DEVELOPMENTAL PLANNING IN PRESCHOOL & KINDERGARTEN

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Developmental Planning in Preschool and Kindergarten

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using Introduction to Curriculum for Early Childhood Education

by Jennifer Paris, Kristin Beeve, and Clint Springer

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Acknowledgements

Thanks to Dr. Heather Carter, I was inspired and encouraged to curate a textbook that specifically supports my early childhood curriculum course. I also wouldn't be in this situation if it weren't for a group of students who admitted they often didn't buy the textbooks for their classes.

After some searching, I found *"Introduction to Curriculum for Early Childhood Education"* by Jennifer Paris, Kristin Beeve, and Clint Springer, which served as the springboard for this project. Their text aligns with the topics in my *FCS 490 Developmental Planning: Preschool and Kindergarten* course almost seamlessly. With minimal tweaking, I rearranged and deleted a few chapters and included some information about the Kansas Early Learning Standards. I am proud to be part of the OER community, sharing information with future early childhood professionals, and I am excited to integrate this revised text into my class!

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Preface

Welcome to FCS 490 Developmental Planning in Preschool and Kindergarten! This course is designed to help future early childhood professionals plan effective curricula for young children. This textbook was developed from an existing open educational resource (OER) created by Jennifer Paris, Kristin Beeve, and Clint Springer. This curated version of their text aligns more closely with the objectives of FCS 490. In this course, you will also refer to the Kansas Early Learning Standards (2024) available from the Kansas State Department of Education.

In this course and text, you will learn about:

- How children grow and learn
- Strategies to support their children's development and learning
- Following developmentally appropriate practices
- The importance and value of play
- Showcasing children’s learning through observation, assessment, and documentation
- Different models of curriculum
- Developing curriculum through a thematic approach
- Process of lesson planning (documenting planned experiences for children)
- Planning for preschool-aged children's learning in specific domains, including
  - Language--listening, speaking, reading, and writing
  - Creative--visual arts, music, drama, and dance
  - Cognitive--math and science
  - Social--social/emotional development, history, and social sciences
  - Physical--physical development, health, safety, and nutrition

References

Kansas State Department of Education. (2024). *Kansas early learning standards*.

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CHAPTER OVERVIEW

1: Foundations in Early Childhood Curriculum- Connecting Theory and Practice

Learning Objectives

Students will

- Explore How Children Learn
- Identify Theories in Early Childhood Programs
- Connect the Theories to Practice through Interaction & Intentionality
- Explore Use of 21st Century Technology in ECE

1.1: 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 the nature of objects and people. As they play, children explore how one object relates to another or how people interact with 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 highlights a key finding: infants and young children actively construct concepts and develop skills by interacting with objects and people, much of which occurs 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 young children also adds to our understanding of what it means to teach and 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 one generated by developmental science: that of young children who actively seek to participate in an experience to build concepts, ideas, and skills. Studies show that infants and young children are highly motivated to explore new materials and to take on new challenges (Bowman, Donovan, and Burns 2000.)

Robust scientific evidence provides a foundation for guidance on planning and implementing early childhood curricula. 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 numbers, spatial relations, causality, and story.
- Children actively develop skills such as drawing, moving with ease, negotiating conflicts, and communicating ideas and feelings confidently and respectfully.
- 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, feelings, and dispositions are at the center of the curriculum, informing 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 daily learning experiences and the learning environment. When the curriculum is organized around children's thinking, feelings, and dispositions to learn and relate to others, the focus is on providing contexts that offer rich opportunities for children 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 into the events underway in the neighboring lot. When considering the study of a construction site, teachers can envision ample opportunities 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 numerous possibilities for children to explore concepts from various domains or subject areas addressed in the three volumes of the preschool learning foundations, including size, number, spatial relations, causality, story, song, drama, visual representation, and more.

Figure 1.2: Construction vehicles in the sandbox could be one opportunity that teachers could provide.[1]

References

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1.2: Theoretical Foundations

Early childhood professionals rely on theories to provide evidentiary support for their program goals, philosophies, and methods that are implemented throughout their programs. While there are numerous theories, a few are highlighted in this chapter for their relevance to creating programs for learning in young children.

Cognitive Theory

Jean Piaget explained learning as proceeded by the interplay of assimilation (adjusting new experiences to fit prior concepts) and accommodation (adjusting concepts to fit new experiences). The to-and-fro of these two processes leads not only to short-term learning, as pointed out in the text, but also to long-term developmental change. The long-term developments are the main focus of Piaget's cognitive theory. After observing children closely, Piaget proposed that cognition develops through distinct stages from birth through the end of adolescence. By stages, he meant a sequence of thinking patterns with four key features:

1. The stages always happen in the same order.
2. No stage is ever skipped.
3. Each stage represents a significant transformation from the preceding stage.
4. Each later stage incorporated the earlier stages into itself. This is the "staircase" model of development mentioned at the beginning of this chapter.

Piaget proposed four major stages of cognitive development, and called them (1) sensorimotor intelligence, (2) preoperational thinking, (3) concrete operational thinking, and (4) formal operational thinking. Each stage is correlated with an age period of childhood, but only approximately. In early childhood, we primarily consider the first two stages, as they are most common in children aged 0 to 8 years.

The Sensorimotor Stage: Birth to Age 2

In Piaget's theory, the sensorimotor stage is first, and is defined as the period when infants "think" through their senses and motor actions. As every new parent will attest, infants continually touch, manipulate, look, listen to, and even bite and chew objects. According to Piaget, these actions allow them to learn about the world and are crucial to their early cognitive development.

Figure 2.3: Sensorimotor learning in action.[1]

The infant's actions allow the child to represent (or construct simple concepts of) objects and events. A toy animal may be just a confusing array of sensations at first. Still, by looking, feeling, and manipulating it repeatedly, the child gradually organizes her sensations and actions into a stable concept, a toy animal. The representation acquires a permanence lacking in the individual experiences of the object, which are constantly changing. Because the representation is stable, the child "knows", or at least believes, that the toy animal exists even if the actual toy animal is temporarily out of sight. Piaget called this sense of stability object permanence, the belief that objects exist even when they are not actually present. It is a significant achievement in sensorimotor development, marking a qualitative transformation in how older infants (24 months) perceive experience compared to younger infants (6 months).

During much of infancy, a child can only barely talk, so sensorimotor development initially happens without the support of language. It might therefore seem complicated to know what infants are thinking, but Piaget devised several simple but clever experiments to get around their lack of language. Piaget's findings suggest that infants do indeed represent objects, even before they can talk (Piaget, 1952). In one example, he simply hid an object, such as a toy animal, under a blanket. He found that doing so consistently prompts older infants (18-24 months) to search for the object, but fails to prompt younger infants (less than six months) to do so. (You can try this experiment yourself if you happen to have access to a young infant.) "Something" motivates the

search by the older infant even without the benefit of much language, and the “something” is presumed to be a permanent concept or representation of the object.

The Preoperational Stage: Age 2 to 7

In the preoperational stage, children utilize their newly acquired ability to represent objects in a wide variety of activities; however, they do not yet do so in organized or fully logical ways. One of the most obvious examples of this kind of cognition is dramatic play, the improvised make-believe of preschool children. If you have ever had responsibility for children of this age, you have likely witnessed such play. Ashley holds a plastic banana to her ear and says, “Hello, Mom? Can you be sure to bring me my baby doll? OK!” Then she hangs up the banana and pours tea for Jeremy into an invisible cup. Jeremy giggles at the sight of all of this and exclaims: “Rinnng! Oh, Ashley, the phone is ringing again! You better answer it.” And on it goes.

Children immersed in make-believe may seem to have an inaccurate understanding of the world, in that they do not think realistically. But at some level, Ashley and Jeremy always know that the banana is still a banana and not really a telephone; they are just representing it as one. They are thinking on two levels at once—one imaginative and the other realistic. This dual processing of experience makes dramatic play an early example of metacognition, or reflecting on and monitoring one's own thinking. As we explained previously, metacognition is a highly desirable skill for academic success, one that teachers often encourage (Bredekamp & Copple, 1997; Paley, 2005). Partly for this reason, teachers of young children (preschool, kindergarten, and even first or second grade) often make time and space in their classrooms for dramatic play, and sometimes even participate in it themselves to further develop the play.[2]

Figure 1.4: Children engaged in make-believe play.[3]

Pause to Reflect

In a lab school, students often visit children’s classrooms to observe the environments and interactions, connecting theory with practice. One day, I decided to take a small group of students to observe the environment in one of our preschool classrooms. As we opened the door, I heard a young child (about 3 years old) say to her caregiver, “Why are all the mommies here?” The caregiver acknowledged the child’s observation, but explained that the visitors were there to learn about the classroom. The child continued to watch us as we walked through the classroom.[4]

How does this example provide evidence of Piaget’s Cognitive Theory?

Children grow and develop through stages, and so does their play. Children’s earliest play experiences are highly sensory-driven and simple exchanges with caregivers and materials within their environment. Many of the early play experiences promote a sense of discovery and foster positive interactions between children and adult caregivers. As the child develops, more complex play develops too. Infants observe and interact with materials through the use of the five senses. As the infant develops, he or she continues to observe, explore, and experiment with materials within the environment, thus obtaining knowledge.

Sociocultural Theory

Lev Vygotsky (1978), whose writing focused on how a child’s or novice’s thinking is influenced by relationships with others who are more capable, knowledgeable, or expert than the learner. Vygotsky made the reasonable proposal that when a child (or novice) is learning a new skill or solving a new problem, he or she can perform better if accompanied and helped by an expert than if

performing alone—though still not as well as the expert. Someone who has played very little chess, for example, will probably compete better against an opponent if helped by an expert chess player than if competing against the opponent alone. Vygotsky referred to the difference between solo performance and assisted performance as the zone of proximal development (or ZPD for short)—meaning, figuratively speaking, the area of immediate change. From this social constructivist perspective, learning is like assisted performance (Tharp & Gallimore, 1991).

During learning, knowledge or a skill is initially found "in" the expert helper. If the expert is skilled and motivated to help, they arrange experiences that let the novice practice crucial skills or construct new knowledge. In this regard, the expert is a bit like the coach of an athlete—offering help and suggesting ways of practicing, but never doing the actual athletic work himself or herself. Gradually, by providing continued experiences matched to the novice learner's emerging competencies, the expert-coach makes it possible for the novice or apprentice to appropriate (or make his or her own) the skills or knowledge that originally resided only with the expert.[5]

Psychosocial Theory

Erik Erikson suggested that our relationships and society's expectations motivate much of our behavior. Humans are motivated, for instance, by the need to feel that the world is a trustworthy place, that we are capable individuals, that we can make a meaningful contribution to society, and that we have lived a life of significance. Erikson divided the lifespan into eight stages. In each stage, we have a major psychosocial task to accomplish or a crisis to overcome. Erikson believed that our personality continues to develop throughout our lifespan as we face various challenges in life.[6]

In planning a developmentally appropriate curriculum, Erikson's stages can serve as inspiration for interactions between children, children and adults (teachers and families), and for emphasizing quality environments that promote trust, autonomy, initiative, and industrious interactions.[7]

Table 1.1 - **Erik Erikson's Psychosocial Theory**

Name of Stage	Description of Stage
Trust vs. mistrust (0-1)	The infant must have their basic needs met consistently to feel that the world is a trustworthy place.
Autonomy vs. shame and doubt (1-2)	Mobile toddlers have newfound freedom; they like to exercise, and by being allowed to do so, they learn some basic independence.
Initiative vs. Guilt (3-5)	Preschoolers like to initiate activities and emphasize doing things "all by myself."
Industry vs. inferiority (6-11)	School-aged children focus on their accomplishments and begin making comparisons with their classmates.
Identity vs. role confusion (adolescence)	Teenagers are trying to gain a sense of identity as they experiment with various roles, beliefs, and ideas.
Intimacy vs. Isolation (young adulthood)	In our 20s and 30s we are making some of our first long-term commitments in intimate relationships.
Generativity vs. stagnation (middle adulthood)	The 40s through the early 60s, we focus on being productive at work and home, and are motivated by wanting to feel that we've contributed to society.
Integrity vs. Despair (late adulthood)	We look back on our lives and hope to like what we see, that we have lived well and have a sense of integrity because we lived according to our beliefs.

Behavioral Theory

In classrooms, behaviorism is most useful for identifying relationships between specific actions by a student and the immediate causes and effects of those actions. It is less useful for understanding changes in students' thinking; for this purpose, we need

theories that are more cognitive (or thinking-oriented) or social, as described later in this chapter. This fact is not a criticism of behaviorism as a perspective, but rather a clarification of its particular strength or usefulness: to highlight observable relationships among actions, precursors, and consequences. Behaviorists use particular terms (or "lingo," some might say) for these relationships. One variety of Behaviorism that has proved especially useful to educators is operant conditioning.

Operant conditioning: New Behaviors Because of New Consequences

Operant conditioning focuses on how the consequences of a behavior influence it over time. It begins with the idea that certain consequences tend to make certain behaviors happen more frequently. If I compliment a student for a good comment made during a discussion, there is a greater chance that I will hear further comments from the student in the future (and hopefully, they too will be good ones!). If a student tells a joke to classmates and they laugh at it, then the student is likely to tell more jokes in the future.

