against the floor. He smiles and laughs. He pushes the basket again and laughs as he makes the same scraping sound.

This incident is neither idle nor random play. For Jacob, this moment is about learning. His mind is actively engaged, as are his eyes, hands, and ears. He is learning about this basket, gathering information about its physical properties: what it looks, feels, and sounds like. Through his play, he is constructing physical knowledge about the basket, which he discovers is so light that he can easily lift it, that it has a textured pattern on the sides, allowing him to stick his fingers in and out, and that it is red, curved on the edge, with a circular bottom. Excitedly pursuing his interest, Jacob uses hands, arms, eyes, and mouth to gather and organize all this physical knowledge about the basket—that it is curved, with thin edges, an open-weave texture, and circular bottom. His attention is focused and sustained, as he examines small details of shape, texture, and sturdiness and experiments with what he can make it do, trying one action and then another in a well-regulated approach to learning.

As he plays with the basket, Jacob uses what he learns about the physical features of the basket to investigate what he can make the basket do. He hits the thin edge of the upright basket and discovers that this action sets it in motion, building the concept of spatial relations. He pushes the bottom of the basket along the smooth surface of the floor and discovers that it makes an interesting sound, building the concept of causality. He repeats an action again and again, with noticeably improved precision. He is building mathematical and scientific knowledge as he acts on these objects to discover what they do in response. When his teacher narrates his play with descriptions, she provides language that he can associate with his immediate experiences. In this way, Jacob builds his understanding of objects and how they move in space, but he also builds his understanding of language, an important aspect of social knowledge. In a simple moment of play, this young child is building concepts that form the basis of literacy, social studies, mathematics, science, and the arts.

Another vignette, from volume 3 of the *California Preschool Curriculum Framework* (CDE 2013, 147–48) illustrates children's active engagement in learning. This vignette provides an opportunity to reflect on how these preschool-age children are gathering information about the physical properties of the materials they encounter in the block building/construction area of their classroom. What the teacher did to make such learning possible is also noteworthy.

VIGNETTE

Ms. Lucinda notices that Yau and Tommy are very excited about the ramp they built in the block area. They put the car at the top of the ramp and watched it going down slowly by itself. They did it over and over. At some point, Tommy raised the board and made the ramp steeper. They put the car at the top, and let it go again. Both of them got excited when they noticed that the car was going down faster, "Wow, that was fast," Ms. Lucinda said. "It was faster. I wonder what you did to make the car go down faster." Tommy said, "I was holding up the road. You see, like this." Ms. Lucinda asked, "How can you change the ramp so the car goes down fast, even when you are not holding it up?" Yau tried to put more blocks under the higher side of the ramp (making the ramp steeper). Tommy then put the car at the top and let it go, and they watched the car go fast, "really fast."

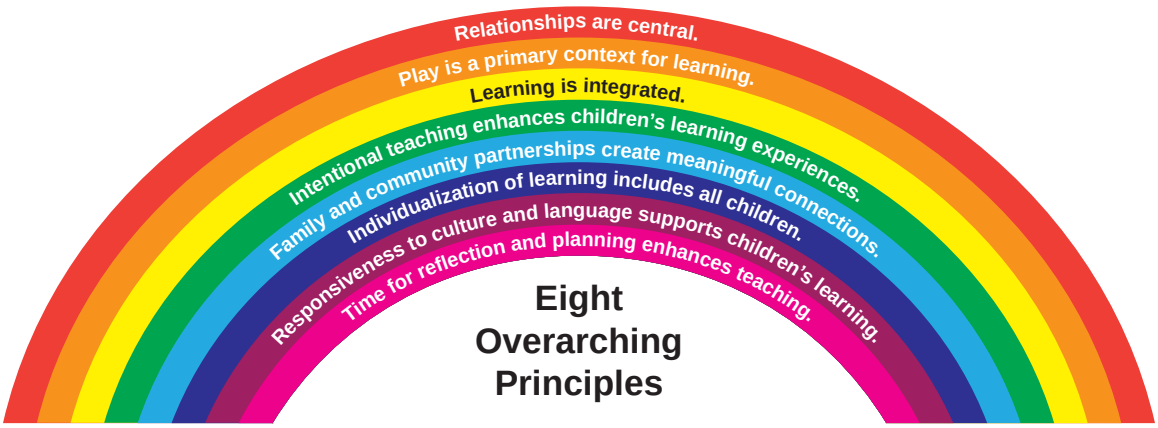
These preschool children have discovered that the collection of blocks contains some that are the same size, all with flat surfaces that allow the blocks to be stacked. From a shelf with many play vehicles, the children have also selected an assortment of cars similar in size. They sized up all the materials in the block construction area and pulled out the ones that they wish to experiment with in play. They are gathering information about the physical properties of the materials at their disposal in the block/construction area. They are building knowledge as they explore the materials, which provides rich opportunities for the children to gather detailed information about the physical properties of objects and people.

Interest in the way people build things and use vehicles fuels their exploration. As they explore, experiment, and construct ideas in their play, these children use their rich store of physical knowledge to build mathematical, scientific, and technical knowledge, which, simply stated, means relating one thing to another. Young children apply the information they gather about the physical properties of objects and people to relate one thing to another.

As these children play with the flat ramps, blocks, and vehicles, they discover that only similar-sized, flat-sided blocks can create a sufficiently high stack to hold the angled ramp. They also discover that only a long, straight, flat, somewhat wide surface works well as a ramp. They figure out that lines and sides have to match up. As they play, they put each of these discoveries into relationships that allow them to accomplish their goal. This exploration involves mathematical knowledge, including geometric concepts, and concepts that form a foundation for physical science—the science of nonliving objects and materials.

Children also construct number concepts, as they relate one block to another, stacking a series of similarly shaped blocks one on top of another to support the ramp. They create problems within their play, problems that challenge their thinking. They generate simple experiments with the materials, coming up with possibilities such as: "What happens when we raise one end of the ramp?" When children think in this way, they devise hypotheses, much like scientists do. In this sense, a hypothesis is simply a question that leads to an experiment, for example, "What might happen if we . . .?" As children play, they invent, experiment, solve problems, thereby building a foundation for science, learning about concepts such as velocity, gravity, balance, force, and causality.

The vignette shows children acquiring social knowledge and language. They acquire social knowledge in the course of conversation and interaction with others. In addition, the teacher narrates or makes suggestions to the children with meaningful language to add to their understanding and gives them vocabulary they can use later in other contexts. Quite often, such moments of play include conflicts of interest, with one child wanting one object or proposing one idea and another child disagreeing. Such conflicts open up excellent opportunities for children to practice negotiating differences with others. Conflicts over possession of toys or direction of play lead to learning how to regulate strong emotions, express ideas, listen to others' ideas, and keep connected with friends. Adults support this learning by listening and offering advice as needed.

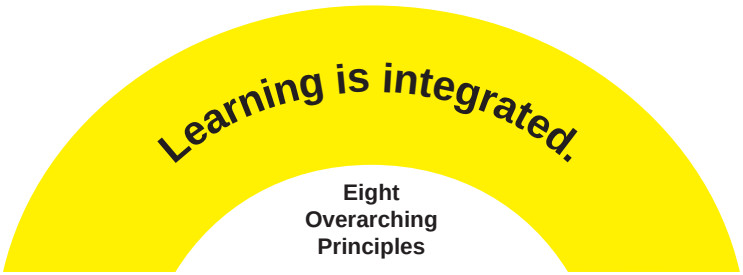


One of the eight overarching principles of the *California Preschool Curriculum Framework* (CDE 2010a, 6) states that play is a primary context for learning. Indeed, much of young children's knowledge is built during ordinary moments of play. Over time, children combine simple actions and transform them into more complex patterns of actions. These simple patterns of play lead to complex relationships of understanding—how one action causes another; how one item connects with another; or how

two things are alike or different. Concepts that pertain to the knowledge and skills described in the foundations for each of the domains are all rooted in children's play.

Integrated Curriculum

Another of the eight overarching principles of the *California Preschool Curriculum Framework* states that learning is integrated. Integrated learning occurs within the realm of everyday experiences. Domains such as mathematics, science, history/social studies, the arts, social–emotional development, and language do not exist in isolation from each other. They are integrated in one's experience of making meaning out of actions, interactions, and the physical characteristics of things. In essence, young children build knowledge as they make sense of their everyday experiences. However, they do not build domain-specific knowledge separate from knowledge in other domains. For example, they do not build concepts that are solely about mathematics in one moment and solely about language in another moment. Consider the learning under way in the following excerpt volume 2 of the *California Preschool Curriculum Framework* (CDE 2011b, 15).



> Imagine four young children—eager and engaged in play amidst an assortment of wooden blocks. They may appear to be "just playing"; however, upon closer inspection, this moment of play reveals a web of ideas, theories, and hypotheses under construction, as well as an energetic debate. We may observe that the children are negotiating how to connect the blocks to make roads that will surround their carefully balanced block structure. The structure has walls of equal height, which support a flat roof, from which rise 10 towers, built using cardboard tubes. Resting on each tube is a shiny, recycled jar lid, each one a different color. Two children are figuring out between themselves when to add or take away blocks in order to make a

> row of towers that increases in height. As we listen and watch, we witness the children building a foundation for addition and subtraction. To make each wall just high enough to support a flat roof, they count aloud the number of blocks they are using to make each wall, showing an emerging understanding of the math concept of cardinal numbers. When they hear the signal that lunch is about to be served, one child finds a clipboard with pen and paper attached, draws a rudimentary outline of the block structure on the paper, and then asks the teacher to write, "Do not mess up. We are still working on our towers."

In this example, children show evidence of emerging concepts of social studies through their construction of a small community from blocks; of physical science and mathematics as they experiment with how to make objects balance; and of reading, writing, and drawing as they request the teacher's help with making a sign to protect their work. They work together to create their play and cooperate in carrying out agreed upon plans. Each is fully engaged and manages his behavior to cooperate in a complex social situation. The concepts under construction in the minds of these children and the skills they are learning and practicing closely match several desired learning outcomes for children at this age. Anticipating the variety of concepts and skills that would emerge during the play, the teachers stocked the blocks/construction area with collections of blocks, props, and writing materials to support a full range of possibilities.

Young children's ways of learning require an approach to curriculum that allows them to build concepts and skills in integrated learning contexts. Such an approach supports children with analyzing a problem to discover a possible solution, experimenting with and testing ideas, exchanging ideas with others, thinking creatively and cooperating with others to reach a goal, and focusing their attention and organizing their behavior as they play with others. These skills and dispositions work together to give children a foundation that enhances development and learning in all the domains. The infant/toddler and preschool learning foundations provide teachers with the key concepts, skills, and dispositions of each domain.

The corresponding curriculum frameworks introduce principles and strategies that teachers can use to generate children's knowledge in each domain. Together, these documents offer teachers the knowledge base they need to name specific concepts and skills being built by a child in a moment of integrated learning during play, interactions or conversations, and daily routines, all of which provide meaningful contexts for children's learning. Early childhood curriculum will maximize desired results in each of the learning and development domains when it engages children's minds in meaningful and joyful pursuits that hold potential for supporting learning across multiple domains simultaneously.