The original research on this model of learning was conducted with animals, not people. One of the pioneers in the field was Harvard professor B. F. Skinner, who published numerous books and articles detailing the process and highlighting many parallels between operant conditioning in animals and humans (1938, 1948, 1988). Skinner observed the behavior of rather tame laboratory rats (not the unpleasant kind that sometimes live in garbage dumps). He or his assistants would put them in a cage that contained little except a lever and a small tray just big enough to hold a small amount of food. At first, the rat would sniff and "putter around" the cage at random, but sooner or later it would happen upon the lever and eventually happen to press it. Presto! The lever released a small pellet of food, which the rat would promptly eat. Gradually, the rat would spend more time near the lever and press it more frequently, receiving food more often. Eventually, it would spend most of its time at the lever and eating its fill of food. The rat had "discovered" that the consequence of pressing the lever was to receive food. Skinner called the changes in the rat's behavior an example of operant conditioning, and gave special names to the different parts of the process. He called the food pellets the reinforcement and the lever-pressing the operant (because it "operated" on the rat's environment).

Operant Conditioning and Students' Learning

Since the original research on operant conditioning used animals, it is important to ask whether operant conditioning also describes learning in humans, especially in students in classrooms. On this point, the answer seems to be clearly "yes." There are countless classroom examples of consequences affecting students' behavior in ways that resemble operant conditioning, although the process certainly does not account for all forms of student learning (Alberto & Troutman, 2005). Consider the following examples. In most of them, the operant behavior tends to become more frequent on repeated occasions:

- A kindergarten child raises her hand in response to the teacher's question about a story (the operant). The teacher calls on her, and she makes her comment (the reinforcement).
- Another kindergarten child blurts out her comment without being called on (the operant). The teacher frowns, ignores this behavior, but before the teacher calls on a different student, classmates listen attentively to the student, even though he didn't raise his hand as he should have.
- A child who is usually very restless sits for five minutes during a group time (the operant). The teacher compliments him for working hard (the reinforcement).[8]

Figure 1.5: Operant conditioning is often used during large group times.[9]

The behavioral theory is most visible in an ECE classroom through modeling of expected behavior, reinforcing prosocial behavior, and through daily routines and schedules. [10]

Multiple Intelligence Theory

Howard Gardner, a researcher, has studied the mind and created a theory called the Multiple Intelligences Theory. The theory represents the idea that children are individuals with a variety of strengths in different intelligences, and it states that one's

intelligence is not inherently better than another person's. Teachers can use this theory to create a curriculum that respects the individual way children process information and provides experiences that allow them to engage with all the intelligences.

The intelligences include:

- Verbal-Linguistic – ability to use language well
- Logical-Mathematical – ability to reason
- Musical-Rhythmic – ability to create and understand music
- Visual-Spatial – ability to image and manipulate the arrangement of objects in the environment
- Bodily-Kinesthetic – sense of balance and coordination in the use of one's body
- Interpersonal – ability to discern others' thoughts and feelings and understand and interact effectively with others
- Intrapersonal – sensitivity to one's own thoughts and feelings
- Naturalist – sensitivity to subtle differences and patterns in the natural environment
- Existential (still under study) – sensitivity and capacity to tackle deep questions about human existence[11]

Figure 1.6: Multiple Intelligences. [12]

Additional Considerations: Learning Styles

Children are unique and learn at their own pace in their own way. One size does not fit all, and learning styles and preferences vary. In a group of children, a teacher can encounter children who learn best through visual, auditory, or hands-on interactions. And sometimes a child may learn best in a particular domain or area using one style, but a different style in another domain or area.

Table 1.2: Learning Styles

Learning Styles	Learning Preferences
Visual	Pictures, real-life objects to visually examine, and seeing someone model a skill
Auditory	Listening, songs, rhymes, stories, chants
Tactile/kinesthetic	Gestures, body movements, hands-on manipulation, and active exploration

Implications for teachers include identifying the child's learning style and creating a program that reflects the variety of learning styles present in the classroom. It's essential to provide learning experiences in various styles, which is referred to as multimodal. [13]

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1.3: 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 with and talk to young children and guide their 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 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.

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.[1]

This experience illustrates what is referred to as a teachable moment. It wasn't planned, and the teacher had no way of knowing it would happen. 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 consider how to include a child who was not participating with the other children and may not have had the social skills to join the group on their own. Knowledge of group dynamics helped the teacher identify opportunities to connect Marcos with his peers.

Here is another example of how a teacher is supporting learning. In this classroom, the children speak four different languages.

Vignette

All the children are playing outdoors, and the teachers have set up a board with openings in various shapes (e.g., circles, squares, triangles, rectangles). 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 underhanded motion, he simultaneously says, "Look, Jasmine, I swing my arm and throw the beanbag." Mr. Li repeats the physical action several times while describing it simultaneously. 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!"[2]

This type of reflective curriculum planning may not be evident in daily or weekly written plans. Through planning, teachers can anticipate interactions and conversations in which they can 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 a curriculum is written into their daily or weekly plans, but much of it occurs during teachable moments, in which teachers already have a clear plan in mind for what to do, how to do it, and when to do it.*** Even so, the moments when 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. Despite her effort, she barely budges. The teacher watches as the infant's expression of delight changes to a frown, and tears well 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.**[3]*

These examples illustrate how teachers support children in negotiating projects, building language skills, or attempting a challenging physical movement. Such examples are integral to daily life in an early childhood education and care setting. Teachers keep in mind the concepts and skills described in the foundations and apply the 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 intentionally supported children's learning, but their responses and strategies were not spelled out in advance in their written plans. Nevertheless, teachers recognize that such interactions and conversations are essential components of the curriculum in early childhood settings.[4]

References

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1.4: Incorporating 21st Century Technology in the Early Childhood Education

The rapid development of technological devices such as computers, smartphones, tablets, and gaming systems has dramatically changed people's daily lives at home and at work. New technologies and electronic media offer tools for communication and social networking, information searching and documentation, as well as learning and entertainment. Young children are growing up surrounded by technology and electronic media. At least two-thirds of homes with children (from birth to age six) have computers and Internet access (Gutnick et al., 2010; Roberts & Foehr, 2008). Moreover, according to a national survey by Common Sense Media in 2011, 52 percent of young children (birth to age eight) have access to smartphones or tablets (Rideout 2011). Young children are active users of media (Roberts and Foehr, 2008). They acclimate to digital devices with ease and demonstrate confidence in using software (Clements and Sarama, 2008). With the prevalence of technology and electronic media in their environment, young children are spending an increasing number of hours in front of screen technologies, particularly television, but also computers and other devices, with an average of 2.2 hours per day of screen time for children between the ages of two and five (Roberts and Foehr 2008).

Children from low-income families, those with less education, and individuals from Black, Hispanic, and rural backgrounds are less likely to have access to the latest technologies and broadband connections to the Internet (U.S. Department of Commerce, 2011). Inequality in access to technology has narrowed over the years; however, the "digital divide" persists (Roberts and Foehr 2008).

The pervasiveness of electronic media in the lives of many young children prompts educators, parents, and advocates to question the value of technology in children's development. Some electronic media, such as certain television programs, videos, and DVDs, are non-interactive and involve passive viewing. Other forms of electronic media, such as software programs, applications, the Internet, e-books, and certain television programs, facilitate active and creative use by young children. These latter forms are referred to as interactive media (NAEYC and FRC 2012). There is limited research on the impact of newer technology, such as computer software, handheld devices, interactive applications for mobile devices, and wireless technology, on children's development. Most of the research on the impact of media on young children has focused on television and video. Studies of infants and toddlers suggest that videos offer no language benefits for them.

Young children learn much better from real-life experiences than from watching videos. Moreover, excessive exposure to electronic media may have a negative effect on attention development, particularly for children younger than two (Kirkorian, Wartella, and Anderson 2008). Research indicates that the impact of electronic media on older children depends on the age of children, the context in which they use media, the content of the media, and the amount of time they spend with screens (Kirkorian, Wartella, and Anderson 2008; Campaign for Commercial-Free Childhood, Alliance for Childhood, and Teachers Resisting Unhealthy Children's Entertainment 2012).

By age three, children can benefit from well-designed, age-appropriate electronic media, especially when a caring adult watches the program with the child and is actively involved in their experience. Research emphasizes the importance of developmentally appropriate *content* being offered to children, whether on television or other interactive media software. Educational television programs designed around a curriculum with a specific goal to communicate academic or social skills were linked to various cognitive and academic enhancements, with potentially long-lasting effects (Fisch, 2004). For example, research demonstrates a positive association between early exposure to *Sesame Street* television episodes and school readiness (Zill 2001). However, television and videos with entertainment content, particularly violent content, were associated with poor cognitive development and lower academic achievement (Kirkorian, Wartella, and Anderson 2008).

Studies of preschool children's computer play demonstrated that young children can use computers and software to support their learning. Children can understand, think critically about, and learn from their computer activities (Clements and Sarama, 2008). Research has shown that in children's computer play with interactive media software, there is a period of discovery, followed by involvement, self-confidence, and creativity (Bergen, 2008). Computer-play software can offer children various possibilities, including *practice* (self-directed repetition to achieve mastery), *pretense* (symbolic play in a "pretend to be" world), and *games* (challenge and competition, either with a peer, oneself, or an imaginary opponent) (Kafai 2006).

There is limited research on how educational computer software can enhance preschool children's academic readiness skills. Some research suggests that software with an educational curriculum may have a positive influence on learning (Din and Calao 2001).

Overall, studies indicate that, when used appropriately, technology and media can enhance children's cognitive and social abilities (Kirkorian, Wartella, and Anderson 2008). Even so, additional research is needed to confirm the positive effects of technology on children's language and vocabulary, understanding of math concepts, self-regulation, and social skills development (NAEYC and FRC, 2012).[1]

Technology and Interactive Media in the Preschool Environment

Technology has many uses in early childhood settings. On any given day, teachers may use technology to support children's learning, record and document children's development, expand their own knowledge in various areas, maintain ongoing communication with families, and link homes with the school. The focus of this section is on the use of technology and interactive media in preschool settings to support and enhance children's learning.

A growing number of early childhood educators use technology and interactive media in their programs as tools to support children's learning and development (Wartella et al. 2010). In a recent survey by the Fred Rogers Center (Wartella et al. 2010) about technology in the lives of teachers and classrooms, nearly 60 percent of early childhood teachers reported having a computer, and 45 percent have computers with Internet access in their classrooms. More than half of the early childhood teachers indicated that children should be introduced to technology in the classroom between the ages of three and four, and about one-third of the teachers reported using computers with children daily (Wartella et al., 2010). With the increasing interest and use of technology in preschool settings, early childhood educators need guidance on how to use technology and interactive media wisely and effectively. Several important questions come to mind:

- Which technology and media tools are effective for learning?
- In which domains of development can the use of technology be most effective?
- How do early childhood educators appropriately integrate technology and media into preschool settings?
- How can technology be used to support children's learning?

Figure 1.7: The inclusion of technology in programs' curricula is a consideration that should be thoughtfully considered.[2]

A joint position statement issued in 2012 by the National Association for Education of Young Children (NAEYC) and the Fred Rogers Center (FRC) offers guidance. Based on research, the statement addresses both the opportunities and the challenges related to using technology and interactive media in early childhood programs. The following section presents key messages from the NAEYC/FRC position statement on technology. A set of strategies consistent with the approach articulated in the position statement is provided to guide administrators and teachers in integrating technology and interactive media into preschool programs. [3]

The Benefits and the Challenges of Using Technology and Interactive Media

Technology and interactive media have the potential to make many contributions to early childhood education. Technology can provide children with additional ways to explore, create, communicate, problem-solve, investigate, and learn. Computer technology, for example, offers young children a range of learning opportunities—from solving math problems to listening to interactive stories, taking photos, recording stories, creating digital books, making music, and engaging in other age-appropriate learning activities (Blagojevic et al., 2010). Many educational applications for young children are designed to help children develop skills and knowledge in specific domains, particularly in areas such as language, literacy, and mathematics (Buckleitner 2011). Such programs can provide individualized learning opportunities for children. In mathematics, computer programs present children with tasks, provide feedback, and help young children develop concepts and skills in areas such as counting, number relationships and operations, sorting and patterning, measurement, and geometry (Clements & Sarama, 2008; McCarthy, Li, & Tiu, 2012). In language and literacy, computer software can enhance vocabulary learning (Segers and Vermeer, 2008) and support the learning of

listening, speaking, writing, and reading skills (Guernsey et al., 2012). Dual language learners can also use computers to enhance their home language and acquire English (Blagojevic et al. 2010; Nemeth 2009).

The use of technology can also enrich the science curriculum. Cameras and recording devices offer valuable educational experiences by enabling children to take photos and videos, document objects and events, and track changes in objects and materials. Digital microscopes enable children to capture images of objects they explore, and share and discuss these images with their peers. Robotics with manipulative motors and gears engages young children in designing their own robotic creations, providing them with opportunities to be both creative engineers and to explore abstract mathematical and scientific concepts in concrete ways (Bers 2008).

The use of technology in preschool settings also creates opportunities for equitable access to technology tools and interactive media experiences for children from different socioeconomic backgrounds, including those in families with limited resources and little to no access to the latest technologies (NAEYC and FRC, 2012). Furthermore, technology has many potential benefits in supporting inclusive practices for children with disabilities or other special needs (Mulligan 2003).

A variety of assistive and adaptive technologies (e.g., electronic communication boards, switch-activated toys, recordable devices) enhance children's participation and learning with peers. For example, a child who enjoys playing with bubbles can operate an electronic bubble blower for other children to chase (Mistrett, 2004). Another child can let a peer know which game she wants to play by indicating it on the electronic tablet that has photos taken by her teacher. By using assistive technology, early childhood educators can help children with disabilities or other special needs become more independent. Children with special needs can use technologies to support their ability to communicate and interact with others, move throughout the environment, manipulate objects, and participate in daily routines and educational activities.

Figure 1.8: Technology can help children with disabilities participate in the environment and communicate.[4]

Overall, effective use of technology and interactive media can enhance and augment children's learning in various domains, thereby extending their access to new content. However, technology is effective only when used appropriately. Although the use of technology and interactive media provides programs with opportunities to enhance quality and optimize young children's development, early childhood educators should understand the limits of technology and be aware of the challenges of using technology and interactive media in the preschool environment. As stated in the NAEYC/FRC position statement, "Technology and interactive media are tools that can promote effective learning and development when they are used intentionally by early childhood educators, within the framework of developmentally appropriate practice, to support learning goals established for individual children" (NAEYC and FRC 2012, 5).

Technology and interactive media should supplement, not replace, existing play-based materials, active play, engagement with other children, and face-to-face interactions with adults. Several professional and public health organizations have raised concerns about whether young children should have access to technology and screen media in early childhood programs (e.g., Campaign for a Commercial-Free Childhood, Alliance for Childhood, and Teachers Resisting Unhealthy Children's Entertainment 2012). The American Academy of Pediatrics recommends avoiding media other than video chatting until 18 months, limiting 2- to 5-year-olds to one hour per day of high-quality programming, and for children aged six and older, placing consistent limits on time and types of media. These recommendations aim to prevent media use from displacing physical activity, hands-on exploration, and face-to-face social interaction in the real world, which are essential for learning.

This chapter follows the recommendations of the NAEYC and the Fred Rogers Center (2012) and aligns with the public health community's discouragement of using screen media for children under 24 months in early childhood programs. Such guidance for educators working with infants and toddlers may evolve in the future as more research on very young children's active use of interactive media and its impact on children's learning and development continues to emerge (e.g., Zack et al., 2013).

Monitoring the content of interactive media is as important as setting limits on the time young children spend with technology. Although there are valuable software, websites, and other forms of interactive media for young children, some have limited educational value or may include content that is not safe or appropriate for children. The challenge for early childhood educators is "to make informed choices that maximize learning opportunities for children while managing screen time and mediating the potential for misuse and overuse of screen media" (NAEYC and FRC 2012, 3). Educators should possess the knowledge, skills, and experience necessary to select and utilize technology tools and interactive media that suit the age and developmental level of children and can be effectively integrated into the environment (NAEYC and FRC, 2012).

The following guidelines outline key considerations for programs and teachers when selecting, evaluating, integrating, and using technology in preschool settings.[5]

Selecting Technology and Interactive Media to Enhance Children's Learning

The rapid development of technology platforms, including computers, laptops, multitouch tablets, and other handheld devices, as well as the growing selection of available educational applications, websites, and software, presents educators with numerous choices for integrating technology into the preschool environment. However, technology and media-based products may vary widely in quality. Intentionality is important. Thoughtful, advanced planning is essential for a responsible investment in technology in early childhood settings. Early childhood educators should apply their expertise and knowledge of child development when selecting appropriate technology and media for the classroom, just as they do with any other instructional materials (NAEYC and FRC, 2012). Educators should take the time to evaluate and select technology, observe children's use of the materials, and make appropriate adjustments based on their observations. The Fred Rogers Center (2012) proposed a framework for quality in digital media (FRC, 2012), recommending that educators consider the *child*, the *content*, and the *context* when selecting digital media for young children.

- **Consider children's developmental level, interests, abilities, and cultural and linguistic backgrounds.** Teachers must be intentional in selecting the technology and interactive media they offer children in their classroom. In selecting appropriate technology and interactive media, educators make decisions informed by developmentally appropriate teaching practices. This means that early childhood educators consider the age, developmental level, needs, interests, linguistic backgrounds, and abilities of individual children in the group (NAEYC and FRC, 2012).
- **Ensure equitable access to technology and interactive media experiences.** In selecting technology and interactive media, educators provide opportunities for all children to participate and have access to these learning tools. Educators should consider the cultural and linguistic backgrounds of the children in their classrooms. Technology resources can provide access to children's home language and culture, especially when there are no other ways to obtain such information (NAEYC and FRC 2012). For example, children can listen to electronic books in their native language, record songs and stories, and create digital stories in both their native language and English (Blagojevic et al., 2010). Educators can collaborate with family members and colleagues who speak the children's home language to gain access to appropriate interactive media in that language.

Materials and equipment selected for children with disabilities or other special needs should be evaluated. Adaptive and assistive technologies are available to support individual children in their classrooms. Programs should consider the level of technology necessary and the child's individual needs to ensure that the technology is best suited to the child's unique disabilities and to the demands of the environment (Mulligan 2003). Not all assistive devices are necessarily "high tech" or custom-designed for a particular child. In fact, the Individuals with Disabilities Education Act defines an assistive technology device as any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability (Mistrett 2004).

- **Identify the underlying objectives of the technology.** Most electronic media targeted at preschoolers are designed to entertain rather than educate. Technology in the preschool environment should be used only for educational activities. When evaluating software programs, applications, or other forms of interactive media, educators should be able to identify the overall goals or purpose of the product: Is it intended to educate or entertain? Is it interactive? Is it to develop particular skills, to introduce children to new information, or maybe a combination of these (FRC 2012; Campaign for Commercial-Free Childhood, Alliance for Childhood, and Teachers Resisting Unhealthy Children's Entertainment 2012)? Understanding the intent of a digital program and the learning goals for different children in the program should guide educators' intentional decisions when selecting interactive media materials (FRC 2012).

- **Evaluate the quality of the content.** First and foremost, educators should evaluate the quality of the content to ensure that using such materials will not harm young children's overall development or well-being in any way (NAEYC and FRC, 2012; FRC, 2012). Interactive media products can be used as tools to meet the needs of individual children and expand their access to new content in areas of interest to them. During the selection process, program administrators and teachers should have access to information and resources regarding the nature of these tools and their implications for use with children. Program administrators and teachers should also have hands-on opportunities to explore and experience the technology being considered for use with children. Educators can apply their expertise and knowledge of child development to ensure that digital materials are developmentally and culturally appropriate for the children in the group. They should examine the educational content, format, and features, and carefully consider any implicit messages communicated during the use of the software or application. Some undesirable messages (e.g., stereotypes, negative images, or actions) may be biased and fail to promote social and emotional understanding in the early years (Tsantis, Bewick, and Thouvenelle 2003).
- **Select technology and interactive media that support children's creativity, exploration, and problem-solving.** *When selecting activities that use technology and interactive media, early educators should ask themselves: Does it encourage children to explore, think, experiment, predict, be creative, and problem-solve? Does it offer a range of experiences and a high level of interactivity? Is it open-ended or focused on skills?* Experiences with technology and other media that engage children in repetitive practice and rote learning, or involve passive use, are undesirable. Effective technology and media empower children by giving them control, offering challenges through "leveled" experiences, and providing them with feedback and adaptive scaffolds (Clements and Sarama 2008).
- **Use the best available evidence in the selection process.** More research is needed to understand what young children can do with different digital devices and to assess the short-term and long-term effects of new technologies on children's learning. Educators are encouraged to make decisions about the quality of interactive media products based on the best available evidence for each product (FRC, 2012).[6]

Integrating and Using Technology in the Preschool Environment

Once the desired software or appropriate technology devices for the program are selected, educators should apply their expertise and knowledge of child development to make thoughtful decisions on how to introduce and integrate the selected forms of technology into the learning environment. The teacher's role is critical in ensuring that technology is implemented in ways that serve the teaching goals and support children's learning in an appropriate and effective manner.

- **Technology and interactive media are used within the framework of developmentally appropriate practice.** Developmentally appropriate practice encourages hands-on exploration, empowers children to reflect, question, and create, and values the relationships between children and the adults in their lives (NAEYC, 2009). Professional knowledge of developmentally appropriate practice informs and guides decision-making about how to introduce and integrate any form of technology and interactive media into early childhood programs. Technology and media should not replace preschool activities such as real-life exploration, physical activity, social interactions, outdoor and indoor play, and the arts. Instead, they should be used as additional tools to encourage children's problem-solving, exploration, and creativity. They can also support children's relationships with both adults and their peers, and foster children's autonomy (NAEYC and FRC, 2012; Donohue and Schomburg, 2012; Nemeth and Simon, 2012), particularly for some children with disabilities (Mistrett, 2004).
- **Technology and interactive media are integrated into the environment, curriculum, and daily routines** (NAEYC and FRC 2012). True integration of technology and media into the preschool environment involves using various technology resources throughout the classroom. No period is set aside in the daily schedule for "computer time," when technology and media are used as isolated activities. Technology and interactive media are woven into the fabric of daily life and are used as tools for learning, rather than as the focus or goal of a learning activity. Technology is one way to support curriculum goals and needs; the program offers a balance of activities that support children's development in all learning domains. When using a particular application or software, teachers should consider how it supports the objectives for individual children in the group, how it fits into the classroom's current curriculum project or theme of study, and how it extends other activities in ways not possible otherwise (Nemeth and Simon, 2012).
- **Time spent with technology and media is limited.** Setting limits on the time young children spend with technology and interactive media is important. As previously indicated, the public health community discourages the use of passive screen media for children under two years of age and recommends limited screen time daily for children older than two (American

Academy of Pediatrics 2011). Some of the public health concerns are that the overuse of media takes time away from other activities that involve physical exercise. Sedentary activities are potentially a risk factor for childhood obesity (Wartella and Heintz 2007). The position statement by the NAEYC/FRC points to the following recommendation in the *Early Childhood Obesity Prevention Policies:* "child care [and preschool] settings limit screen time to fewer than 30 minutes per day for children in half day programs or less than one hour per day for those in full day programs (Birch, Parker, and Burns 2011)." Teachers play a critical role in establishing clear boundaries on the use of technology and screen time in the preschool setting. They are also encouraged to share information with families on how to promote children's healthy use of technology at home (Campaign for a Commercial-Free Childhood, Alliance for Childhood, and Teachers Resisting Unhealthy Children's Entertainment 2012).

- **The use of technology and interactive media facilitates social interactions and relationship building.** The effective use of technology and interactive media in the classroom environment enables joint engagement, allowing both children and adults, as well as children and their peers, to view and participate (NAEYC and FRC, 2012). Studies on the social dimension of preschool children's computer play have found that preschoolers observe each other while playing, comment on others' actions, share and help with software-related problems, and experience conflicts over turn-taking (Heft and Swaminathan, 2002). Computers and other digital devices should be placed in areas that facilitate group interaction and collaboration. Some children may choose technology, such as a computer, because it is familiar or even as a way to avoid interaction. Careful observation is needed to monitor the use of technology and determine individual appropriate use. The effective use of technology and interactive media can promote communication and collaboration among children (Wright, 1994). It often provides the context for information sharing, language development, and collaborative decision-making (Tsantis, Bewick, and Thouvenelle, 2003). Tech-savvy children may also serve as computer mentors for their peers (Blagojevic et al., 2010).

Figure 1.9: The teacher is monitoring children as they use the computer together.[7]

- **Teachers provide support while children use technology and interactive media.** As with any learning activity, teachers play a crucial role in facilitating children's engagement with technology and media. The teachers introduce children to computers or other devices (e.g., digital cameras, printers, touch screens) and explain how they work. They observe what individual children do and learn about children's ability to use technology. Children vary in their ability to use technology and interactive media. Teachers also give children time to freely explore new technology tools, model the appropriate use of technology, and help them become familiar with any new software activities. They establish rules and routines with children to guide the appropriate handling and use of computers and other technological devices (Blagojevic et al., 2010; Campaign for a Commercial-Free Childhood, Alliance for Childhood, and Teachers Resisting Unhealthy Children's Entertainment, 2012). During technology-related activities, teachers carefully observe and document what children do, assessing their learning. Teachers identify problems or opportunities for teachable moments, extending the media experience to other learning opportunities, and facilitating the experience through language-rich interactions. Additionally, teachers determine when a child is ready to progress to the next level of knowledge or skill development (FRC, 2012). They consider children's varying abilities to control and operate technology and media and support children's "technology-handling" skills, as needed. Teachers make appropriate adaptations, based on their observations, to promote positive outcomes for individual children.[8]

References

[1] California Preschool Program Guidelines by the California Department of Education is used with permission

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American Academy of Pediatrics. (n.d.) Media and Children Communication Toolkit.