Learning Occurs in Relationships

Young children are not only highly motivated and self-directed in learning through play, but they also delight in learning with others and from others. As one of the principles of the *California Preschool Curriculum Framework* (CDE 2010a, 5–6) states, relationships are central.

In fact, children need social interaction in order to grow and learn. Social relationships are a primary context for learning. Caring, trusting relationships with others provide essential experiences critical to brain development and optimal learning. The brain of a newborn baby, though sufficiently developed to allow the baby to connect with the surrounding world, is largely undeveloped at birth. In effect, the brain can adapt to the conditions into which the baby is born. Early experiences will build connections in the developing brain. For example, the baby's brain has the capacity to learn any human language. The language or languages that a baby learns will depend on the language(s) of the baby's family. Therefore, the child's family and others who care for the child play a crucial role. The experiences they offer children become knit into the structures of the developing brain (Perry 2009). Simply put, what young children learn and how they learn are largely a function of their relationships with parents, siblings, peers, and other caregivers.

Rinaldi (2006a, 21) explains that children ask those who care for them—their families and teachers—to be their "traveling companion[s] in [their] search for meaning." Family members and teachers arrange the experiences for the ever-evolving journey, and children set out on this journey with their families. The teachers who care for them join the journey with the children and families. This journey is a search for knowledge in which the children become increasingly skillful at coming to know the world around

them. Children rely on their families and teachers for a safe and engaging journey, one that supports their drive to explore, investigate, build understanding, and try out and practice their developing skills.

In light of the importance of early relationships for children's learning and development, program policies, such as primary care, continuity of care, and small group size are essential, especially during the first three years of childhood. When infants and toddlers are cared for in small groups—if under 8 months of age, no more than six children together with two adults; if under 18 months of age, no more than nine children with three adults; if under 36 months of age, no more than 12 children with three adults—the number of people with whom they must build relationships is kept sufficiently small to be manageable. When an infant or toddler is cared for by a primary care teacher who assumes the primary responsibility for care throughout the duration of the child's stay in the program, the child builds close, emotionally secure relationships with those who support the child's learning. In the *Infant/Toddler Learning and Development Program Guidelines* (CDE 2006a) and in the *California Infant/Toddler Curriculum Framework* (CDE 2012), these policies are described as essential components of a high-quality early education and care program for children birth to age three.

Through early relationships, young children learn to express and regulate their emotions, develop a secure base for exploration and learning, and acquire the customs, practices, means of communication, language, and rules of behavior that are valued in the culture and community. As children learn about self and other, they experience what it means to communicate with others, to cooperate with others, to respect the feelings, intentions, and desires of others, and, in turn, to have their own feelings, intentions, and desires respected. Learning how to request a desired toy that another child is using is one common example of how children build social knowledge and acquire the capacity to manage emotions and behavior across a variety of social contexts. Thus, when providing care, family members or teachers, as purveyors of social knowledge, influence not only what young children learn about self and other, but also how the learning happens and the level of emotional support. Through interactions with adults who care for them, children learn expectations for behavior, how to communicate with others, and how to regulate their emotions and behavior.

Stories, songs, chants, music, and dance—all of which vary across cultures—fall within the realm of social knowledge. How children learn culturally based activities and what children learn about language and communication, social roles, values, manners, and expectations for behavior also vary widely. The child first learns language, customs, and expectations for behavior in the context of the family and the

immediate community. Upon entry into an early education setting, the child will already possesses social knowledge that may differ from the teacher's language, customs, and expectations for behavior. Yet the starting point for the child's continued learning of social knowledge is what the child already knows from the family and community. Thus, an important competency of early childhood teachers is the capacity to recognize, respect, and strive to understand cultural and linguistic differences. Two publications—*California Early Educator Competencies* (http://www.cde.ca.gov/sp/cd/re/documents/ececompetencies2011.pdf) and *Family Partnerships and Culture* (http://www.cde.ca.gov/sp/cd/re/documents/familypartnerships.pdf)—address this key teacher competency.

Young children are experts at building knowledge in the context of play, especially when given the opportunity to do so with peers. It is important to notice how the actions and ideas of one child contribute to the actions and ideas of another child. In essence, children socially construct knowledge, with the ideas of one influencing the ideas of another in ways that increase the coherence and complexity of the children's thinking.

In each vignette in this chapter, children are learning and teachers are teaching, yet the context for learning is play, often with other children. The teacher supports the play by setting up the environment, by offering materials that engage children in exploration and study, and by interacting and conversing with children in ways that support the play. The teacher listens and observes to discover children's ideas and provides a supportive presence, occasionally narrating or commenting on the children's play or making suggestions to prompt deeper thinking. Just as important as teachers, the children's peers are also collaborators in the learning, often adding ideas or actions that influence their friends' thinking. Relationships among all the key players—children, families, and teachers—provide an essential context for children's learning.

How Teachers Support Children's Active Meaning-Making

Teachers play a pivotal role in children's active construction of knowledge. They intentionally provide the environments and experiences that support children in actively building concepts and skills. The role of the teacher who works with young children birth to age five is to support children's active construction of knowledge. In a sense, early childhood teachers serve as research supports as the children sense, discover, and construct meaning about the world around them. Young children's natural impulse to learn by investigating (1) what things are like and what they can make them do, and (2) how people create and share meaning shapes the role of the early childhood teacher. The early childhood teacher is responsible for:

- offering children well-stocked play spaces where they can construct concepts and ideas, preferably in the company of friendly peers;
- designing daily routines that invite children to be active participants and to use emerging skills and concepts;
- supporting children's learning through interactions and conversations that prompt using language and ideas in new ways and that promote sharing meaning with others.

In carrying out those responsibilities, teachers create contexts in which young children can:

- wonder about what things are like and what they do;
- investigate a variety of ways of relating one thing to another;
- invent problems and solutions with others;
- construct, transform, and represent with the materials at hand;
- create and share meaning, and collaborate in learning;

- try new challenges and practice emerging skills;
- express their emotions, feel secure to explore, and regulate their emotions and behavior;
- manage conflicts in ways that support friendships.

Early childhood teachers see and support children as scientists and thus design the play environment to serve the children's inquisitive minds. Teachers also provide the materials children need to construct concepts and ideas and master skills in the natural context of play. Children learn from opportunities to discover materials that they may be seeing for the first time and need time to explore and get to know the properties of these materials. It means offering children materials that they can organize into relationships of size, shape, number, or function and time. Children can investigate what happens when they put these materials together or arrange them in new ways, experiencing the delight of discovering possibilities for building with them, transforming them, or using them to represent an experience.

Early childhood teachers also design the daily routines as rich opportunities for children to participate actively and to use their emerging skills and ideas in meaningful situations. Equally important are the ways in which teachers use interactions and conversations with children to support learning. Many interactions occur spontaneously, with the teacher being responsive to an interest or need that a child expresses. Many other interactions focus on co-creating or co-constructing meaning as the teacher and a child or small group of children focus on a specific topic or activity.

Some interactions may include providing guidance to help children learn to regulate their emotions and behavior or may involve an intervention in which the teacher helps children explore how to negotiate a solution to a conflict.

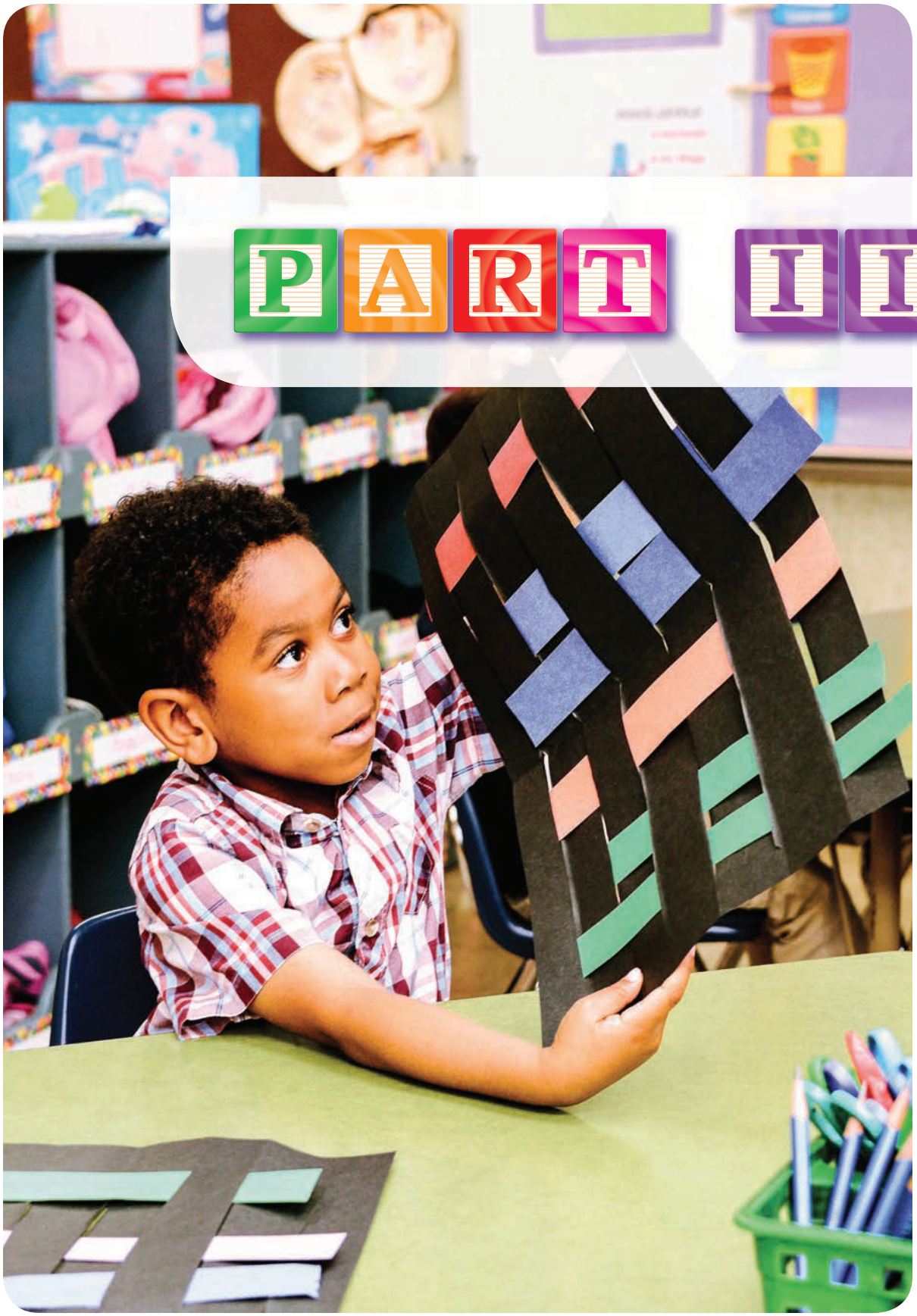
Other interactions and conversations teachers have with children are more predictable. Teachers anticipate and organize some interactions and conversations as group

discussions, in order to prompt children's thinking and understanding. Sometimes these groups are small, and sometimes, at preschool age, they are somewhat larger. Teachers also guide some activities in a context that allows children to encounter new information and build skills. All interactions are embedded in contexts in which the children are actively engaged in exploring their own developing skills, learning from each other, and acquiring knowledge.