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CHAPTER OVERVIEW

2: The Importance of Play and Intentional Teaching

Learning Objectives

After reading this chapter, students will be able to

- Define Play
- Identify stages of Play
- Review Types of Play
- Discuss the importance of play in learning
- Understand the role of the teacher
- Identify ways teachers can foster play

2.1: Introduction

Children are born observers and are active participants in their own learning and understanding of the world from the very beginning of their lives. Today's children are active participants in their own learning, not just recipients of a teacher's knowledge. Developmentally Appropriate Practice (DAP), as outlined by the NAEYC (National Association for the Education of Young Children), challenges early childhood professionals to be intentional in their interactions and environments, creating optimal experiences to maximize children's growth and development. Under this umbrella of DAP, knowledge is based upon discovery, and discovery occurs through active learning and abundant opportunities for exploration! Through a "hands-on" approach and using play as a vehicle, children will develop skills in domains necessary for positive growth and development.

Figure 2.1: Play is active learning. (Image by HaiRobe on pixabay)

2.2: Developmentally Appropriate Practice

According to the National Association for the Education of Young Children's Position Statement, "The core of developmentally appropriate practice lies in…intentionality, in the knowledge that practitioners consider when they are making decisions, and in their always aiming for goals that are both challenging and achievable for children." To do this, they must use developmentally appropriate practices (DAP). DAP includes three areas of knowledge:

1. Context (age-appropriateness) – using what is known about child development and learning in general
2. Individuality (individual-appropriateness) – using what is known about each child as an individual to be responsive to each child
3. Context (social- and cultural-appropriateness)– using what is known about the social and cultural context in which children live[1]

Head Start has guiding principles that reflect developmentally appropriate practice by an intentional teacher.

- Each child is unique and can succeed
- Learning occurs in the context of relationships.
- Families are children's first and most important caregivers, teachers, and advocates.
- Children learn best when they are emotionally and physically safe and secure.
- Areas of development are integrated, and children learn many concepts and skills at the same time.
- Teaching must be intentional and focus on how children learn and grow.
- Every child has diverse strengths rooted in their family's culture, background, language, and beliefs.[2]

References

[1] National Association for the Education of Young Children. (2009) Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth through Age 8.

[2] Head Start Early Learning Outcomes Framework by the U.S. Department of Health and Human Services is in the public domain

2.3: Why Play?

Play:

- Inspires imagination
- Facilitates creativity
- Fosters problem-solving
- Promotes the development of new skills
- Builds confidence and higher levels of self-esteem
- Allows free exploration of the environment
- Fosters learning through hands-on and sensory exploration

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 various ways to interact with objects and materials, and in doing so, 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, especially from 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 carefully, infants and young children reveal clues about their thoughts, feelings, or 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.

Figure 2.2: This teacher has an opportunity to discover how this child is understanding her experience.[1]

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 creating lively encounters with learning allows for 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 perspectives of each (child, family, teacher) inform the other, and each learns from the others. 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.[2]

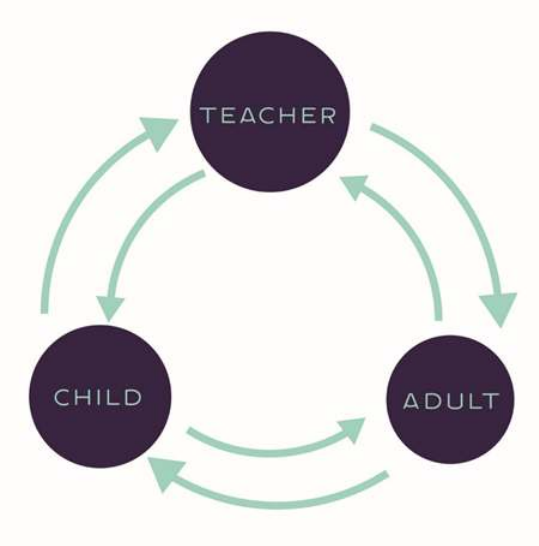

Figure 2.3: Each perspective informs the other.[3]

The *Educators' Guide to the Framework For School Age Care In Australia* discusses the benefits of play:

Play is a valued process, not only for enjoyment and leisure, but also for learning and development. Through play, children develop a sense of identity and an understanding of their social and cultural worlds. Children use play to explore and understand cultures, communities, and friendships. We gain a lot through playing, not just as children, but also as adults.

Recent brain research has highlighted the benefits of a stimulating play-based environment in encouraging brain growth and development (Diamond, 1988). Low stress levels and high engagement combine to nourish neural development. Research by Vandell and others (2005) demonstrates how school-aged care environments achieve this through the combination of high intrinsic motivation and challenge, effort, and enjoyment. Lester and Russell (2009) identified the flexibility and plasticity of the brain, which develop through play and increase the potential for learning later in life.

The intellectual and cognitive benefits of playing have been well documented. Children who engage in quality play experiences are more likely to:

- Have well-developed memory skills and language development,
- Have the ability to regulate their behavior, leading to enhanced adjustment to school and academic learning.

Play also provides children with an opportunity to just 'be'.[4]

Pause to Reflect

What does it mean to just "be"? Consider a time, either as a child or an adult, when you had an opportunity just to "be". What facilitated the opportunity? What feelings did you experience? What might this mean for young children?

Educators observe the stages of play experiences that children navigate in their programs. Educators use these observations of children to plan for environments, set individual objectives, and create appropriate curricular experiences.

Table 2.1: Piaget's Stages of Play[5]

Stage	Description
Functional Play	Exploring, inspecting, and learning through repetitive physical activity.[6]
Symbolic Play	The ability to use objects, actions, or ideas to represent other objects, actions, or ideas, and may include taking on roles.[7]
Constructive Play	Involves experimenting with objects to build things; learning things that were previously unknown with hands-on manipulations of materials.[8]
Games with Rules	Imposes rules that must be followed by everyone playing; the logic and order involved form the foundation for developing game-playing strategies.[9]

In addition to the stages of play described by Piaget, children also engage in a variety of types of play when interacting within early childhood programs.

References

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[2] The Integrated Nature of Learning by the California Department of Education is used with permission (pg. 5);

Content by Clint Springer is licensed under CC BY 4.0

[3] Image by Ian Joslin is licensed under CC BY 4.0

[4] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf

[5] Cognitive and Social Types of Play (n.d.).

[6] Cognitive and Social Types of Play (n.d.).

[7] Play and Playground Encyclopedia (n.d.) Symbolic Play.

[8] Play and Playground Encyclopedia (n.d.) Constructive Play.

[9] Play and Playground Encyclopedia (n.d.) Games with Rules.

2.4: Types of Play

Mildred Parten (1932) observed children aged two to five years old and identified six types of play. She labeled three types as non-social (unoccupied, solitary, and onlooker), and the other three were categorized as social play (parallel, associative, and cooperative). The table below describes each type of play. Younger children engage in non-social play more than those older; by age five, associative and cooperative play are the most common forms of play (Dyer & Moneta, 2006). [1]

Table 2.2: Parten's Classification of Types of Play[2]

Category	Description
Unoccupied Play	Children's behavior seems more random and without a specific goal. This is the least common form of play.
Solitary Play	Children play by themselves, do not interact with others, nor do they engage in similar activities as the children around them.
Onlooker Play	Children are observing other children playing. They may comment on the activities and even make suggestions, but they won't directly join in the play.
Parallel Play	Children play alongside each other, using similar toys, but they do not directly interact with one another.
Associative Play	Children will interact with each other and share toys, but they are not working toward a common goal.
Cooperative Play	Children are interacting to achieve a common goal. Children may take on different tasks to reach that goal.

References

[1] Lifespan Development - Module 5: Early Childhood by Lumen Learning references Psyc 200 Lifespan Psychology by Laura Overstreet, licensed under CC BY 4.0(opens in new window)

[2] Lifespan Development - Module 5: Early Childhood by Lumen Learning references Psyc 200 Lifespan Psychology by Laura Overstreet, licensed under CC BY 4.0(opens in new window)

2.5: The Role of Play in Children's Learning and Development

Consider the learning underway in the following excerpt from 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 their 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 in analyzing a problem to discover a possible solution, experimenting with and testing ideas, exchanging ideas with others, thinking creatively, 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 provide children with a foundation that enhances development and learning in all domains.[1]

Preschool programs use numerous strategies to support children's play, such as planning the learning environment, providing engaging and appropriately challenging materials, and being responsive to children's interests in play.

Through observing children's play, teachers can deepen their appreciation for the value of play in early learning. For example, imaginary play is an important means of exploring ideas, social behavior, and roles among preschool-age children. While older infants and toddlers engage in solitary imaginary play, such as feeding a stuffed animal or making a roaring sound while pushing a toy truck across the carpet, preschoolers engage with one or more peers in the more complex and elaborate form of imaginary play called "sociodramatic" play. In this type of play, children cooperate to create a story and "script," assume various roles, figure out appropriate "costumes" and "props," and negotiate new ideas for play, such as, "I want to be a wolf, not a dog!"

Because imaginary play holds such rich potential for promoting children's cognitive, linguistic, social, and physical development, high-quality preschool programs recognize play as a key element of the curriculum. Children's spontaneous play is a window into their ideas and feelings about the world. As such, it is a rich source of ideas for curriculum planning (Lockett 2004). For example, if a teacher observes a group of children repeatedly engaging in imaginary play about illness or hospitalization, they might decide to convert the playhouse area into a veterinary clinic for a week or two. The teacher might also read children stories involving doctors, hospitals, getting sick, and getting well. The teacher's observations of children's resulting conversations and activities would suggest ways to deepen or extend the curriculum further. When thinking of ways to extend the curriculum, it will be important for teachers to ensure that the materials used and themes built upon are culturally familiar to the children and value their cultural heritage.

While playing, children are challenged to meet the language, problem-solving, and social competencies of their peers. When play is interesting and important to children, they are eager to learn new vocabulary, physical skills, and social behaviors that will keep

them engaged in play (Jones and Reynolds, 2011). Many three-year-olds, for example, have not yet mastered socially appropriate ways to enter other children's play. Coaching by a sensitive and observant teacher on using appropriate language to ask to join a play can help a child overcome this hurdle, thereby opening up a new area for learning.

When teachers regularly observe and document brief, subtle moments of children's learning through play, those records can help parents and others understand how useful and important play is in helping children to learn and grow. For example, a teacher might report a child's language and social development to the parent of a three-year-old: "I watched Sarah standing outside the playhouse area today. Instead of just watching the other children or wandering through their play without getting involved as she often does, she brought the children a book to read to the 'baby' in the family. They asked her if she wanted to be the big sister, and she said yes, so she joined right in. I have been thinking about ways to help her learn how to use her language to get involved in play with other children, but she figured out her own, creative way to join them."

During the preschool years, children grow markedly in their knowledge and skills in all areas of development. The dramatic increase in their emotional, social, cognitive, and language knowledge and skills occurs hand in hand with the development of key areas of the brain, particularly the prefrontal cortex and its connections with the limbic system. Preschool-age children are naturally curious and driven to learn about how the world works, often developing and testing hypotheses through observation and experimentation. Children's learning and development in all domains progress well when they are provided with appropriately challenging opportunities for play and exploration, with the support of skilled teachers who scaffold learning experiences.[2]

References

[1] The Integrated Nature of Learning by the California Department of Education is used with permission (pg. 15-16)

[2] California Preschool Program Guidelines by the California Department of Education is used with permission (pg. 32-33)

2.6: Overview of Learning Domains

In early childhood education, understanding developmental domains is essential for supporting the holistic growth of young children. Developmental domains are broad categories that describe different aspects of a child's development and learning. These domains—language, cognitive, physical, creative, social, and emotional—are deeply interconnected and influence one another as children develop. By observing and nurturing all areas of development, educators can create well-rounded learning experiences that meet the diverse needs of every child and promote lifelong learning and success.

Here is an overview of the developmental domains to be targeted in this course:

Overview of developmental/learning domains.

Domain	Description
Language Domain	Involves the ability to understand (receptive language) and use (expressive language) spoken and written words. It includes vocabulary growth, sentence formation, listening skills, and early literacy, which are foundational for communication and learning. In short, the language domain encompasses listening, speaking, reading, and writing.
Cognitive Domain	Refers to how children think, explore, and figure things out. It includes memory, problem-solving, attention, and reasoning. During early childhood, kids develop basic math and science concepts and learn to understand cause and effect.
Physical Domain	Encompasses gross motor skills (like running and jumping) and fine motor skills (like drawing and using utensils). It also includes coordination, balance, and overall body control. The physical domain also involves overall wellness, health, safety, and nutrition.
Creative Domain	Involves imaginative play, artistic expression, music, dance, and storytelling. This domain fosters innovation, self-expression, and flexible thinking, and helps children explore their interests and ideas in open-ended ways.
Social-emotional Domain	Social skills, socialization, social responsibility, and social studies themes are all part of the social domain. The social side of this domain focuses on how children interact with others. It includes learning to share, take turns, cooperate, and form relationships with peers and adults. Emotional development is linked to recognizing, expressing, and managing emotions. It also involves developing empathy, self-regulation, and confidence.

2.7: The Intentional Teacher

Adults 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. One of the primary roles of professionals who work with young children is to support children's active construction of knowledge. In a sense, early childhood professionals 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 the development of social skills
    - Advocating for one's own needs, safety, and feelings
    - Learning how to connect with their peers in mutually beneficial ways
    - Learning how to walk away or disengage from their peers when they feel the need to
    - Learning how to cope with feelings of rejection or exclusion. And in turn, learning how to seek out positive relationships, rather than dwelling on unsatisfying ones.