Young children's learning is much like a journey, one that ideally takes place within caring, emotionally secure relationships. Young children are highly motivated to learn. They seek new things and delight in figuring out what those things are like and what they do. Teachers join children on this journey and provide the materials and guidance needed to extract new and exciting learning from the play. This image of the young child as an active participant in learning informs the image one holds of the early childhood teacher—a collaborator who supports the active meaning-making child. Young children move in every way they can with excitement, interject their ideas, pepper the teacher with questions, or plead to handle materials themselves. They are active, inquisitive learners best matched with teachers who invite children's thoughts and questions and who make room for children's active responses. Children with developmental differences are also active participants, and teachers can promote inclusion and belonging by being attuned to each child's unique ways of communicating interests, interacting with materials, and responding to social relationships (CDE 2009b). Teachers of young children construct new contexts for learning each day—contexts that offer possibilities for children to pursue playful investigations and to go deeper in understanding the world of people and objects.

Early childhood teachers team with others, particularly the families whose children they serve, as well as with their co-teachers within the program or the community. Together with co-teachers and with the children's families, they look for ways to support young children's learning, both within an early childhood program and within each child's home.

PART III



Early Childhood Curriculum: A Broad Definition

Early childhood curriculum should be designed and implemented with the image of the active, inquisitive young child in mind. Young children's minds process experiences much more broadly than do those of older children (Gopnik 2009). Their minds also work with a high degree of creativity. Here is an example. A teacher gives each child at the table a cutout of a teddy bear, along with a container of plastic berries. The teacher holds up a card with a 4 written on it and says, "Place four berries on your hungry bear." The teacher expects a straightforward response; namely, each child will count out four berries and place them on the bear cutout.

However, the problem and possible responses are much more complex. In the mind of the teacher, this activity was designed to teach a specific skill: counting. In the minds of the children, the activity involved counting, but it also prompted them to use and integrate a broad array of concepts and ideas. A child might decide to line up his bear with his friend's bear and suggest they are going on a picnic. Another child might transform one bear into the mama bear and another into the baby bear. Yet another child might want to fill his entire bear with berries, a task that involves a fair degree of care, in order to keep all the berries within the bear outline. This idea might also mean having to convince the other children to relinquish some of their berries so he can complete the task. Seeking berries from others might lead to a conflict to be negotiated among the children.

Children's thinking in this example extends far beyond the teacher's singular curriculum objective for this activity. To measure the children's learning through one single outcome—namely, whether the children could count the correct number of items—would seriously undervalue this experience and would miss the self-initiated efforts of the children to build concepts of negotiation, spatial relations, language, and narrative.

Researcher and developmental psychologist Alison Gopnik (2009) provides a framework from a cognitive perspective for interpreting the above vignette. Gopnik describes young children's capacity to gather and organize vast amounts of information in a single moment of time as being distinct from the way adults process information. She explains that the mind of a young child operates somewhat like a lantern—open to a broad arc of input from the experience at hand. In contrast, the mind of

the adult operates more like a spotlight, focusing on just one aspect of a much broader array of possibilities. The children in the above example are seeing broader possibilities that these materials suggest or offer. The message of Gopnik's research for early childhood educators is that curriculum should take full advantage of young children's abilities to gather and synthesize a broad array of input and to construct possible connections, and then to represent what they synthesize and construct, to use it to create, or to transform it in many ways not anticipated by the teachers. Curriculum for young children should make room for children's prolific minds to work.

Thus, teaching young children birth to age five requires a broad definition of curriculum, rather than one that slices learning into a sequence of activities designed to teach specific skills. A broad definition of curriculum includes significant concepts, skills, and dispositions that are built into children's experiences throughout the day and across a variety of contexts. A broad definition of curriculum allows teachers to be mindful of how young children build concepts and skills as they participate in daily routines, as they initiate play in well-supplied play spaces, and as they participate in small- and large-group experiences prepared by the teachers. The multiple learning contexts in which curriculum occurs ensures ample possibilities for engaging children's minds in learning.

Curriculum Occurs Throughout the Day

As previously stated, young children learn in everyday moments of play and interaction. A child who arrives in the classroom and sees his name written on a cubby where he deposits what he brought from home is learning. That learning is amplified when he walks to a nearby metal tray (labeled with the words "Home" and "School") and moves the magnet attached to his photo from the "Home" side of the frame to the "School" side. The learning continues when he stops to write his version of his name in the sign-in binder, located near a ring of cards with a child's name and photo printed on each. In this area, he can observe the accompanying family member sign him in as well. A bit later, that same child is learning when he describes to the teacher his frustration that his favorite tricycle is still being used by

another child. The teacher suggests what he might say to encourage the other child to explore how the two of them might cooperate. After that conversation, his learning continues as he ventures into the block area and takes on the challenge of turning a container of blocks and boxes into a gas station, negotiating varying roles in the pretend play with his friends. At lunch, when he pours milk into his glass using a small measuring cup, he is learning. Each moment of learning, in this example, emerged from thoughtful, intentional curriculum planning. Early childhood teachers plan such opportunities for young children to learn throughout the day.

Teachers' early childhood curriculum plans include the physical space as a context for learning. This means that teachers plan what, when, and how materials and furnishings are made available to the children for use. Teachers also plan the social environment—the roles, responsibilities, and guidance offered to children—during the daily routines and during moments of spontaneous interactions. A broad definition of curriculum includes the following components:

- Play spaces designed as environments for learning
- Care routines designed to invite children's active participation
- Interactions and conversations with children that support their understanding of themselves and others

A discussion of each of these components follows.

Play Spaces as Curriculum

With play central to the way in which children construct knowledge about the world around them, an important task for teachers is to develop play spaces thoughtfully and purposefully. Play spaces are children's environments for learning. Seeing children as young scientists leads to the creation of play spaces that become the children's laboratories for learning. Whether inside or outside, their play spaces are where they explore, experiment, and solve problems. Play spaces include materials and furnishings that invite children

to figure out what the world is like and how it works. When early childhood teachers thoughtfully select and organize materials for play, they support an essential aspect of curriculum—self-initiated exploration, investigation, and invention of ideas. Jones and Reynolds (2011) list the varied roles assumed by early childhood teachers, one of which they call "stage manager." This role means that the early childhood teacher purposely sets the stage for learning by selecting toys, furnishings, and materials that invite children to explore, experiment, and solve problems. In a well-designed early childhood program, the play environment holds immense possibilities for learning and creativity.

Consider how the play environment provides a context for learning in the following vignette taken from the *California Infant/Toddler Curriculum Framework* (CDE 2012, 25):

VIGNETTE

During a moment of play in the art area, infant teacher Joette watches as two-year-old Lucila picks up a wooden frame that encloses two sheets of blue plexi-glass. Lucila puts her eyes up close to the plexi-glass and peers through. She holds the frame out to Joette, gesturing for her to take it. Joette responds, "You want me to see what you saw, don't you? I'd love to!" Joette looks through and exclaims, "I see everything blue! Here, your turn, Lucila." Lucila looks through the block again. Another child walks up and reaches for a different frame, this one with yellow plexi-glass inside. The two children laugh together as they move the frames back and forth in front of their eyes. Teacher Joette watches and then picks up a third frame, which has red plastic sheets. She holds it near the window, and a red patch appears on the floor. She gestures to the two toddlers and says, "Oh, look what's over here!" They rush to the red patch. Lucila steps onto the red and laughs with excitement. "It made red!" she says. "Yes!" says teacher Joette, "Will yours make a color on the floor, too? You want to try?" Lucila holds her frame to the sun, sees a blue spot, and says, "Yes, I made blue!"

It is easy to see evidence of the children's thinking in this moment of play. They take full advantage of the materials available in this well-stocked play space designed to prompt play with colors and textures of materials. They notice the distinct features of the panes of translucent plastic. They compare them as they play. They use one item in relation to the other. They experience how they can use the different-colored panes to transform the shadows on the floor. They explore how the shapes change in space

and how their actions cause different reactions. The inventions of one child are exchanged with those of the other. In this play space, children can be seen constructing concepts of shape, orientation, light, and transformation.

Joette and her co-teachers supplied this art area with the same care that scientists might stock their laboratories. In the art interest area for toddlers, they placed an array of toys and materials that invite exploration and comparison of color, line, shape, and texture. They made certain that there were objects with similar features as well as distinct features, in order to challenge the toddlers' emerging ability to sort one object from another. They gathered similar objects graduated in size, in order to challenge the toddlers to explore concepts of size and sequencing. In the collection were identical objects for creating pairs and for assembling many rather than few. The teachers made the materials easily available to the toddlers, on low shelves and in wide, shallow baskets and bins. A variety of containers were labeled, each holding a distinct type of object—objects made from paper in one; a collection of orange and red fabric pieces in another; a collection or blue fabric, feathers, and ribbons in another; and a collection of translucent colored frames in another.

In the natural course of spontaneous play, toddlers encounter such materials and build relationships of identity, order, size, shape, number, and space. Many of the materials, like the collection of fabric pieces, are familiar to the toddlers, already available in the bins of the play space for many days. Other materials, like the long pieces of translucent cellophane paper in a variety of colors, have been recently added by teachers, with the hope of extending and adding complexity to the toddlers' play with color. The new materials added to the play space are part of the teachers' curriculum plan. During their weekly planning, Joette and her co-teachers discuss the observations they made of Lucila and her friends as the children explored the colored panes of plexi-glass. As the teachers interpreted the play, they wondered how to add some challenge and surprise to the toddlers' enjoyment of making colored shadows on the floor with the sunlight and the translucent plastic. The subsequent curriculum plan held a question: "In what ways will the children explore the long lengths of colored cellophane that they discover in the art area?" The teachers wondered whether these new materials might provoke toddlers' deeper exploration of relationships of size, space, and similarity and difference. The teachers explored possible questions to prompt toddlers' experiments in transforming the primary colors in the yellow and the blue cellophane into the secondary color of green.

Once the stage is set for play, teachers observe to discover what will ensue. At times, teachers might narrate what goes on as the children play, offering language related

to the play. The teachers might also prompt new ways of looking at the materials, as Joette did when she held the colored pane near the window to catch the sunlight and cast a colored shadow. In this moment, she artfully *scaffolded* the toddlers' learning by suggesting a new way of playing with the plexi-glass. A scaffold is a structure that allows someone to go higher in order to accomplish a task that the person could not have done alone. Teachers scaffold children's play when they connect in shared knowing with children and support them in going further to figure something out.

The infant/toddler and preschool curriculum frameworks provide guidance on how to embed in play spaces materials and furnishings that prompt children's building of essential concepts and skills. Play spaces for infants will look different from play spaces for four-year-olds. The infant/toddler framework proposes the following play spaces to consider for an infant/toddler program:

- A cozy area for books and stories
- A small-muscle area
- A sensory perception area
- An active movement area
- A creative expression area

The preschool framework offers the following list of suggested play spaces when creating a learning environment for children three to five years of age:

- Dramatic play area
- Block area
- Art area
- Book area
- Writing area
- Math area
- Science area
- Family display area
- Music, movement, and meeting area

In both cases, it is helpful to think of ways that the spaces can be used by two or three children together, one child alone, or an adult and one or two children, as well as larger areas for more exuberant group play. Providing opportunities for small configurations enables the play space to support growing social relationships and meet needs of children who prefer more defined space or space away from others.

Daily Routines as Curriculum

The daily routines and rituals provide a second context for curriculum. They offer possibilities for children to use their emerging skills and to apply emerging concepts and ideas. Early childhood daily routines include arrivals and departures, mealtimes, naptimes, diapering, toileting, dressing, handwashing, toothbrushing, and transitions between one place and another. They also include rituals such as sign-in sheets, health checks, waiting lists, attendance counts, dictated stories, reminder notes, or voting.

The following vignette from volume 1 of the *California Preschool Curriculum Framework* (CDE 2010a, 141–42) offers an opportunity to watch and listen for the learning that occurs during a transition routine and to reflect on the planning that had to occur in order for this experience to play out as it did.

VIGNETTE

Ms. Cone had used the children's name tags in transition activities for quite some time, at first pointing out and naming the first letter in each name as she called children to go wash hands or to get their jackets before going outside. Somewhat later, she held up each of the nametags and pointed to the first letter as she asked the child to name it. Today, she is using the first sounds in names to send a few children at a time from the circle time area to wash hands for lunch: "If your name starts with /k/, you may go wash your hands. Yes, C-onnie and C-arolina, you may go to the sink. Both of your names start with the /k/ sound." Cindy sees Connie and Carolina stand up, and she stands up too. Ms. Cone explains that Cindy begins with the /s/, not /k/ sound, and that she'll get a turn soon. Cindy says, "I'm a C too!" Ms. Cone says, "Oh, you are right. Your name begins with the letter c like Connie and Carolina, but it starts with a different sound. We hear /k/ at the beginning of Connie and Carolina—/k/ Connie, /k/ Carolina. We hear /s/ at the beginning of your name—/s/—Cindy. I'm going to say that sound next: 'If your name starts with /s/, you may go wash your hands.'" Sabrina stood up, joined hands with Cindy, and they walked to the sink together.

Built into this large-group gathering is a dismissal ritual that takes full advantage of young children's interest in their names and the names of their friends. As part of this dismissal ritual, the teacher invites children to use their emerging skill in distinguishing the distinct sounds of language, described in the language and literacy foundations as phonological awareness. She embeds this learning in the context of a game, one that inspires children to listen carefully to the sounds spoken in instructions for inviting small groups of children to wash hands. The transition from large group to the sink area goes much more smoothly as a result, and in the process, children get to use an important emerging skill.

A vignette from the *California Infant/Toddler Curriculum Framework* (CDE 2012, 26) shows the kind of learning that occurs in another routine:

VIGNETTE

Four toddlers are seated at a low table for lunch. Their primary care teacher sits with them at the table. To his right, on a low bench, the primary care teacher has a bin that holds everything he needs for the meal. He pulls out bibs for each toddler and helps each toddler put one on. Each toddler finds a cube chair to sit in. The teacher puts an empty bowl in front of the toddler on his left. He offers this toddler a pair of small plastic tongs, holds a plate of small sandwiches, and asks, "Would you like to take a sandwich?" The toddler grabs the tongs and, after a few trials, manages to pick up one of the sandwiches and drop it onto his plate. Later, after each toddler has taken a sandwich, the teacher pulls from the bin a clear plastic measuring cup, on which a red line is drawn at the one-cup mark. He fills the measuring cup to the red line. He places an empty glass in front of a toddler and, offering the toddler the measuring cup, says, "Would you like to pour?" The toddler wraps his hand around the handle and tips the cup over his glass. He spills a bit at first, but adjusts his hand and manages to empty the measuring cup. He looks up at the teacher and smiles. The teacher smiles in response, saying, "You poured your milk, Stephan! You know how to do it!" The toddler seated next to Stephan reaches for the empty measuring cup. The teacher says, "And now you can pour milk into your glass, Alexi. I'll put the milk in the measuring cup first."

Children sit down for a meal, wash their hands, and put jackets and shoes on hundreds of times during the course of their early childhood years. Such situations require thoughtful planning in order to provide excellent opportunities for children to use and build emerging skills and concepts. In group care, the care routines during arrivals, departures, meals, naps, diapering, toileting, and dressing provide excellent opportunities for children to use and challenge their emerging skills and concepts. When an infant whose diaper is about to be changed hears her teacher describe what it is she is about to do, the infant experiences a flood of words, which eventually become an anticipated phrase that gives meaning to a familiar experience. When this same infant hears a request to put his arm into the sleeve of a shirt, he is invited to demonstrate that he has understood this phrase and experiences the joy that comes with sharing meaning with the teacher. When a preschool child looks in anticipation each morning at the helper chart to see what job she gets to do that day, she is invited not only to cooperate in the care of the classroom, but also to build her emerging skill in understanding the meaning of print that accompanies the photo or the drawing.

Care routines are natural opportunities for children to engage in learning. Therefore, teachers plan the routines of care and the daily rituals that pepper the day in ways that invite children to be active participants and to use and build their emerging skills and concepts in meaningful situations.

Interaction and Conversation as Curriculum

Interactions and conversations throughout the day model for young children the expected ways of communicating with and being with members of the group or community. Through the ways in which they interact and talk with young children and guide children's behavior, teachers support children in learning the code of behavior and the language of the education and care community. Children rely on family members and teachers to provide the experience of expected patterns of behavior, interactions, and language. At home, children experience interactions and language that are grounded in their family's culture. In the early care and education setting, they encounter what might be a different expected pattern of behavior, interaction, and language from what they experience at home.

The following vignette taken from volume 1 of the *California Preschool Curriculum Framework* (CDE 2010a) offers an opportunity to observe and listen to learning from the children's point of view and to see what the teacher intentionally does to guide the children's thinking:

VIGNETTE

Mr. Ravi and his group of preschool children enter the play yard on Monday morning. As several children run to the sandbox, Vicente shouts with dismay, "Oh, look! Somebody ruined our fort and messed up all the hiding places we dug for our food! That was mean!" Mr. Ravi comes over quickly to join them. He surveys the logs and boulders strewn around in the sand and notes the children's distress and sense of outrage.

Mr. Ravi responds sympathetically, "You all spent so much time working together to build this last Friday. It does seem unfair that it has been destroyed. Do you have ideas about what to do?"

Vicente suggests, "I know! We can make it over again and then you can write a sign that says, 'Keep Out. This is OUR fort.'" The other children agree.

VIGNETTE *(continued)*

Mr. Ravi says, "It sounds like you have a plan to rebuild and protect your project. I know that Marcos can write words and likes to make signs. Why don't you ask him if he would be willing to make the sign you need?" The children agree with this idea, and Mr. Ravi accompanies them to talk to Marcos, who sits alone on the stairs. "This is going to take a lot of teamwork," comments Mr. Ravi.

"Yeah, but we're getting really good at teamwork," responds Vicente confidently.

This experience illustrates what is referred to in the *California Preschool Curriculum Framework* as a *teachable moment.* It was not planned, and the teacher had no way of knowing that it was going to occur. It was a spontaneous encounter, but when planning at an earlier time, the teacher had wondered whether one like it would occur and had considered how he would respond in such a moment. Having in mind how to respond to various situations, especially moments of conflict or misunderstanding, emerges from the reflective curriculum planning that early childhood teachers do. It also allows the teacher to think about how to include a child who was not participating with other children and may not have had the social skills to join the group on his own. Knowledge of group dynamics helped the teacher be aware of opportunities to connect Marcos with his peers.

Here is another example of a teacher's response aimed at supporting children's learning. This vignette comes from volume 1 of the *California Preschool Curriculum Framework* (CDE 2010a, 198). It gives insight into how teachers support language learning in a classroom where four different languages are spoken.

VIGNETTE

All the children are playing outdoors, and the teachers have set up a board with openings in different shapes (e.g., circle, square, triangle, rectangle). Jasmine, a child who speaks Farsi, is looking toward the board and appears interested. Mr. Li gestures to Jasmine to come closer and picks up a beanbag. He models for Jasmine how to throw the beanbag toward the board at the different openings. While he throws the beanbag with an underhand motion, he simultaneously says, "Look, Jasmine, I swing my arm and throw the beanbag." Mr. Li repeats the physical action several times while simultaneously describing his actions. He then encourages Jasmine to try it. When Jasmine picks up the beanbag, Mr. Li smiles and repeats, "Swing your arm and throw. That's the way to do it, Jasmine!"

This type of reflective curriculum planning may not show up in daily or weekly posted written plans. Through planning, teachers are able to anticipate interactions and conversations in which they may help children think about how to solve a problem or resolve a dispute, or support children in learning a new language. Early childhood curriculum includes principles and approaches for how teachers can support young children in learning English, when their home language is not English (CDE 2010a, 177–223.)

Early childhood curriculum also includes principles and approaches for intervening when conflicts between children arise (CDE 2010a, 67–68.) Some of what teachers do to plan such curriculum is written into the daily or weekly plans, but much of it occurs during teachable moments, in which teachers already have in mind a clear plan for what to do, how to do it, and when to do it.

Even so, the moments that teachers apply their plans are not known to them in advance. The principles and approaches addressed in the frameworks necessarily go beyond a series of planned activities. For example, a teacher watches an infant who is on the verge of being able to crawl. The child focuses her gaze on a desired yet distant object and attempts to move toward it. In spite of her effort, she barely budges. The teacher watches the infant's expression of delight change to a frown and tears welling up in the baby's eyes. The teacher knows to move closer to the child and offer words of encouragement. The teacher's attentive presence, calm voice, and look of encouragement reassure the child, help her focus her attention, and prompt her to sustain her efforts. Feeling connected with the teacher and emotionally secure, the child is ready to try again, moves forward on all fours, and looks at the teacher with an expression of glee and surprise.

The above examples illustrate how teachers support children in negotiating projects, in building language skills, or in trying a challenging physical movement. Such examples are integral to daily life in an early childhood education and care setting. Teachers keep in mind concepts and skills described in the foundations and apply strategies and approaches presented in the frameworks, as they engage in interactions and conversations that occur within unplanned yet curriculum-rich teachable moments. In the

two preceding examples the teachers supported children's learning in an intentional way, yet their responses and strategies were not spelled out ahead of time in their written plans. Nevertheless, the teachers know that such interactions and conversations are important components of the curriculum in early childhood settings.

The plans for guiding behavior, although typically not seen on a daily or weekly plan posted for all to see, will likely be found in the program manual. In a program manual, teachers and administrators explain strategies for guiding children's behavior to support learning how to get along respectfully and cooperatively with others. Short written handouts on common issues like sharing, biting, hitting, or name-calling are also useful ways to make visible to families how teachers support young children in getting along respectfully and cooperatively with others. (The CA CSEFEL Teaching Pyramid Web site at http://www.cainclusion.org/teachingpyramid/materials_family.html is a resource that provides downloadable handouts on such topics in English, Chinese, and Spanish.) It is important that families see that such planning is part of the broad definition of curriculum. Families are integral to this planning, as they have their own perspectives on guiding learning and behavior. Collaborating with families opens up possibilities to help children learn expectations both at home and at school, because children are learning ways of being with others in both settings.