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 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, 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 a small group of children, focus on a specific topic or activity.

Some interactions may involve providing guidance to help children learn to regulate their emotions and behavior, or may include an intervention where 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 to prompt children's thinking and understanding. Sometimes these groups are small, and at preschool age, they can be 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 where children are actively engaged in exploring their own developing skills, learning from one another, and acquiring knowledge.[1]

While play occurs naturally, teachers must consider the following responsibilities when facilitating appropriate and purposeful play:

Spaces

- Are there safe places to explore
- Reflect the mission and core values of the program
- Include culturally sensitive materials to explore
- Include open-ended materials for multi-use

Routines

- Are consistent and predictable
- Provide ample time for unstructured play to occur (recommendation is 45 minutes minimum). If children aren't provided enough time to become immersed in play, they will be less likely to engage enough to receive the benefit of the activity.

Interactions

- Stimulate creativity by asking open-ended questions or reflective observations
- Respect individual differences in play and interactions
- Encourage cooperation

The *Educators' Guide to the Framework for School Age Care in Australia* elaborates on intentionality:

To be 'intentional' is to act purposefully, with a goal in mind and a plan for accomplishing it. Intentional acts arise from careful thought and in consideration of the potential effects. For example, when offering dress-ups, educators provide a wide selection. This is intentional in the following ways:

- Lacking materials can be challenging for children who struggle with sharing and waiting, and may lead to unnecessary conflict over the limited resources.
- If only one or two children could dress up, it would limit opportunities to stimulate rich group play.
- If the dress-ups were all the same, respect for diversity and choice are not promoted.
- Providing variety allows children to mix and match and experiment through varied role-play.
- Providing variety encourages children to share, collaborate, and negotiate.
- Providing adults who can interact with the children fosters skill development in this area through scaffolding.

Intentionality is about educators being able to explain what they are doing and why they are doing it. Educators purposefully (and perhaps in collaboration with children) establish routines, set up the environment, select resources, and appoint educators to work with the children. This approach reflects the educator's understanding of the context, individual personalities, and group dynamics.

Educators who are deliberate and purposeful in what they do:

- Promote children's learning through worthwhile and challenging experiences and interactions that foster high-level thinking
- Seize opportunities during experiences and conversations to extend children's thinking and learning
- Model and demonstrate active listening skills
- Utilize varied communication strategies, such as open questions, explanations, speculation, and problem-solving
- Move flexibly in and out of various roles and draw on different strategies as the context changes
- Draw on contemporary theories and research for their knowledge and practices
- Monitor children's wellbeing, life skills and citizenship, and use the information to guide program planning
- Monitor children's needs and interests and incorporate them into program planning
- Identify 'teachable moments' as they arise and use them to scaffold children's learning and development.

As educators, it is always good to reflect on your own childhood:

- What were your favorite play spaces as a child?
- What did you enjoy doing?
- How might you incorporate some of your childhood play ideas into your setting?
- What role did the adults play when you were a child?
- What are your beliefs about play?
- How do you think play might have changed over the past forty years?
- What impact do you think this might have on children and the adults of the future?[2]

Pause to Reflect

"First Day!"

Shortly after completing my ECE degree, I was hired as a preschool teacher for a new corporate-sponsored early childhood education program. I had three weeks to prepare the environment and complete my training before the children started. I spent hours organizing (and reorganizing multiple times) the materials, learning areas, and extensively planning for our first day!

The Friday prior to the opening of the program was pretty standard; all of the children's files were up to date, tours had occurred, the environment was set, and the lesson plans were carefully examined and neatly posted. Everything was in place- perfection!

With joyful excitement and a little anxiety, we welcomed eight new children to our program on Monday morning. As the children trickled in, one by one, their eyes focused on the new surroundings. My preconceived ideas and expectations were shattered as I stood and observed the children moving quickly from one area to the next and touching everything in sight. I had erroneously thought they would sit and play with puzzles, paint at the easel that was so aesthetically set up, or build with the blocks that were strategically placed on the carpet.

Instead, the children avoided those areas and aimlessly walked around the classroom, looking through the cubbies and examining each shelf loaded with learning materials. One item captured their attention more than any other- a water dispenser with little Dixie cups, placed at their level. Each child was fascinated by the ability to press the button and see water come out.

Much of the day was spent tirelessly cleaning up the water and trying to redirect the children to play with the toys that were out rather than the water dispenser. At the end of the day, when the children left, the teachers sat down and reflected on what had worked and what hadn't during the day. In unison, we all said the water was an issue and we should remove it.

Then, from across the room, our wise director intervened. He challenged us. It appeared to him that we should focus on the children's interest in the dispenser. It provided children a new sense of independence (they could access their own water when they were thirsty), and they were practicing important problem-solving skills and the concept of cause and effect while at the same time mastering the fine motor skills of pushing the button. The children were learning and mastering their new environment through active exploration and using play as a technique to acquire new knowledge about the water dispenser. The children were most excited to come back the next day and show their parents the water dispenser and how to operate it.

We changed our curriculum to include additional activities to enhance this interest, such as using measuring cups to fill and dump water using our small water table. After a week, their excitement for the dispenser dwindled, and it became routine, and the children discovered the easel, the blocks, and other materials in their environment. I stop sometimes to recall this day and know that it wasn't what I taught the children, but rather what the children taught me about how they want to learn.

Reflect

Consider an experience when you witnessed a child exploring a toy, learning material, or a play space. Was there anything about the observation that surprised you? In which ways could you consider intentionality in relation to the observation? What types of play or stage did you witness during the observation?

References

[1] The Integrated Nature of Learning by the California Department of Education is used with permission (pg. 19-21); Content by Clint Springer is licensed under CC BY 4.0

[2] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf (pg 40-42)

2.8: Effective Teaching Strategies

When working with young children, early childhood professionals use a variety of strategies to prepare the environment, encourage and engage the children, facilitate understanding, and prompt further learning. With experience, early childhood teachers can quickly choose strategies to match the needs of the children and their own goals. Beginning teachers and those in training often need time to consider the most effective strategies in various situations. Your field experiences and observations enable you to observe seasoned teachers in action and practice selecting and implementing various approaches. This section provides an overview of some common and effective teaching strategies.

Strategies for Preparing the Learning Environment

Early childhood teachers are often responsible for creating an environment that fosters children's development and learning. Elements of effective environments can also serve as teaching strategies. An intentional teacher uses information about the program, the children, and their goals to capitalize on the learning opportunities within the environment. An intentional teacher doesn't just randomly arrange a classroom; many decisions happen before children enter the learning space. After the environment is arranged, an intentional teacher isn't passive; they observe and interact with the children to document children's development and learning. When an intentional teacher notices that something in the environment isn't helping the children reach learning or developmental goals, they make modifications, often in the moment.

Here are some common strategies used in preparing the learning environment:

- **Sensory engagement** involves activities that stimulate the senses—touch, sight, sound, smell, and taste—to help young children explore and learn. It supports brain development and builds connections through hands-on experiences. How can a teacher set up sensory engagement experiences within a classroom environment?
- **Environmental clues**, such as labeled bins or color-coded areas, are visual or physical elements in the classroom that guide behavior and learning. These cues help children navigate routines and make independent choices. What are some environmental clues that you have observed in classrooms?
- **Task analysis** breaks down a complex skill or activity into smaller, manageable steps. This helps educators teach each step gradually, making learning more accessible for young children. When might a teacher choose to use task analysis?

Strategies to Encourage and Enhance Participation

Intentional teachers must capture children's attention and encourage their participation in exploring the environment and engaging in learning activities. When teachers develop relationships with the children in their programs, they are better able to tailor strategies to fit children's individual preferences and needs. It isn't enough that children initially engage in a learning opportunity; they must also be encouraged to continue exploring and learning.

Here are common strategies used to encourage and enhance children's participation:

Invitations are thoughtfully arranged materials or setups that invite children to explore and engage in play or learning. They encourage curiosity and open-ended discovery based on the child's interests. An invitation can also be another individual's verbal or nonverbal gesture inviting a child to engage in a conversation or activity. In your field experiences, can you recall a time when a teacher created an invitation?

Behavior reflections involve commenting on or describing a child's actions to help them become aware of their choices. This strategy supports self-regulation and social-emotional development. How could a teacher use a behavior reflection when observing a child painting at an easel?

Paraphrase reflections restate a child's words in slightly different language to show understanding and expand vocabulary. This encourages communication and validates the child's thoughts. How could a paraphrase reflection promote a child's participation in exploring worms?

Do-it signals are nonverbal or verbal cues that prompt children to begin or continue a task, such as a hand motion or a phrase like "Now it's your turn." These signals support transitions and independence. Often, adults ask a child a question when they want the child to do something, which implies there is a choice; a "do-it" signal works better in such situations. Think of times when you

have asked a child to do something instead of signaling them to do it. How might it have worked if you had used a "do-it" signal instead?

Challenges involve presenting a slightly more difficult task or problem to encourage critical thinking and persistence. This strategy motivates children to stretch their abilities in a supportive setting. For example, how could you make a ramp with the blocks to move the balls faster?

Effective praise is specific and focused on effort, strategies, or behavior rather than general compliments. It helps build confidence and reinforces positive actions and learning habits. How can your specific praise encourage a child to continue participating in an activity?

Strategies to Facilitate Understanding and Prompt Further Learning

As children are engaged in learning experiences, teachers must plan how to help them deepen their understanding and provoke further investigation and learning.

Here are some common strategies that facilitate understanding and prompt further learning:

Providing information involves clearly sharing facts, concepts, or explanations with children in a way they can understand. This strategy helps build knowledge, supports vocabulary development, and encourages curiosity by connecting new ideas to what children already know. Teachers often use this strategy to help children learn facts or concepts that cannot be discovered through direct observation or active exploration. For example, a child cannot investigate and discover their birthdate or address, which we help them learn or memorize.

Scaffolding provides temporary support tailored to a child's needs and gradually removes it as they gain independence. It helps children build new skills just beyond their current level. Think about holding on to a bike as a child learns to ride without training wheels: You hold on, you let go, and then you sometimes hold on again to offer stability and support.

Chaining and successive approximation. Chaining teaches a complex task step-by-step, linking each part in a sequence, while successive approximation rewards close attempts toward the correct behavior. Together, they help children develop skills progressively. For example, as children learn to follow a classroom routine or sequence, a teacher gradually provides more details as they reward children's attempts to follow the routine.

Modeling and demonstrating involve showing children how to do something through actions or examples. It clearly outlines what is expected and supports imitation learning. Think of a time when you introduced something new to the children and demonstrated how to use it.

Guided practice allows children to try new skills with support from an adult. It helps reinforce learning while offering immediate feedback and encouragement. Where do you see opportunities for guided practice?

Repetition involves giving children multiple opportunities to practice a skill or concept over time. This strengthens memory, builds mastery, and fosters confidence. A good example of using repetition as a strategy is when a small group activity is taught and then placed in a learning center where children can continue to practice the skills from the lesson.

Plan-do-review is a method in which children plan an activity, carry it out, and then reflect on what they did. It encourages independence, intentionality, and self-assessment. This strategy comes from the HighScope curriculum. In early childhood classrooms, children are often asked what they plan to engage in during learning center time. They are released to "do," and then they review what they engaged in with a teacher or a group of children.

Questioning involves asking open-ended or guiding questions to spark thinking, problem-solving, and conversation. It encourages children to explore ideas and express their understanding of them. What kinds of questions could you ask that help children focus their learning?

Effective Questioning

What is effective questioning? Questions should be used decisively, and the number should be limited. Open-ended questions are preferred as they allow children to provide their ideas. Children should be given ample time to answer questions. Adults

should listen and reflect on children's answers. Follow-up questions may help children process information. Adults should address children's misconceptions.

Questions may help children

- observe
- reconstruct an experience
- relate cause and effect
- make predictions
- provide evaluation
- make generalizations
- offer reasoning
- make comparisons
- quantify
- propose solutions
- use factual knowledge
- apply information
- make decisions

2.9: Effective Play Spaces

Since play is central to how 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 and development. 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 explore and discover what the world is like and how it works. When early childhood teachers thoughtfully select and organize play materials, they support an essential aspect of the 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 refer to as "stage manager." This role entails the early childhood teacher intentionally setting the stage for learning by selecting toys, furnishings, and materials that encourage 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:

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 plexiglass. Lucila puts her eyes up close to the plexiglass 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 plexiglass 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!"[1]

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, which is designed to prompt play with the colors and textures of the materials. They notice the distinct features of the translucent plastic panes. 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 ensured that there were objects with both similar and distinct features, in order to challenge the toddlers' emerging ability to distinguish one object from another. They gathered similar objects of graduated size 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 various materials and build relationships with concepts of identity, order, size, shape, number, and space. Many of the materials, such as the collection of fabric pieces, are familiar to the toddlers and have been available in the play space bins for several days. Other materials, like long pieces of translucent cellophane paper in various 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 plexiglass.

As the teachers interpreted the play, they wondered how to add some challenge and surprise to the toddlers' enjoyment of creating colored shadows on the floor with sunlight and 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 encourage toddlers to explore relationships of size, space, and similarity and difference more deeply. The teachers explored possible questions to prompt toddlers' experiments in transforming the primary colors of yellow and 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's happening 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 that moment, she artfully *scaffolded* the toddlers' learning by suggesting a new way to play with the plexiglass. A scaffold is a structure that allows someone to reach higher in order to accomplish a task that they could not have done alone. Teachers scaffold children's play by connecting with them in shared understanding and supporting them in exploring further to figure something out.