There will be times when social–emotional development and negotiating relationships between children take center stage in the written plan. For example, in a toddler classroom, several children might be learning the importance of not biting others when they are upset. This behavior might become a focus for teacher reflection and curriculum planning for the group at large for several weeks. Teachers might decide to read stories to the children about things to do when angry. Or schedules may be adjusted to allow a teacher to shadow a child who tends to bite when upset. Teachers might also document over the course of several days to see if biting tends to occur at particular times.

Another example comes from a classroom of three-year-olds who are all new to the program. The term "cleanup time" may not make sense to the children, so the teachers

plan opportunities when children can experience and discuss what this term means. It becomes the topic of discussion during a large-group gathering. It also takes on a special look during the cleanup that happens before lunch, as a teacher adds a new routine in which each child gets to pull from a basket a sign that says, "I cleaned" and carries it into the meal area. The idea of cleanup also gets written into a story, dictated by several children who are dismayed that not everyone was helping with cleanup. The teachers make time during large-group gathering to read the story. Prompted by the teacher's suggestions, several children illustrate the story, which becomes part of a homemade book that finds a home in the book/story area.

Contexts for Written Plans

Early childhood teachers write plans sometimes for an individual child, sometimes for a small group of children, and sometimes for the entire group of children.

Individual Plans. One-on-one moments of teaching and learning play a major role in early childhood settings. Early childhood teaching requires that teachers be present to guide individual children when needed, adapting their teaching to support each child's individual learning. For example, some children may be somewhat cautious in joining others in play, but may become excited about the possibility if the teacher accompanies them into the area where a group of children are playing together. An early childhood teacher will note this cautious aspect of a child's temperament. The teacher may make a plan to include watching for opportunities to be a "social bridge" of support for the child who tends to be cautious, helping that child with joining the other children's ongoing play. The following vignette taken from volume 1 of the *California Preschool Curriculum Framework* (CDE 2010a, 76) illustrates the teacher's role.

VIGNETTE

Lucas stands close to his caregiver, Ms. Mai, who is sitting in the block area. Ms. Mai observes Lucas watching his peers at play as they build a large train. "This train is getting really big," she comments to Lucas with a soft smile and a gentle hand on his back. Lucas nods his head slowly. "I wonder if Martin needs a helper. He said he is the engineer, but an engineer needs a conductor. Would you like to hand out and collect tickets?" Lucas nods his head again and reaches for Ms. Mai's hand as she gets up to move closer to the train. Ms. Mai provides Lucas her hand and another reassuring smile. "You could let Martin know you want to help. Tell Martin 'I can collect the tickets.'"

VIGNETTE *(continued)*

Lucas pauses and then mumbles (or signs), "Martin, I can collect tickets."

"You all look like you are having fun over here. Lucas wants to help too. Where are the tickets for Lucas to pass out to your riders?" restates Ms. Mai.

"Oh! Over there," responds Martin, pointing over to the basket of torn pieces of paper.

"Thanks, Martin, for your help. Lucas, let's go get the tickets and hand them to our friends. I think these builders will want to fill the train with passengers," observes Ms. Mai excitedly.

In this vignette, the teacher is aware of Lucas' caution in entering the play, yet his strong awareness and most likely his desire to enter the social play become part of his individualized curriculum plan. Because such individualized curriculum is a component of early childhood teaching, the teacher–children ratio must be kept sufficiently low to allow the teacher to know in depth how each child is developing and learning. In infant/toddler programs, assigning a primary care teacher who stays with three or four children throughout infancy, makes it possible for teachers to know each child well and tailor individualized plans to support each child's learning and development.

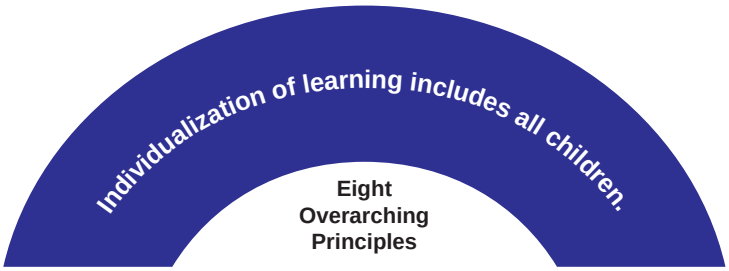
Many programs use a child portfolio system to record ongoing individualized curriculum plans. A portfolio tells the story of a child's developmental progress. It may include periodic psychometric assessments of the child as well as planning notes specific to the child. It may also include notes of what the child did in response to the plans, photos, or work samples that give insight into the child's progress. A child's portfolio allows a teacher to track a child's individual needs, keep a record of what is planned to support those needs, and document progress in learning. Such individualized planning is not posted, like the plans designed for groups of children, but the plans in each child's portfolio are regularly reviewed and shared with families. Here is an example of an individualized curriculum plan:

Observation Notes

Observation: *Lucas is somewhat cautious in joining others in play. He stands to the side and watches others as they play.*

Interpretation and Plan: *Lucas appears to want to join the play, but may need just a little bit of support. I plan to watch for moments when he is on the sidelines of play, find ways to invite him into the social play, and stay with him to support him in his encounters with the other children.*

In this example, the teacher knows about temperamental differences and knows how to assume the role of "social bridge" to assist the child to join other children's ongoing play. Planning to be a "social bridge" for a child with a cautious temperament is part of a larger individual plan. Lucas' teacher recognizes that Lucas will have opportunities to learn various skills in an integrated way when he joins the social play. The teacher watches for ways in which this social context prompts the child to express and manage emotions, to understand and use language, to collaborate with others, and to solve problems. Individualized planning applies to all areas of learning and tends to highlight those concepts and skills that children would otherwise miss the opportunity to build if teachers developed plans only for the large group of children.



Another of the overarching principles from the *California Preschool Curriculum Framework* states that individualization of learning includes all children. Of course, some children have individual plans developed by specialists to address the children's developmental needs. For children under age three, those plans are called Individual Family Service Plans (IFSPs), and for children over age three they are called Individualized

Education Programs (IEPs). For children who have one of these, it is helpful for the teacher to know how to support the identified goals, outcomes, or objectives in the early childhood setting. With parental permission, the teacher can either be a part of the planning process or communicate with the team that developed the plan. More information on this process can be found in chapters 1 and 5 of *Inclusion Works!* (CDE 2009b).

Group Plans. Teachers also regularly prepare written plans to organize experiences for the full group of children in a classroom or program. These plans are posted in a predictable place and referenced throughout the day or the week by the teachers and the families. These group plans may be daily or weekly plans. Group plans describe possibilities for experiences that relate to either a small group or a large group of children. A small group is typically a teacher-guided experience with four to eight children. The following vignette from volume 1 of the *California Preschool Curriculum Framework* (CDE 2010a, 17) illustrates how teachers plan for a small-group context:

VIGNETTE

During one of their discussions about their observations of the children's interest in the snails, the teachers . . . decided to do focused exploration of snails, with small groups of four to six children. In a small group, children would have an easier time building relationships with each other and with the teacher, a learning goal for the whole class. With each small group, the teacher helped the children create a snail habitat in the science interest area. The children could return to the interest area throughout the day for exploration. The teacher and small group worked together over days to transform a glass terrarium into a habitat for snails, with dirt, plants, and enough space for other small creatures.

A large preschool-age group may be composed of all the children in a class, but preferably no more than about 15, in order to avoid overwhelming the children and teacher. The following vignette from volume 1 of the *California Preschool Curriculum Framework* (CDE 2010a, 18) illustrates how teachers plan for a large-group context:

VIGNETTE

To generate interest in snails, the teachers announced to the children during large-group circle time that the snail trays would be available for exploration. The teachers also used the large-group circle to read books and tell stories about snails. One teacher invented a simple clapping chant to play with the /s/ sound in the new and now popular words— snails and slugs—"slippery snails and slugs slowly slithering make slimy stripes." She knew how much the children enjoyed chants, songs, and finger plays. She also knew the value in helping children to hear and make distinct sounds of oral language.

In the large group, the teachers pointed out that a new kind of helper had been added to the helper chart. Now, two of the children would be "snail helpers." From then on, each day during large-group time, children checked to see whose name cards had been placed next to the snail photo on the helper chart. In the large group, children reported on some of the things they had been doing in their small-group explorations of snails.

Posting the daily or weekly group plan is important. What teachers record on the posted daily or weekly curriculum plan organizes the possibilities for that day or that week and makes the plan for learning visible to anyone who reads it. The posted plan should serve as an organizing tool for teachers to know easily what comes next. In an early childhood setting, unless the program is a small family child care home, there are typically two or more staff members who care for the children. A written plan posted in a central location serves as a useful reference throughout the day for all those involved in supporting the children's learning.

Some parts of the day that support children's learning remain the same each day. For example, in preschool washing hands before meals, inviting the children to notice or to count who is present and who is absent, or setting up the outdoor painting

easels usually occurs each day. These routine experiences do not need to be written into each daily plan. Rather, a record of these regularly occurring opportunities for learning can be included in a description of the program schedule, along with a description of the distinct interest areas set up inside and outside. For example, the *California Preschool Curriculum Framework* (CDE 2011b, 16–19) provides a guide for the design of specific interest areas that support children's learning as they enjoy self-initiated play. Written descriptions of how teachers plan for each interest area should be included in the program handbook and shared with families when they enroll in the program.

Teachers write on the posted daily or weekly plan what they expect to do to supplement the ongoing learning experiences built into the well-supplied interest areas, the thoughtfully designed daily routines, and the interactions and conversations that lead to "teachable moments" that occur spontaneously during the day. The posted curriculum plan for preschool typically includes the following items:

- Topics to discuss or books to read at group time
- The focus of small-group activities planned for the day
- Materials to add new challenges and experiences to the interest areas both inside and outside

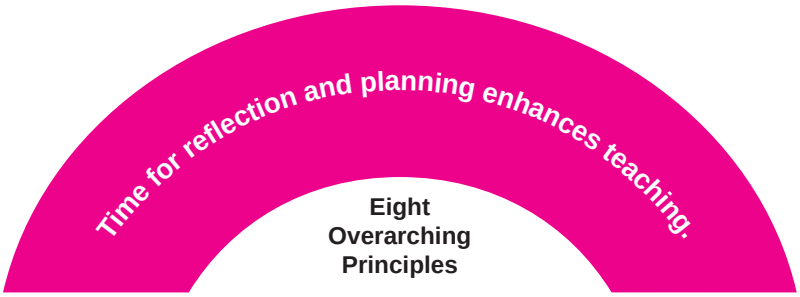
Similarly, the curriculum plan for infants and toddlers includes the following items:

- Books to look at or read with children
- Songs, finger plays, and rhyming games that will occur during the day
- Materials to add new challenges and experiences to the environment both inside and outside

PART III

Reflective Planning

One of the overarching principles of the *California Preschool Curriculum Framework* (CDE 2010a, 5) states that time for reflection and planning enhances teaching. What teachers include in their curriculum plans reflects the children's ongoing engagement in learning that takes place in their particular community of children and families. Because each child is unique, each family is unique, and each community and program is unique, the specific curriculum will vary from one program to the next. Even so, what remains constant across curriculum plans is that all of them address the concepts and skills described in the Early Learning Foundations (CDE 2008, 2009a, 2010b, 2012). Curriculum plans may be thought of as a map, and children's learning may be considered the journey aided by the map. In creating the map, teachers first identify the particular interests, dispositions, circumstances, and experiences of the children and their families.

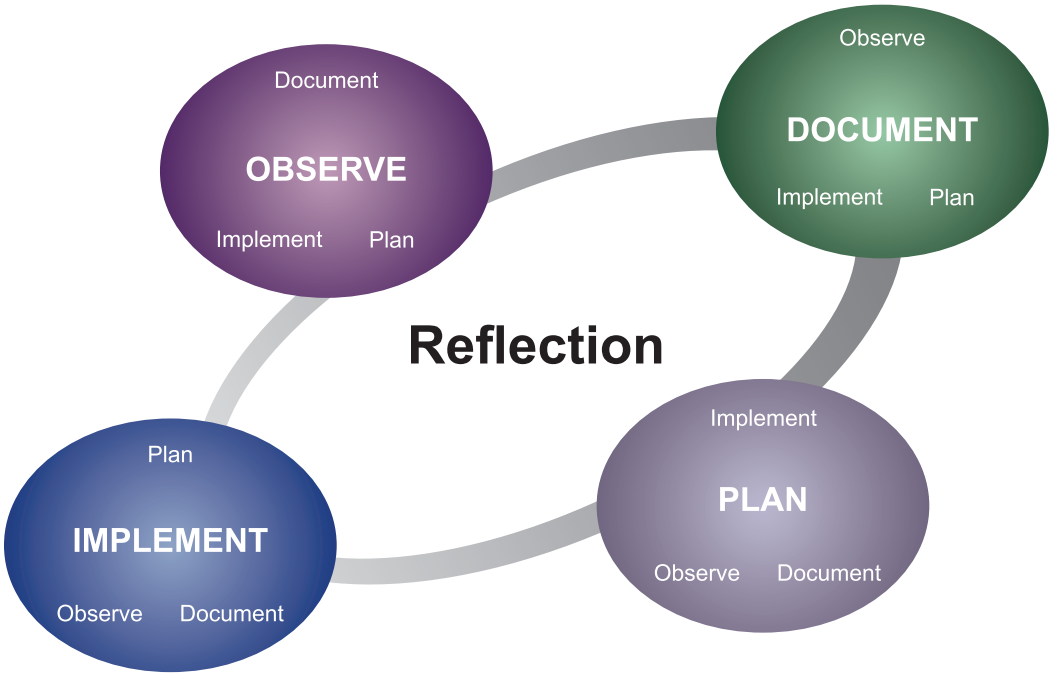


This step informs teachers' ideas about how to best support individual children's learning as well as that of the group of children. It is important for early childhood teachers to understand the group of children as a whole, particularly how the children relate and communicate with each other and the children's common interests or challenges. For example, teachers of a group of three-year-olds may discover that most of them experience conflicts related to sharing possessions with others. With this observation in mind, the teachers might plan curriculum for the group to include opportunities for the children to work together in small groups on projects of interest, with a specific focus on simple ways of negotiating different points of view.

A Cycle of Observing, Documenting, and Interpreting

Children reveal their thinking through their behavior in play and interactions with others. The thinking they reveal informs the reflective curriculum planning process. As described in the introductory chapters of the *California Infant/Toddler Curriculum*

Framework (CDE 2012, 30) and the *California Preschool Curriculum Framework* (CDE 2010a, 20; 2011, 27; 2013, 31), the Curriculum-Planning Process begins with observation and reflection of children's play and interactions. Teachers document significant moments they wish to remember about what they see or hear, in order to share their observations with others. They discuss and interpret the documentation in order to plan what to do next to support the children's thinking and learning. A plan is then put into writing and implemented, and as it is implemented, teachers continue to observe, reflect, document, and interpret. This ongoing process generates a cycle of curriculum planning that incorporates the essential components of observation, documentation, interpretation, planning, and implementation.



Observe and Reflect

Observation gives teachers and families a glimpse into the developing mind of the child. Careful observation of what children do and how they do it guides teachers and families in knowing how to support children's learning. During observation and reflection, teachers generate ideas about what might be going on in the minds of children (for example, information they appear to be gathering about the physical properties of objects; or hypotheses or theories they appear to be building as they relate one object or person to another). A reliable way for a teacher to check the validity of her or his ideas is to ask others to join in interpreting what was observed. Colleagues wonder together, posing questions such as "What do you see here?"; "Is it the same as what

I see?"; or "Do you see something different?" The simplest way to share observations is to record them in words, photos, or (when available) through an artifact from the experience, like a drawing. Clear, accurate notes of what a child does or says make it easy to share and experience with others. Such notes facilitate reflecting together on what a child or children might be thinking. In recent years, early childhood educators have begun to describe notes, photos, drawings, and so forth that hold evidence of what children do and say as *documentation.*

Documentation, a word first made known through the detailed and descriptive notes, photos, recorded comments, and drawings from the birth to five schools in Reggio Emilia, Italy, allows teachers to read, reflect on, and think together about what might be children's ideas, intentions, or feelings during an episode of play. Such collaborative discussion of the observed play of children is a process of *interpretation,* which is a sharing of ideas and perspectives that guide adults' understanding of children's thinking and feeling.

When teachers observe carefully and document their observations, they make children's learning visible (Rinaldi 2001). Watching children at play reveals much about how they are gathering information and making sense of it. Rinaldi (1994, 59) explains that young children "ask us to listen, to observe, and support them and to render them visible." By "render them visible," Rinaldi suggests that teachers record what they see children do or say, and then reflect on and interpret what the children may be thinking or feeling. Scientists (Gopnik, Meltzoff, and Kuhl 2000; Gopnik 2009) who study how young children think explain that babies and young children invent hypotheses and theories. When children take actions to explore different possibilities, they are testing a hypothesis they have formed. When they invent explanations that help them explain why something occurs, such as "Things like this always do that," they are forming a simple theory. Observing and reflecting on children's actions and explanations serve as a window into their inquisitive and creative minds.

To observe mindfully, teachers need to be fully attentive to what children are doing in play or in interactions. Being fully attentive requires a different state of mind from that of being actively engaged with children in play or guiding or directing the play. It means

stopping everything else in order to watch and listen, for a brief moment or longer, to discover the meaning that unfolds in children's play. In doing so, teachers discover a window into the child's thinking and find clues as to what might be their hypotheses, their experiments, or their theories.

Teachers often begin an observation with a question; for example, *In what ways do the children begin exploring new materials they discover in the block area?* A teacher's written note of such an observed episode may be shared with co-teachers and families for reflection and interpretation. Teachers and families discuss this documentation, using questions: *How is the child revealing his thinking? What information does he appear to be gathering about this object? Does he appear to be generating any hypotheses? Do his actions or words reveal any theories he is constructing about the way such objects react when acted on?* Thus, early childhood teachers observe and reflect on children's play and interactions to guide their teaching. In collaboration with each other and with families, teachers determine what might be the next steps to pursue in planning the curriculum. Rinaldi explains this process as planning possibilities for supporting children in "going deeper in their research" (CDE 2006b).

Document to Hold in Memory

By writing down what they observe as significant in moments of children's play and exploration, teachers hold in memory the actions, nonverbal communication, or comments that seem to be significant to children's thinking. Teachers can share the written document with others later in order to deepen their understanding of children's thinking and learning. A short, vivid description is often sufficient to capture the observed play, exploration, or interaction. The written note should hold sufficient detail to allow others to revisit the observed experience later. The note should be factual (i.e., based on what children actually do or say). Factual documentation means first writing down what actually occurs without interpretation, rather than focusing right away on what the observer thinks is happening. Interpreting a child's thought, feeling, or idea is an important component of the work, but to interpret effectively, one must first know what the child actually said or did.

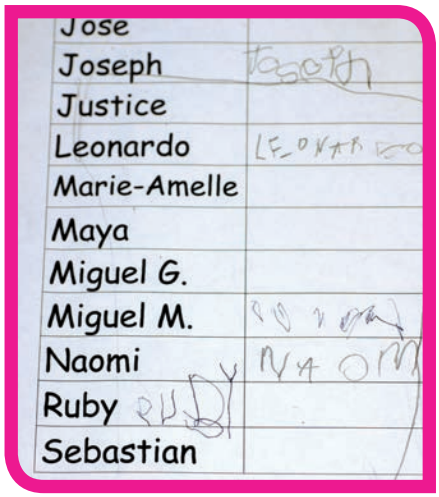
In the following vignette from volume 1 of the *California Preschool Curriculum Framework* (CDE 2010a, 151), the teacher's written note conveys a vivid picture of what occurred:

VIGNETTE

Javon usually knew exactly the book he wanted from the classroom lending library. One day, a book he had hoped to take home had already been checked out. Javon decided to make a list of books and post it on the wall near the lending library to inform his friends that they should return a book on the list as soon as possible. (The classroom rule was that children could keep a book for a week.) Javon got a piece of paper and asked his teacher how to write, "Books to Check Out." With help, he wrote the words at the top of the paper and then drew six or seven lines across it. He taped the list up on the wall near the lending library shelves, to "do later." He turned his attention to searching among the remaining books in the lending library. Before long, he found one he liked. The empty list stayed on the wall for several weeks. One day, Javon took it down and gave it to his teacher. "You can have this," he told him. "You might need it sometime."

Another way to document is by taking photos that capture children engaged in a moment of thought or activity. A written anecdote with a photo that shows the child's focused attention in the moment described can serve as evidence of a child's ability to apply a concept, to perform a skill, or to solve a problem. As an example, the following photo documentation is taken from volume 2 of the *California Preschool Curriculum Framework* (CDE 2011b).

Another form of documentation is a work sample. A work sample might be a child's drawing or painting or a child's first attempts at making print as the child investigates tools of writing. As children move from the infant/toddler years to the preschool years, work samples offer key insights into their developing thinking, concepts, and skills. The example on this page shows one kind of work sample documentation that teachers may gather.



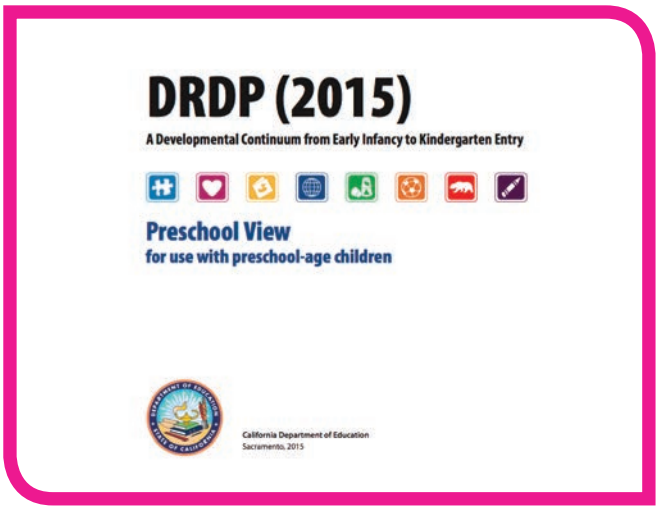
Interpret the Documentation

Documentation is a powerful tool that prompts discussion among teachers and families about children's thinking. It generates ideas for how to support children's learning. When written observations are vivid and factual and photos or samples capture evidence of children's thinking and developing skills, they can be easily read and interpreted by both teachers and children's families. A child's family members will often add insights while viewing the documentation and add a perspective that the teachers may not have considered. In turn, a teacher might see in a moment of play that a child is building a foundational academic skill, like math or preliteracy, a perspective that might add to a family's understanding of their child's learning.