Learning Centers

Many early childhood classrooms are organized into various learning centers. Learning centers in early childhood classrooms are designed to provide young children with hands-on, play-based opportunities to explore, discover, and develop key skills in various areas, including literacy, math, science, and social-emotional growth. These centers encourage independence, creativity, and collaboration while supporting individual interests, learning styles, and developmental needs. They create a structured yet flexible environment that promotes active engagement and meaningful learning. Teachers choose which learning centers to offer and will change the materials in these centers to build on children's experiences and provide new learning opportunities.

Common learning centers found in an early childhood program/classroom.

Learning Center	Description
Block	Children use blocks of various sizes and shapes to build structures, which helps develop spatial awareness, problem-solving skills, and early math concepts. It also supports collaboration and experimentation with design and balance.
Dramatic Play	This center allows children to engage in imaginative role-play using costumes, props, and real-life scenarios. It promotes creativity, language development, and social skills through pretend play.
Library	Stocked with age-appropriate books, this quiet space invites children to explore language, stories, and print concepts. It builds early literacy skills, vocabulary, and a love for reading.
Sensory	Filled with materials such as sand, water, rice, or beans, the sensory table offers opportunities for tactile exploration. It helps children develop fine motor skills, focus, and sensory awareness.
Art	The art center provides materials such as paint, crayons, glue, and clay for open-ended creative expression. It fosters fine motor skills, imagination, and emotional expression.
Writing	Equipped with paper, pencils, markers, and letter stencils, this center fosters early writing and communication skills. Children practice forming letters, drawing, and expressing ideas through written symbols.
Math and Manipulatives	With tools like counting bears, number puzzles, and measuring cups, children explore numbers, patterns, and problem-solving. This center supports logical thinking and foundational math skills.
Music and Movement	This area includes instruments, scarves, and open space for dancing and making music. It promotes rhythm, coordination, self-expression, and auditory development.
Science and Discovery	Children investigate natural materials, magnets, magnifying glasses, and other tools to explore the

Learning Center	Description
	world around them. It encourages curiosity, observation, and early scientific thinking.
Woodworking	This center enables children to safely explore basic tools and materials, including wood, cardboard scraps, nails, and sandpaper, under adult supervision. It develops hand-eye coordination, problem-solving, and confidence through hands-on construction and design.
Thematic	This flexible space changes regularly to reflect current classroom themes, such as community helpers, different seasons, or animals. It integrates multiple subject areas and encourages deep, focused exploration of a topic through play, discussion, and creative activities.
Outside	The outdoor space extends the classroom into nature, offering activities such as climbing, gardening, water play, and exploration. The outdoor space doesn't have to be a place for children to run free; it can include centers similar to those found inside, such as blocks and art. It supports gross motor development, environmental awareness, and cooperative play in a natural setting.

References

[1] The Integrated Nature of Learning by the California Department of Education is used with permission

CHAPTER OVERVIEW

3: Observation, Documentation, and Assessment

Learning Objectives

By the end of the chapter, you should be able to:

- Review criteria to determine when and what to document
- Explain the purposes of documentation
- Justify documenting children's play
- Describe different methods of documenting children's learning
- Relate how to respect the rights of children and families when documenting
- Discuss the role of assessment
- Summarize important considerations in assessment during early childhood
- Explain the importance of working with families when documenting and assessing children

Documenting and assessing all the children in your care allows you to gradually build up a comprehensive picture of each child's interests, strengths, and relationships, as well as an insight into areas they may be avoiding or skills they need help to develop. It will give you a clearer picture of the social interactions, creative ideas and the concerns of the children in your program. It will take some time and a concerted team effort to gather documentation on all the children in your care— but there are benefits. Having this kind of profile of all the children in your service will allow you to plan curriculum that develops these interests and builds up these skills over time. [1]

References

[1] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf

3.1: Observation

Learning Objectives

By the end of this section, you should be able to:

- Define observation.
- Explain its importance in understanding and supporting the development of young children.

Observation is an essential practice for early childhood professionals. Through observation, professionals can note a child's developmental milestones, possible developmental delays, interests, or challenging behaviors, which may aid in tracking a child's growth and development. Professionals can use this observational data to help plan appropriate experiences for children based on their needs. Observations of children's interactions and involvement with the program's environment and curriculum can also help professionals determine the effectiveness of the program and its teaching methods.

An observation begins by watching and listening to the child and noting contextual elements that influence their behavior. Observations are recorded through notes, photos, or videos that help document the behavior. The professional then analyzes the documentation of the observation. The analysis might include linking the child's behavior to developmental milestones, theories, or learning standards. Information gathered through observation can be used to complete developmental checklists, share with families, or create portfolios that highlight a child's growth, development, and learning.

There are many methods for recording observations; two common methods are anecdotal notes and frequency counts. Anecdotal notes are written records of children's behavior. Anecdotal notes should include a description of the child's behavior and notes about the context. Anecdotal notes can be used to complete developmental checklists or can be compared to previous observations. Frequency counts are used to track how often a child's behavior occurs. A professional may use a frequency count to count how often a child enters play situations, interacts with peers, or chooses particular activities.

Note

In FCS 490, you will learn about different types of observations, how they can be recorded, and when to use different styles.

3.2: Documentation

What is Documentation?

In early childhood education, documentation refers to the process of collecting, recording, and interpreting information about children's learning and development. It typically includes observations, notes, photographs, videos, samples of children's work, and other records that showcase what children are doing, saying, and creating in the learning environment. Documentation helps early childhood professionals understand a child's development, interests, and learning styles. Documentation enables teachers to reflect on their teaching strategies and the effectiveness of their curriculum. Documentation communicates with families, caregivers, and other professionals about a child's progress. Documentation supports formative assessment and individualized planning. Documentation informs future activities and educational goals based on children's needs and interests. And finally, documentation honors and makes children's achievements and experiences visible.

Knowing What to Document

One of the biggest challenges facing early childhood educators is the efficient use of time and the need to document what is significant. What do you document? How do you know what is significant? You cannot possibly document everything, and it tends to become meaningless if this occurs. Educators need to select the important moments. You can't write in detail about every child, and you can't do it every day! However, over time, you can gather pictures and stories about all the children to gain a deeper understanding of who they are.

Educators are keen observers. They notice not only what children are doing, but also how they play and what they say during play. This puts them in a strong position to develop a program based on their observations.

When trying to determine when and how to document, ask yourself:

1. Why am I recording this? What is meaningful/significant?
2. What is the learning occurring?
3. How can we extend on this?
4. How does it link to the outcomes we are measuring?[2]

Purposes of Documentation

Documentation serves different purposes at different times. The criteria for what qualifies as quality documentation depend on the context in which it is used. What seems to remain constant is that quality documentation focuses on some aspect of learning, not just 'what we did.' It prompts questions and promotes conversations among children and adults that deepen and extend learning.

There are three good reasons to document observations in early care and education programs:

1. to inform program planning
2. to deepen our understanding of the children
3. to make learning visible, and share it with others.[3]

To Inform Curriculum Planning

Documentation makes children's and educators' thinking visible. It allows them to revisit it, reflect, uncover meaning, and plan future directions. Program direction often comes from a simple moment spent in conversation or play with a child—a moment that makes us pause and reflect.

The Power of Ordinary Moments

Ordinary moments are the pages in the child's diary for the day. If we could resist our temptation to record only the grand moments, we might find the authentic child living in the in-between. If we could resist our temptation to put the children on a stage, we might find the real work being done in the wings. If we understood the great value in the ordinary moments, we might be less inclined to have a marvelous finale for a long-term project. We appeal to educators everywhere to find the marvel in the mundane and the power of the ordinary moment![4]

> (Forman, Hall & Berglund, 2001, p.52-3)

Before documenting, ask yourself: Why am I documenting this? How is this significant? If there is no worthwhile reason, there may not be good reasons for recording.

There are different ways in which observations can be recorded, such as:

- note pads carried around by individuals
- sticky notes, which may be gathered over a period of time and used for reflection
- clipboards
- group journals/communication books
- photos
- video recordings
- voice recordings
- poster/spreadsheet

All educators can record the documentation taken for program planning in one place, or it can be recorded individually (such as in notebooks) and brought together with the group during discussion.

Notes need to act as a visual reminder to stimulate thought and plans for planning.[5]

Figure 17.2: Notes are good reminders.[6]

Pause to Reflect

Think of yourself in the classroom with young children. What would you like to document? Why? What methods do you think would be most effective in capturing these?

Reflective Thinking and Discussion to Deepen Our Understanding of the Children

Jotting down observations for later discussion helps educators reflect and analyze, particularly those who are new or inexperienced, which can lead to a deeper understanding for educators in the setting.

These observations may be recorded in various ways, such as quick summaries on sticky notes, captioned photographs, or entries in child portfolios. What is important, however, is that the learning has been made visible, and educators can share knowledge about this, question it, and extend it further. True collaborative planning can occur when educators share recorded observations. Once again, there are various ways to undertake this, but group discussion during meeting time is an ideal way to promote a deeper understanding and shared wisdom.

Encourage all educators in your setting to question why children's play is significant. The thinking is more complex and needs to go beyond just thinking 'they are playing in the dramatic play center again'. Ask yourself why the children are choosing particular role-playing scenarios. What inspired it? Who is involved? Does it reflect an event or experience in a child's life that they choose to act out in play? Is someone trying to work through some emotions? Are they undertaking family life lessons at school? What

meaning are they getting from it? What misinterpretations are there? How can I assist their learning in this area? How can we build on this learning?

Figure 17.4: How might this family child care provider answer the questions just posed?[8]

Curtis and Carter (2008) suggest examining children's play from three angles:

- The child's story (Why are they playing this? What fascinates them? What is their previous experience? How can I encourage them to show more?)
- The learning story
- The educator's story (What excites you? What are you curious about? How can you learn more?)

During training, many educators have been encouraged to consider learning and developmental aspects; however, to engage in deeper thinking, it is essential to consider all three perspectives.[9]

Making Learning Visible and Sharing it With Others

Educators may make some documentation visible to showcase the learning that has occurred and to find ways to connect with others. When you document a child's story, you give the child a voice and have a valuable tool for opening a meaningful discussion with that child's family. It is also a means to engage with other educators, such as teachers in the child's school. Children also love to revisit and reflect on previously documented moments.

There are numerous ways to document for others to see. Some options include:

Wall Displays/Documentation Panels

Documenting and displaying the children's project work allows them to express, revisit, and construct and reconstruct their feelings, ideas, and understandings. Pictures of children engaged in experiences, their words as they discuss what they are doing, feeling, and thinking, and the children's interpretation of experience through the visual media are displayed as a graphic presentation of the dynamics of learning. Documented wall displays or documentation panels are a Reggio Emilia concept that emphasizes the process, not just the end product.

Figure 17.5: These documentation panels are in a classroom inspired by the Reggio Emilia approach.[10]

Making images of learning visible and being together in a group is a way to foster group identity and learning. This type of documentation promotes conversation or deepens understanding about one or more aspects of a learning experience. It can serve as a memory experience, allowing children and adults to reflect on, evaluate, and build on their previous ideas. Sharing documentation with learners can take many forms: a photocopied sheet of paper, words, scrapbook pages, or a carefully arranged panel.

Learning Stories

A learning story is an alternative to other forms of observation. Margaret Carr developed this narrative assessment form to meet documentation requirements in New Zealand and demonstrate knowledge and understanding of each child. In learning stories, educators capture significant moments throughout the day with photos and then tell the story of the child's learning (Carr, 2001).

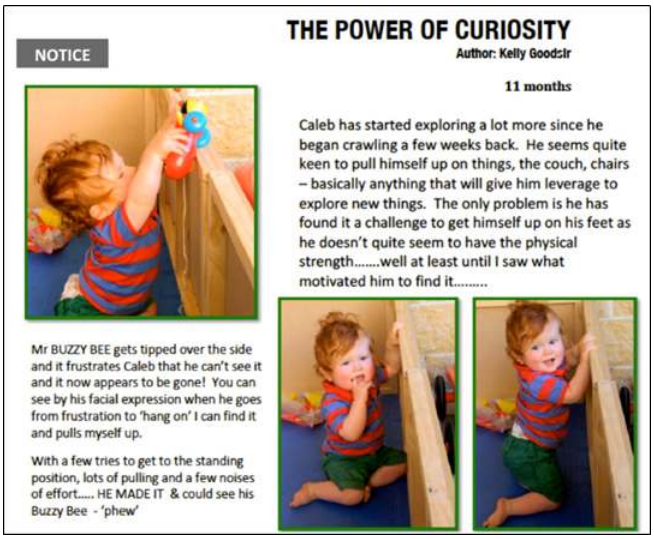

Figure 17.6: This is a portion of a learning story about 11-month-old Caleb.[11]

Portfolios

A portfolio can document a child's development and highlight each child's learning story over time. The portfolio belongs to the child and contains their work and their stories. Portfolios are as individual as the children, and they don't follow a prescribed pattern or format; they can just evolve. School-age care is a social setting, and children's portfolios should contain photos and stories of their friends, but be mindful of children and families who do not wish their photos to be included in others' folders and find strategies to deal with this. Portfolios and scrapbooks are long-term projects that can be undertaken jointly by the children and educators.