Documentation as a tool for planning. When teachers observe, document, and interpret what they document, they generate ideas for how to support children to go into deeper investigation, and in so doing, the children build more complex and coherent concepts and master more complex skills. The infant/toddler and preschool learning foundations (CDE 2009a, 2010a, 2010b, 2011b, 2012) provide a tool that teachers can use to name the concepts and skills that children learn and develop from birth to five years. The learning foundations define what children learn. In contrast, curriculum focuses on how children learn and how to support their learning. A comprehensive curriculum is composed of the engaging experiences offered to children throughout the day—the materials found in the play spaces and the possibilities for children to use their emerging skills and concepts during the daily routines. From what they observe, document, and interpret, teachers plan curriculum that meshes with the particular community of children and families with whom they work. Curriculum plans generated by observing, documenting, and interpreting build on children's understanding and add new possibilities that support them in going deeper in their investigations

about how the social and physical worlds work. Table 1 provides illustration of how teachers use the documentation of an observed moment of play to plan ideas for where they might go next with the curriculum.

Documentation as assessment. Reflective planning that begins with observing and documenting not only guides curriculum, but it also provides evidence of the key concepts and skills the young child is building. Individual portfolios are a common tool used by teachers to hold evidence of a child's learning. The portfolio provides notes, photos, and possibly work samples that serve as evidence of the child's learning of key concepts and skills. Documentation provides an ongoing narration of children's engagement in learning that can be tapped by teachers when they do periodic psychometric assessments. Collected as part of the ongoing cycle of curriculum planning, a written observation, a photo, or a work sample, when interpreted with a few notes, provides evidence teachers can use to assess a child's progress in developing new concepts and skills. Table 1 on page 55 provides an example of how teachers identify evidence within the ongoing documentation of children's emerging development along several measures of the DRDP (CDE 2015) assessment instrument. This evidence can be cited at a later time when they are completing the periodic DRDP (CDE 2015).



Documentation as an invitation to families. Another of the overarching principles from the *California Preschool Curriculum Framework* states that family and community partnerships create meaningful connections. Documentation not only guides curriculum planning and provides evidence of children's learning, it also offers an easy and effective way to engage families in participating in planning for children's learning. A note, a photo, or a work sample serves as an invitation to families to participate in interpreting the observed play and

exploration made visible by the documentation. The following example from volume 3 of the *California Preschool Curriculum Framework* (CDE 2013, 35) illustrates how teachers use documentation to invite families to join them in the work:

VIGNETTE

During the small-group face-drawing activity, Clayton was picking out pencils for his skin color when his mother arrived to pick him up. She knelt near the table as Connie read the name printed on the colored pencil that Clayton had selected. "This one says, 'sienna brown.' What do you think, Clayton?" Connie asked, as she moved the tip of the pencil near his arm. "Is that your color?" Clayton smiled at his mother, "I'm sienna brown, mommy. Which one do you want to be?" A few minutes later, when Clayton was retrieving his things from his cubby, his mother confided in Connie how much she had enjoyed picking out her skin color with Clayton. She had been uncertain about how to talk with Clayton about skin color, because she was of European–American background and Clayton's father was African American, and most of the family members living nearby were Caucasian. They discussed the possibility of doing an activity at the next parent meeting in which all the parents could explore the variety of flesh-toned colored pencils and even to blend different tints of homemade play dough that they could take home to enjoy with their children.

PART IV

Curriculum That Reflects Children's Lives

Curriculum for young children is most effective when it is dynamic, co-constructed, and responsive.

Dynamic

Curriculum planning for young children is a dynamic process that takes into account children's ideas and interests. As stated earlier, infant/toddler and preschool curriculum should reflect the unique context of each group of children, families, and teachers. The curriculum plan that works well for one group of children may generate little interest in another group of children. For example, a group of children living near a large urban park may have the opportunity to experience several trips to check on a nest with eggs laid by one of the ducks living at the pond nearby. The ducks, their habitat, and the eggs become the object of study for several weeks, as the children discuss, tell stories, plan ways to protect the eggs from danger, and count the days of waiting. The teachers did not anticipate this curriculum prior to the discovery of the duck nest, yet the duck nest became part of their curriculum plans.

Another group of three- and four-year-olds in a different program in the same city might be developing the same emerging skills and learning the same concepts yet be focused on their classroom pet—a tree frog—exploring his food likes and discovering how to maintain his habitat in a way that keeps him healthy and thriving. Like most journeys, early childhood curriculum follows a course that is unique for each group of children, with unpredictable content from group to group and from setting to setting.

What *is* constant and predictable in a dynamically generated curriculum is the foundation of concepts and skills that teachers support as children pursue ideas and topics of interest. Through professional preparation, teachers who work with young children understand how to recognize the concepts and skills described in California's early learning foundations. Teachers look for opportunities to engage the minds of young children in meaningful play, interaction, conversation, and investigation—creating curriculum that nurtures the inquisitive minds of the children and connects with their experiences and developing knowledge and skills. Dynamic curriculum emerges throughout the year and changes each year as teachers respond to the unique teaching opportunities that present themselves.

Co-Constructed

Early childhood curriculum is **co-constructed** with input from family members, teachers, and the children themselves. Teachers and families observe and reflect together on children's experiences and generate many possible ideas for what new experiences or materials might extend and render more complex and coherent children's thoughts, feelings, and ideas. In volume 2 of the *California Preschool Curriculum Framework* (CDE 2011b), the story of children's investigation of fresh food from the garden illustrates the dynamic and co-constructed nature of early childhood curriculum. In this excerpt from a vignette in volume 2 (CDE 2011b, 17), the teachers describe how they generate possibilities for exploring this topic with a group of three- and four-year-olds:

VIGNETTE

In this project, both parents and teachers wanted to find ways to support children's health and nutrition, a desire that emerged during a presentation at a parent meeting on nutrition and obesity prevention in young children. Many of the parents were surprised to learn that "picky eating" is a stage that can evolve into long-term resistance to eating fruits and vegetables and that one way to prevent children from becoming resistant is to encourage them to try a variety of fresh produce.

An idea that emerged from the discussion was to give children a series of opportunities to explore and taste fresh fruits, vegetables, and other edible plants in their natural, preprocessed state. Parents and teachers together began to think about the varied smells, textures, colors, and tastes of locally grown fruits, vegetables, and edible plants that young children could explore.

In this particular vignette, the teachers and families co-construct an idea for a curriculum project. In other situations, an idea that becomes the topic for an ongoing investigation might come from a child. When an idea for a curriculum project is proposed, teachers generate possibilities for how that idea might be explored, being mindful of how, within the investigation or project, children might have an

opportunity to use emerging foundational skills and concepts. The teachers invite families to join them in coming up with ideas for the investigation. In the investigation of fresh foods from the garden, the following planning question guided discussions among teachers and families: *How might we give children an opportunity to explore and learn about fresh fruits and vegetables grown in the garden?*

VIGNETTE

Reflecting on different possibilities, the teachers became curious to see what children would do if given the chance to explore root crops such as carrots, beets, or onions that still had stems and leaves attached. Teachers shared this idea with children's families through a note near the sign-in sheet. Soon after the note was posted, one of the parents brought in big bunches of fresh mint that she was ready to remove from an overgrown section of her yard. Other families responded to the note by offering to bring in cucumbers, apples, and lemons from local gardens or farmers markets. Teachers began to anticipate the ways in which children might build emerging skills, concepts, and ideas in exploring these plants.

In the preceding example, teachers are aware of how this topic holds possibilities for children's learning to extend to multiple domains of study. Children will have opportunity to use foundational concepts in mathematics and science, story comprehension and language, as well as skills in drawing and painting, among others. Teachers will also look forward to sharing and naming for families their children's learning, as the investigation directly connects with key concepts and skills children are acquiring in each of the domains of learning.

Responsive

Early childhood curriculum planning is responsive to the interests and opportunities that exist in a group of children, families, and community. This means that as they plan, teachers observe and listen to children's ideas. Curriculum plans that are dynamic, collaboratively constructed with children, and responsive put children's thinking at the center of the curriculum planning process. Rinaldi (2006a) offers this advice on how to approach curriculum planning that is responsive to children's thinking: "What kind of context, what kind of possibility can you offer to the children for the next step and the next step, not because you know the next step, but because you want to offer [them] a possibility for going deeper and deeper in their research?"

A written plan that is responsive is seen as holding "possibilities" for children's inquiry, rather than delivered as an activity focused solely on a particular skill. A responsive plan may be proposed as a question—"What might happen if we . . .?" or, "In what ways will the children explore . . .?" When posed as a question, the plan prompts teachers to observe what ensues and to record what delights, surprises, amazes, or puzzles the children. Mindfully noting children's responses adds to teachers' understanding of how children are thinking and making sense of the experience. A responsive plan is more than simply the proposed activity written on a planning form. It includes observations of what occurs and teachers' interpretations of what children appear to be thinking and feeling during the experience. Table 1 illustrates how teachers might create a plan that offers possibilities for children to explore, along with examples of observations and interpretations of how children engage with the materials. The interpretations will inform what might come next in the curriculum as well as inform the ongoing assessment of children's learning.

Table 1
PLAN OF POSSIBILITIES

Date: **3/18**
Place: **Pretend play & yard**

Planning Question: "What will happen when the toddlers encounter squeeze bottles in the play spaces?"

Observation:	Photos Taken	**Interpretation:**
Jerrod wrapped his fingers around the bottle, but no liquid emerged. Elaine makes a steady stream of water emerge from her squeeze bottle. She looks at Jerod, frowning and whining, and then reaches over and squeezes Jerrod's bottle for him. He smiles, but then pushes her hand away and tries squeezing the bottle again. *Alexander and Raj find the squeeze bottles in the play kitchen and squeeze imaginary liquid into pots on the stove. Raj directs Alexander: "Like this! Put some in the soup."*	X	*This was a struggle for J., because he still grasps and holds things with his full hand. [DRDP (CDE 2015) Fine Motor]. We may want to adapt the object using a bottle that is easier to squeeze (i.e., easier to grasp and hold), so that he can experience success.* *E. interacts in simple ways with familiar peers as they play side by side. [DRDP (CDE 2015) Social and Emotional Understanding] She wants to help J in a simple way.* *A. & J. incorporate this simple tool into their pretend play [DRDP (CDE 2015) Symbolic Play.] Adding plastic squeeze bottles that are easier to squeeze will also offer an element of discovery for the others, who might begin to experiment with the pressure they need to exert in order to make the water flow.*

DRDP refers to the Desired Results Developmental Profile (CDE 2015), a periodic assessment of an infant's learning. The Plan of Possibilities was adapted and used with permission (Maguire-Fong 2015).

It is the careful observation and documentation of what children do and say as they play that generates ideas for the next steps in the investigation. The next step might simply be to change or add materials, as a way of extending or adding complexity to the play and to offer children opportunities to build and to use emerging concepts and skills. Teachers look for moments in which the children are amazed or surprised. Documentation of what children found unexpected not only provides evidence of their sense of wonder about what people and things are like and the way things work, but it also guides what to plan next in the curriculum.