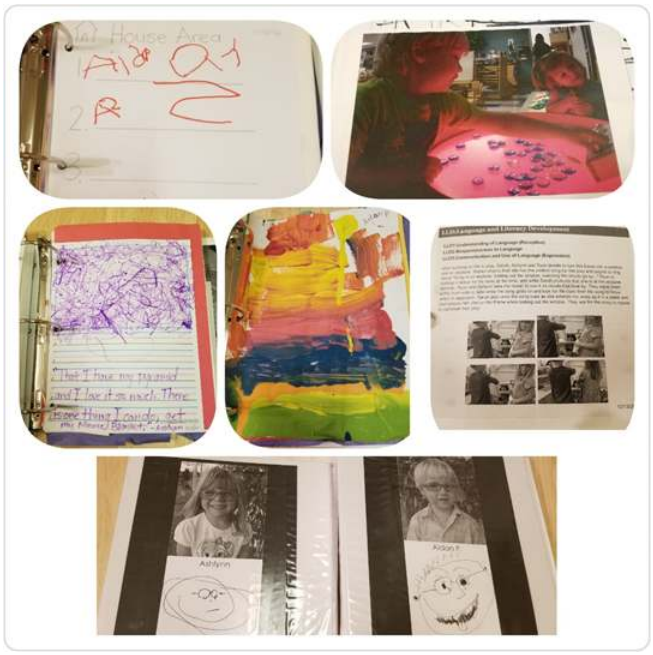

Figure 17.7: Here are two portfolios and some items inside, including a writing sample, photographs, a drawing with dictation, a painting, an anecdote with images tied to DRDP measures, and self-portraits.[12]

Pause to Reflect

What are the pros and cons of the different ways of documenting children presented here? Why might an educator want to use each? What might be some drawbacks?

What are other types of documentation to consider that weren't provided here?

Children's Voice in Documentation

Educators can gain valuable insight by creating a culture of listening to and working collaboratively with children. How do you know what the children in your care want from their time in care?

There is a strong synergy between children's sense of being and belonging and their active involvement in democratic processes, which impacts what the environment, programs, and partnerships look, sound, and feel like. The information you gather from children is integral to the development of a program that meets their needs and interests.

Figure 17.9: The discussion these school-aged children are having is a great way to get their insight.[15]

A range of ways can be used to gather and document children's voices:

- 'All about me' sheets, where children and families document important information about themselves, such as likes, dislikes, hobbies, and such
- setting time to have informal and formal discussions with children
- children interviewing other children
- suggestion boxes and surveys
- recording children's comments and thoughts about experiences as part of the evaluation process
- children's portfolios
- creating opportunities for joint planning, including setting up of the care environment
- photographing children and asking them to write about the experience
- children writing their own learning stories
- joint problem-solving opportunities.

Careful consideration needs to be given to children who may be non-verbal or have difficulty expressing themselves to ensure their voices are heard in your care setting.[16]

Ethical Considerations

When documenting children's learning, educators must respect the rights of children and families. Before collecting and documenting information, permission must be obtained from children and their families. Children and families must have the right to privacy, be informed about how the information will be used, and have a choice about participating.

MacNaughton, Smith, and Lawrence suggest that to protect and enhance children's rights through consultation with them, adults should ensure that children have:

- safe spaces in which to share their ideas without challenge or critique
- privacy: ask children for permission to document/ record what they say
- ownership of their ideas: ask children to display and/ or share their ideas and understandings with others
- appropriate equipment with which adults can care for children's work in ways that shows that their voice is important and respected

Some further questions to consider when thinking about documentation include:

- What does observing, documenting, and evaluating look like in your setting?
- How do you involve children in the process?
- How do you involve families in the process?
- How do you know what is valued or expected for children within the family and cultural context?
- Do you assess children at an individual level? Do you think this is important in your setting?

- How do you define ‘regular’ in the context of children who attend ‘regularly’?
- What methods or tools would you use?
- Does the documentation focus on learning, rather than just a task you completed?
- Does the documentation foster conversation or deepen understanding about a specific aspect of learning?
- What documentation do you collect that is suitable to share or display?
- Does the documentation focus on outcomes for children, rather than just what the educators are doing?
- Does the documentation focus on both the process and the product(s)?
- Does the documentation clearly communicate the aspects of learning you consider most important?
- Does your display documentation have a title?
- Is the documentation presented in a way that engages the viewer?

Figure 17.10: This documentation is down at the child’s level in the space where building materials are stored. What might have been the educators’ rationale for this?[17]

Documentation does not need to be repeated. A narrative story with photos can be shared at a staff meeting, with input from all educators about links, questions, and where ideas may be built upon. The story can then be displayed in the room (as a work in progress or perhaps with an end product if there is one). The child can show the documentation to important people in their life, which will facilitate discussions with families, children, and educators. Once it has been displayed for a period of time, it can be filed away in the child’s portfolio, where it can be revisited at any time. It is also available for an assessor to review during a visit. This one piece of documentation serves multiple purposes.[18]

References

[2] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf

[3] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf

[4] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf

[5] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf

[6] Figure 17.2 is licensed under CC0

[8] Figure 17.4 by Rhonda Siciliano is in the public domain

[9] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf

[10] Image by Jennifer Paris is licensed under CC BY 4.0

[11] Image by Educa is licensed under CC BY 3.0

[12] Image by Jennifer Paris is licensed under CC BY 4.0

[15] Image from video by Bay Area Media Masters is licensed under CC BY 3.0

[16] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf

[17] Image by Jennifer Paris is licensed under CC BY 4.0

[18] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf

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3.3: Assessment Basics

Early childhood education programs should have outcomes that relate to their philosophy and the objectives they have for children. As we examine the cycles of curriculum planning that we have completed, we can use that data to further inform curriculum planning and assess children's developmental progress.[1]

Assessing to Inform Curriculum Planning

Teachers and others who plan early childhood curriculum face the challenge of determining how much assessment data to gather and how to use the resulting information. The key is to organize a sustainable infrastructure that facilitates the regular and systematic gathering of meaningful information on every child.

1. The best instructional assessment information is collected frequently and used continuously to inform decisions about curriculum and instruction. Young children learn quickly; regular progress monitoring is necessary to document incremental improvements in skills and behaviors. Teachers and other adults are more likely to collect, interpret, and apply assessment data if the process is built into the daily classroom schedule and responsibilities.
2. Assessment to inform and monitor instruction is most accurate if multiple sources and methods are considered. Because much of young children's learning and development occurs outside the classroom, competencies and progress must be considered in all contexts and environments. The richest results are obtained when the perspectives of parents, caregivers, teachers, specialists, and children are combined. Assessment instruments that gather information by observation and report, and include components for parents to report on children's developmental and academic progress, provide a helpful structure.
3. Methods used to collect instructional assessment information should resemble the ongoing instruction and interactions that occur in homes, child care centers, and classrooms. There are valid concerns about the negative effects of testing on young children. One of the biggest advantages of assessment in informing and monitoring instruction is that the process seldom necessitates individualized testing. Adults should be able to collect instructional assessment data using the same experiences designed to facilitate preschool learning in group activities, support parent/infant interactions at home, or provide instruction in primary classrooms.
4. Assessment instruments should be criterion-referenced with items that reflect functional skills. Actual assessment items and administration procedures will vary depending on whether the focus is on development or early academics. Nonetheless, repeated performance measures across a sequence of skills that reflect curriculum goals provide the best documentation of children's progress. Assessment to inform and monitor instruction is only as good as the curriculum and instruction young children receive. Assessing what we teach and teaching what we assess is essential for meaningful instructional assessment.
5. Instructional and classroom assessment instruments should ideally reflect a logical teaching sequence. Assessments to inform and monitor instruction are most effective when items are organized in a sequence that reflects the major skills in the curriculum, along with prior knowledge and/or prerequisite skills. This organization maps the curriculum for teachers and guides the selection of subsequent learning goals.
6. Instructional assessment instruments and procedures must be culturally and linguistically relevant. If the basic skills represented in early developmental and academic curricula are functional and appropriate for young children, instructional assessments have the advantage of incorporating familiar materials, people, routines, and important events from a child's life. If an assessment is culturally inappropriate, it is vital to revise it, and parents can suggest more familiar and appropriate materials and behaviors. It is especially important that English language learners are not penalized by materials or directions that confuse cultural and language differences with cognitive or academic delays.[2]

Figure 17.11: If materials, tasks, interactions, or the language being used are unfamiliar to a child, caution must be taken before making judgments about their development.[3]

Pause to Reflect

What stood out to you about assessing to inform curriculum planning? What did you most agree with? What prompted you to think a bit more? Was there anything you disagreed with or are unsure about?

Assessing Children

Each child and group of children will be at different points in their journey towards these program's outcomes. Children come with a range of interests, understandings, family and community experiences, developmental pathways, temperaments, and dispositions.

Figure 17.12: How these infants engage in this literacy interaction with their caregiver may show their temperament and dispositions at work.[4]

Educators use their observations of children, feedback from children and families, and evaluations of learning and wellbeing to analyse and assess what children can do and areas for further development or progression. Learning stories, educator reflections, journals, and child portfolios are effective strategies for documenting experiences and helping educators become more familiar with the outcomes as they make frequent connections between their documentation and the outcomes they aim to achieve for children.[5]

Consideration in Early Childhood Assessment

Early childhood professionals are increasingly feeling pressure to document learning outcomes in an era of standards, accountability, and achievement testing. In addition to parents, we are the people responsible for the well-being of young children. Many professionals have legitimate concerns about the misuse of assessment practices and instruments, as well as the potential for inequitable consequences for the children in our programs. It is important to consider some implications of the unique nature of early development and learning:

A comprehensive and meaningful early childhood assessment requires an understanding of the family context, including the family's language and culture, gathering developmental information from parents, and conducting home visits with parental consent. This principle applies to all youngsters and families. Still, it is especially critical for children whose families may not share the language or some of the economic advantages of the dominant culture. Understanding family expectations and experience places a child's behavior in context and can prevent harmful decisions from misinterpreting assessment data (NAEYC, 2005).

Younger children present some complex challenges and require flexible procedures for gathering meaningful and useful assessment information. Constitutional variables, such as fatigue, hunger, illness, and temperament, can easily overshadow a young child's abilities. The time of day, setting, testing materials, and other situational factors also impact performance. The younger a child, the more likely they are to fall asleep, become distressed, refuse to comply with directions, or be distracted from assessment activities.

Professionals should be prepared to modify activities, explore alternative procedures, and/or reschedule rather than risk gathering faulty information that compromises the accuracy of assessment results.

Figure 17.15: Children will not always cooperate with an educator's plans to gather accurate information about them.[6]

Young children learn by doing and demonstrate knowledge and skills through action-oriented activities. Authentic assessment of youngsters as they participate in daily activities, routines, and interactions generally produces the most valuable information for assessment. Assessment methods should allow observing young children engaged in spontaneous behaviors in familiar settings and with familiar people to the greatest extent possible.

More assessments and increased data do not necessarily result in better assessment information. Early childhood professionals should gather only the information they need and know ahead of time how they will use all the collected information. It is generally most desirable to identify appropriate methods and instruments that provide the necessary information and refine their use over time.

Some assessment instruments and procedures are better than others. Factors such as purpose, content, reliability and validity, efficiency, cost, and professional development availability are more important than appealing packaging and effective advertising. The quality of information gathered and the decisions made as a result of the assessment are of primary importance. Ultimately, whatever assessments we conduct should benefit the children, families, and programs we serve.[7]

Note

It is impossible to predict what your future assessment needs will be at this point in time. In class, we will review the differences between standardized and authentic assessments to prepare you for making assessment decisions in your future work.

References

[1] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf

[2] A Guide to Assessment in Early Childhood; Infancy to Age Eight. Washington State Office of Superintendent of Public Instruction, 2008.

[3] Figure 17.11 by Olenda Pea Perez is in the public domain

[4] Figure 17.12 by the California Department of Education is used with permission

[5] Australian Government Department of Education (n.d.) Educator My Time, Our Place. Retrieved from files.acecqa.gov.au/files/National-Quality-Framework-Resources-Kit/educators_my_time_our_place.pdf

[6] Figure 17.15 by Jennifer Woodard Maderazo is licensed under CC BY 2.0

[7] A Guide to Assessment in Early Childhood; Infancy to Age Eight. Washington State Office of Superintendent of Public Instruction, 2008.

3.4: Working with Families

Documenting and assessment should be done collaboratively with families. Families are not just a recipient of information from educators. Parents and other family members bring a broad array of information, feelings, beliefs, and expectations relevant to the child's experience in the program, including curriculum:

- the child's temperament, health history, and behavior at home
- family expectations, fears, and hopes about the child's success or failure
- culturally-rooted beliefs about child-rearing
- families' experiences of school and beliefs about their role in relation to professionals
- families' sense of control and authority, and other personal and familial influences

Educators have unique information and perspectives that they can share with families. Program staff bring their own knowledge, beliefs, and attitudes to their work with families:

- developmental and educational information about the child based on observation and assessment
- information about the child's performance in the program
- information about the curriculum and learning goals for the child
- knowledge about the child's next educational environment
- staffs' own unique personality and temperament, family history, and culture
- their job description, agency policies, and the supervision they receive
- their own training, experience, and professional philosophy

The goal of sharing information with families about their child is not to dictate to parents what program staff think needs to be done, nor to view the child through the lens of staff. Instead, this process helps program staff see the child through the family's eyes. This expands their understanding of the child and the family, allowing them to adjust their teaching and family support accordingly. When program staff can see the child through the same lens as families do, families know they can trust them. As a result, they are more likely to be open to program staff's perspectives about their child. Information about the child will more effectively flow from family to staff and from staff to families. Then, families too will have richer information about their child to add to their support of their child's learning and development at home.