Children's experiences with their families also inform the curriculum. Teachers look for ways to connect the children's learning in the early childhood program to their experiences at home. The following moments in the investigation of fresh foods that come from the garden illustrate how teachers make connections to the children's lives at home (CDE 2011b, 33):

VIGNETTE

Once the investigation of fresh fruits and vegetables from the garden was under way, the teachers from the four-year-olds' room wondered whether they might tap the life experiences of the families for stories that related to fresh fruits and vegetables from the garden. The teachers decided to place a photo documentation of the children's cucumber-tasting experiences near the classroom's entryway. They added a note and a clipboard. The note was an invitation for families whose home language was other than English to write down in their home language the name for cucumber (or a similar vegetable eaten in their culture). Once gathered, the teachers added these names to the laminated photo cards of cucumbers stored in the food box in the writing area. If a family had described a vegetable that was similar but distinct from the cucumber, they were invited to bring a picture of this vegetable, or even the vegetable itself, for children to compare with the cucumber.

From the perspective of developmental scientists who study how the mind of the child develops, early childhood curriculum is most effective when teachers provide generous opportunities for children to engage in meaningful play, well supported by materials and experiences that fascinate them and engage their natural ways of making meaning (Gopnik 2009; Hirsh-Pasek et al. 2009; Rinaldi 2001; Singer, Golinkoff, and Hirsh-Pasek 2006; Zigler, Singer, and Bishop-Josef 2004). When early childhood teachers are asked or attempt to follow a prewritten scope and sequence of instructional activities, the essential features of an integrated curriculum—co-constructed, responsive, and dynamic—are often lost.

However, even when using a prewritten scope and sequence of activities, early childhood teachers can find ways to modify the planned activities to respond to the unique cultural and family context of their program and their unique group of children. For example, the investigation of fresh foods that come from the garden could be implemented within a curriculum that includes a theme about plants or spring.

One of the overarching principles of the *California Preschool Curriculum Framework* states that responsiveness to culture and language supports children's learning. By relating a skill or a concept to children's experiences in their family and community context, teachers invite children to apply the skill or concept to content that the children can connect with in meaningful ways. The skill or concept thereby becomes integrated into children's ongoing engagement in making sense of the social and physical worlds they inhabit.

PART V

Assessment

The California early learning foundations are intended to ensure every child the right to a quality early learning experience, no matter the setting. In this light, the Early Learning Foundations are a way to name or describe foundational concepts and skills under construction in the early years that teachers and families need to support.

Documentation as Ongoing Interpretation of Learning

Responsive and dynamic curriculum integrates learning across all domains and provides natural opportunities for children to reveal their emerging concepts and skills. As they observe children's play and exploration and listen to the children's ideas, teachers capture evidence of children understanding and mastering foundational concepts and skills. In responsive, co-constructed, and dynamic curriculum projects, children show evidence of building multiple concepts and skills across the full range of domains of learning.

The Early Learning Foundations are naturally interrelated. As teachers interpret the learning that emerges in spontaneous play and exploration or in a planned learning encounter, they are alert to evidence of a concept or skill that is emerging, developing, or being mastered. Yet in children's minds, the distinct concepts and skills children learn as they play are woven into their broader goal of making sense of an engaging experience. For example, in the investigation of fresh foods from the garden, teachers anticipated that it would offer a robust opportunity for exploring cause-and-effect relationships, problem solving, expanding vocabulary, refining fine motor skills, identifying patterns, measuring, and classifying things by size, quantity, number, and shape. Teachers also saw robust opportunities for the children to engage in cooperative projects, to explore story, to represent their ideas using visual arts, and to use their emerging knowledge of letters and print. These diverse concepts and skills are all focus areas in the DRDP (CDE 2015) assessment tool.

Documentation and Periodic Standardized Assessment

Ongoing observations, recorded systematically, provide evidence of a child's learning. The notes, photos, or work samples that are placed in a child's portfolio or in the records of curriculum plans are used daily as part of the reflective curriculum-planning process. In addition, this documentation provides evidence to support teachers' observational assessment of young children when periodic **standardized assessments** are completed. In the California Early Learning and Development System, child assessments are conducted with the Desired Results Developmental Profile (DRDP [CDE 2015]). Teachers use their ongoing documentation of a child's learning when they assess that child's progress on the DRDP (CDE 2015) measures. An observation, photo, or work sample, accompanied by the teacher's interpretation, has potential to reveal evidence of a child's progress on multiple measures. Thus, in light of the integrated nature of children's learning, teachers can interpret a single piece of documentation through several lenses when completing an assessment instrument such as the DRDP (CDE 2015).

The following vignette is taken from the *California Preschool Curriculum Framework* (CDE 2013, 19–20). The documentation represented in the vignette is from an ongoing project launched by teachers in a classroom of three-year-olds. The project centers around offering the children the possibility of building a relationship with a persona doll named Ashia. The teachers introduced Ashia to the children in order to encourage discussion of differences about physical features and family contexts. During the first few weeks after Ashia's entry into the classroom, teachers began to notice how Ashia's presence created opportunities for the children to explore concepts related to fairness. Ashia's presence also opened up possibilities for the teachers to engage the children in solving problems. One day, one of the teachers recorded notes about what happened as a small group of children played in the housekeeping area—and later shared the following anecdote with his co-teacher:

VIGNETTE

Ashia [the persona doll] was seated in the rocking chair. Josiah picked up two baby dolls and announced, "This one's for me, and this one's for you, Ashia." Josiah placed one of the dolls on Ashia's lap. When he turned around and began to take some pretend food items from the cupboard, Thomas walked over to Ashia and lifted the doll from Ashia's lap. Angelica, who up to this point had been watching and not engaged in the play, reached out with her arm toward Thomas. Angelica, who has a hearing loss and who signs to communicate, extended her palm in front of Thomas in a gesture for him to stop. Thomas handed Angelica the doll, and she immediately placed it back in Ashia's arms. (CDE 2013, 24–25)

The teachers interpreted together what had occurred in this moment of play. They noted evidence for multiple measures of the DRDP assessment (CDE 2015) for each of the children involved in the play. They saw Angelica's demonstration of empathy for Josiah's wish for Ashia to have a doll. The teachers also noted what appeared to be Angelica's emerging awareness of what it means to take turns with dolls and to communicate within the pretend play of another child. Angelica used a clear, strong gesture to communicate her message about the doll, communication that the other children read and responded to accurately. Angelica's gesture was also a solution to a problem she saw: namely, Josiah's intention to share with Ashia was disrupted by Thomas' removal of one of the dolls. The teachers discussed whether Angelica's response could also serve as an example of her awareness of shared use of materials—how to help Josiah keep control over materials that he was still using. Her awareness of Josiah's pretend play also signaled an interest in being a part of Josiah's play.

For Josiah, the teachers saw emerging sociodramatic play and shared use of space. In addition, he used a complex sentence in his pretend conversation with Ashia, the persona doll. For Thomas, the teachers noted how he responded to Angelica's request—without argument—which was a big step for him.

He did not resist her request nor try to maintain hold of the doll. The teachers decided to share this observation with Thomas' family so that his family members could see his progress in learning to resolve a conflict and share materials instead of impulsively reacting by trying to hit others.

The preceding example illustrates how a single observation can reveal evidence for multiple DRDP measures. For each child, this single anecdote provided evidence for between two and six or seven DRDP measures. By simply dating the anecdote, copying it, and putting a copy into each child's portfolio, the teachers created evidence to support the next periodic DRDP assessment of each of the three children. When the time arrives for completing the DRDP assessments, the teachers can simply cite the date and note the location of the relevant observations that support each measure.

To summarize, in supporting children's integrated learning, teachers observe and listen with care, and document and interpret with others children's ideas and actions. When they do so, they discover how readily and openly children reveal the concepts and skills measured by the DRDP. For young children, documentation provides an authentic and accessible way to track their learning.

During a curriculum project over time, teachers can generate ample ongoing documentation to reference as they complete the periodic DRDP assessment. Ongoing documentation is essential to completing the DRDP. Without it, the work required to compile documentary evidence for each measure for each child can be overwhelming. With months of ongoing documentation already available, organized inside the child's portfolio or in the observations tied to the curriculum plans, teachers simply identify and cite the referenced pieces of documentation as the evidence that supports each measure.

Multiple Uses of Ongoing Documentation

In summary, when observations are used to track children's learning within a broad context of curriculum, teachers use the ongoing documentation in multiple ways. First and foremost, it allows teachers to reflect together with children on the meaning of the children's experiences. Through interpretative

dialogue with each other about the meaning of the ongoing documentation, teachers generate ideas about what might have engaged the children's thinking and what ideas the teachers might "revisit" with the children to add complexity and coherence to the children's thinking. In this way, ongoing documentation helps steer the course of the curriculum. It also serves as a powerful tool for inviting families to collaborate in interpreting the learning and planning the next steps in the curriculum. Finally, the documentation provides the evidence needed to support periodic observational assessment with a standardized instrument such as the DRDP. Thus, through ongoing observation, documentation, and reflection, teachers extract full value of an integrated approach to teaching and learning.

Glossary

assessment. The process for obtaining information about individual children from natural observations, anecdotal records, interviews, portfolios, projects, and other sources, for the purpose of understanding the child's development and planning for curriculum intended to enhance learning and development.

communication. The skill of expressing ideas, describing observations, and discussing findings and explanations with others, either orally, through sign language, or in written form (e.g., drawings, charts, pictures, symbols).

home language. The language used primarily by the child's family in the home environment. Some children may have more than one home language (e.g., when one parent speaks Chinese and the other speaks English).

interest areas. A distinct, well-stocked area divided from other parts of the classroom that focuses on a specific aspect of children's play and inquiry and that invites children to engage in self-initiated play in the company of other children.

large groups. A teacher-led gathering of a relatively large number of children, between 15 and 20 (Schickedanz 2008), with the intent of either engaging the children in discussion with one child speaking at a time and the others listening or of engaging the children in an activity in which every child participates at the same time, such as singing.

observation. The process of gathering information about objects and events using the senses of sight, smell, sound, touch, and taste, and noticing specific details or phenomena that ordinarily might be overlooked.

persona dolls or puppets. Dolls or puppets that represent diverse backgrounds and experiences, have a particular identity (e.g., a name, family history, and other traits), and are used to discuss issues that may relate to classroom situations.

record. To set down information or knowledge in writing, drawing, or other permanent forms for the purpose of preserving evidence or tracking data over time.

small groups. A teacher-facilitated conversation or activity among a small number of children, ranging from two to ten (Schickedanz 2008). The purpose is to support children's exchange of ideas and thoughts around a topic or activity of mutual interest.

The small size of the group ensures that each child's ideas and feelings are communicated and heard and enables the teacher to listen for, observe, and document children's ideas or emerging skills and concepts.

standardized assessment. Administered in a standard, consistent way, assessment that produces psychometric data that can be compared across individuals, time periods, or settings. Scores such as percentiles or standard scores usually result from this kind of assessment.

teacher. An adult with education and care responsibilities in an early childhood setting. Teachers include adults who interact directly with young children in infant/toddler and preschool programs and family child care home settings. In family child care, teachers may be referred to as caregivers.

temperament. Traits such as activity level, intensity of emotional responses, sensitivity to stimulation, and dominant mood that contribute to an individual child's style of behaving.

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