Respectfully sharing these different perspectives is an essential step toward healthy learning environments for children. Regular and purposeful supervision can help program staff recognize when their perspectives are influenced by personal reactions, biases, and cultural backgrounds, and guide them toward effective communication strategies.[11]

Figure 17.16: This educator is sharing information with this father.[12]

Pause to Reflect

What happens when families and staff have very different perspectives on a child?

References

[11] Educators - My Time, Our Place by the Department of Education and Training is licensed under CC BY 4.0

[12] Figure 17.16 by the U.S. Department of Health and Human Services is in the public domain

3.5: Conclusion

Evaluating children in early childhood settings is an ongoing process that involves using observations and other evidence to assess children's development and learning. Regular evaluation through documentation and assessment enables responsive, well-thought-out long-term and short-term planning to promote the optimal growth, development, and learning for all children in the program.

Approaches to evaluation that are culturally and linguistically relevant and responsive to children's social, physical, and intellectual capabilities will acknowledge their abilities and strengths, allowing them to demonstrate competence. Evaluation, when undertaken in collaboration with children, can support and empower them to see themselves as capable, fostering independence and initiative.

When educators reflect on their role in children's lives, they reflect on their own views and understandings of theory, research, and practice to focus on:

- the experiences and environments they provide and how that links to the intended outcomes
- the extent to which they know and value the culturally specific knowledge about children that is embedded within the community in which they are working
- each child's opportunities in the context of their families, drawing family perspectives, understandings, experiences, and expectations
- the opportunities which build on what children already know and what they bring to the setting
- evidence that the experiences offered are inclusive of all children and culturally appropriate
- not making assumptions about children's development or setting lower expectations for some children because of unacknowledged biases
- incorporating pedagogical practices that reflect knowledge of diverse perspectives and contribute to children's wellbeing and successful learning
- whether there are sufficiently challenging experiences for all children
- the evidence that demonstrates children feel safe and secure, and are engaged
- how they can expand the range of ways they debrief and reflect to make the evaluation richer and more useful.

This process of reflective evaluation can lead to quality early childhood education programming that supports the optimal development of each child for whom it provides care and education.[1]

References

[1] My Time, Our Place - Framework for School Age Care in Australia by the Department of Education and Training is licensed under CC BY 4.0

CHAPTER OVERVIEW

4: Developing Curriculum for a Play-Centered Approach

Learning Objectives

At the end of this chapter, students will be able to:

- Identify curriculum models for developing curriculum
- Connect child development theories to the various models

4.1: Introduction to Curriculum Development

When teachers embed children's learning into their lives, into contexts that they have experienced, teachers make everything more comprehensible for them. Teachers also engage children's emotions, making the experience both cognitive and pleasurable. The key is to find out which connections are meaningful for each individual child. When teachers discover what may be personally meaningful for a child, there is a good chance of fully engaging that child in making meaning and learning.[1]

References

[1] California Preschool Curriculum Framework, Volume 1 by the California Department of Education is used with permission (pg. 24)

4.2: Creating Effective Curriculum

Children reveal their thinking through their behavior in play and interactions with others. The thinking children reveal informs the reflective curriculum planning process. As described in the introductory chapter of this book, the curriculum planning process begins with observing and reflecting on children's play and interactions. Teachers document significant moments they wish to remember, such as what they see or hear, to share their observations with others. They discuss and interpret the documentation to plan the next steps in supporting the children's thinking and learning. A plan is then put into writing and implemented. 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.

Curriculum for young children is most effective when it is dynamic, co-constructed, and responsive.[1]

Getting Started

There are a few ways to develop or select a curriculum for young children. One method is for early childhood professionals to examine what learning is expected for children at different ages and plan their instruction around those learning targets. Some early childhood programs follow a specific curriculum model, which may specify what should be planned and taught. Another method is to plan learning around themes that fit the interests and needs of the children. All the methods enable children to develop skills and learn across all domains.

References

[1] The Integrated Nature of Learning by the California Department of Education is used with permission

4.3: Curriculum Models

Curriculum Models provide a framework for organizing children's planning experiences. The following provides an overview of some commonly used early childhood curriculum models.

Bank Street Model

Lucy Sprague Mitchell founded Bank Street, an integrated approach.

In this model, the environment is arranged into learning centers, and planning is organized by using materials within the learning areas (centers).

- Art
- Science
- Sensory/Cooking
- Dramatic Play
- Language/Literacy
- Math/Manipulative/Blocks
- Technology
- Outdoors: Water and Sand Play

The Bank Street curriculum model represents the ideology of Freud, Erikson, Dewey, Vygotsky, and Piaget. This model draws upon the relationship between psychology and education. By understanding developmental domains and creating interest centers with materials that promote specific areas of development, children's individual preferences and paces of learning are the focus.

"A teacher's knowledge and understanding of child development is crucial to this approach. Educational goals are set in terms of developmental processes and include the development of competence, a sense of autonomy and individuality, social relatedness and connectedness, creativity, and integration of different ways of experiencing the world" (Gordon).[1]

Creative Curriculum Model (Diane Trister Dodge)

The Creative Curriculum model focuses primarily on children's play and self-selected activities. The Environment is arranged into learning areas, and large blocks of time are given for self-selected play. This model focuses on project-based investigations as a means for children to apply skills, addressing four key areas of development: social-emotional, physical, cognitive, and language.

The curriculum is designed to foster the development of the whole child through teacher-led, small and large group activities centered around 11 interest areas:

- blocks
- dramatic play
- toys and games
- art
- library
- discovery
- sand and water
- music and movement
- cooking
- computers
- outdoors.

The commercial curriculum provides teachers with details on child development, classroom organization, teaching strategies, and engaging families in the learning process. Child assessments are an important part of the curriculum, but must be purchased separately. Online record-keeping tools help teachers maintain and organize child portfolios, individualized plans, and report production.[2]

High Scope Model (David Weikert)

The High/Scope Model focuses on developing learning centers similar to the Bank Street Model and emphasizes key experiences for tracking child development. The key experiences are assessed using a Child Observation Record for tracking development and include areas of:

- Creative Representation
- Initiative
- Social Relations
- Language and Literacy
- Math (Classification, Seriation, Number, Space, Time)
- Music and Movement

The High Scope Model also includes a “Plan-Do-Review” sequence, in which children begin their day by planning activities they will participate in, followed by participation in those activities and a review session at the end of the day. Teachers can use this sequence format to help children learn how to organize choices of activities and to reflect upon what they liked or would do differently at the end of the day. The High/Scope Model reflects the theories of Piaget, Vygotsky, and Reggio Emilia by emphasizing the construction of knowledge through hands-on experiences and reflection techniques.

Montessori Approach (Dr. Maria Montessori)

The Montessori Approach refers to children’s activity as work (not play); children are given long periods of time to work, and a strong emphasis on individual learning and individual pace is valued. Central to Montessori’s method of education is the dynamic triad of child, teacher, and environment. One of the teacher’s roles is to guide the child through what Montessori termed the 'prepared environment, i.e., a classroom and a way of learning that are designed to support the child’s intellectual, physical, emotional, and social development through active exploration, choice, and independent learning.

The educational materials have a self-correcting focus, and the curriculum consists of art, music, movement, and practical life (for example, pouring, dressing, and cleaning). In the Montessori method, the goal of education is to allow the child’s optimal development (intellectual, physical, emotional, and social) to unfold.

A typical Montessori program will have mixed-age grouping. Children are free to choose what they work on, where they work, with whom they work, and for how long they work on any particular activity, all within the limits of the class rules. No competition exists between children, and no system of extrinsic rewards or punishments is in place.[3]

Waldorf Approach (Rudolf Steiner)

The Waldorf Approach, founded by Rudolf Steiner, features connections to nature, sensory learning, and imagination. Steiner's educational worldview centers on understanding the child’s soul, development, and individual needs.

The Waldorf approach is child-centered.[4] It emerges from a deep understanding of child development and seeks to support the particular developmental tasks (physical, emotional, and intellectual) children face at any given stage. Children aged 3–5, for example, develop a keen interest in the world, which is supported to a large extent by their freedom of movement. They must be encouraged to follow and deepen their curiosity through the encouragement of their sometimes endless questions (Van Alphen & Van Alphen, 1997(opens in new window)). This approach supports children’s naturally blossoming curiosity, rather than *answering* the teacher’s questions. At this stage, children’s play becomes increasingly complex, with them spontaneously engaging in role-plays as they construct and act out imaginative situations based on their own experiences and stories they have heard. Thus, in Waldorf schools, ample time is allocated for free imaginative play, which serves as a cornerstone of children’s early learning.[5]

The environment should protect children from negative influences, and the curriculum should include exploring nature through gardening, as well as developing practical skills such as cooking, sewing, and cleaning. Relationships are important, so groupings often last for several years, facilitated by a process known as "looping".

Reggio Emilia Approach (Loris Malaguzzi)

The Reggio Emilia approach to early childhood education is based on over forty years of experience in the Reggio Emilia Municipal Infant/Toddler and Preschool Centers in Italy. Central to this approach is the view that children are competent and

capable.

It emphasizes children's symbolic languages in the context of a project-oriented curriculum. Learning is viewed as a journey; education is building relationships with people (both children and adults) and creating connections between ideas and the environment. Through this approach, adults help children understand the meaning of their experiences more completely by documenting children's work, making observations, and engaging in continuous teacher-child dialogue. The Reggio approach guides children's ideas with provocations, not predetermined curricula. Collaboration occurs on multiple levels, including parent participation, teacher discussions, and community engagement.

Within Reggio Emilia schools, great attention is given to the aesthetic and visual aspects of the classroom. The environment is considered the "third teacher." Teachers carefully organize the space for small and large group projects, as well as small, intimate areas for one, two, or three children. Documentation of children's work, plants, and collections that they have made during former outings is displayed at both children's and adults' eye level. Common space available to all children in the school includes dramatic play areas and worktables.

There is a center for gatherings called the atelier (art studio), where children from different classrooms can come together. The atelier in these schools provides children with the opportunity to explore and connect with a variety of media and materials. The studios are designed to give children time, information, inspiration, and materials so that they can effectively express their understanding through the "inborn inheritance of our universal language, the language that speaks with the sounds of the lips and the heart, the children's learning with their actions, their signs, and their eyes: those "hundred languages" that we know to be universal. There is an atelierista (artist) to support this process and instruct children in the arts.[6]

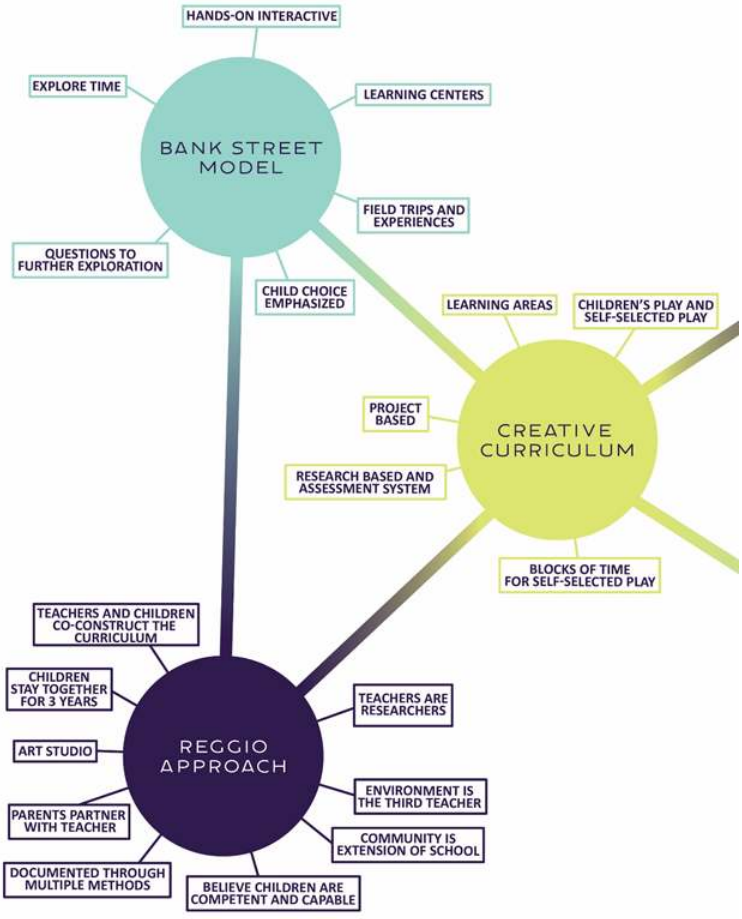

Figure 4.3: Curriculum models.[7]

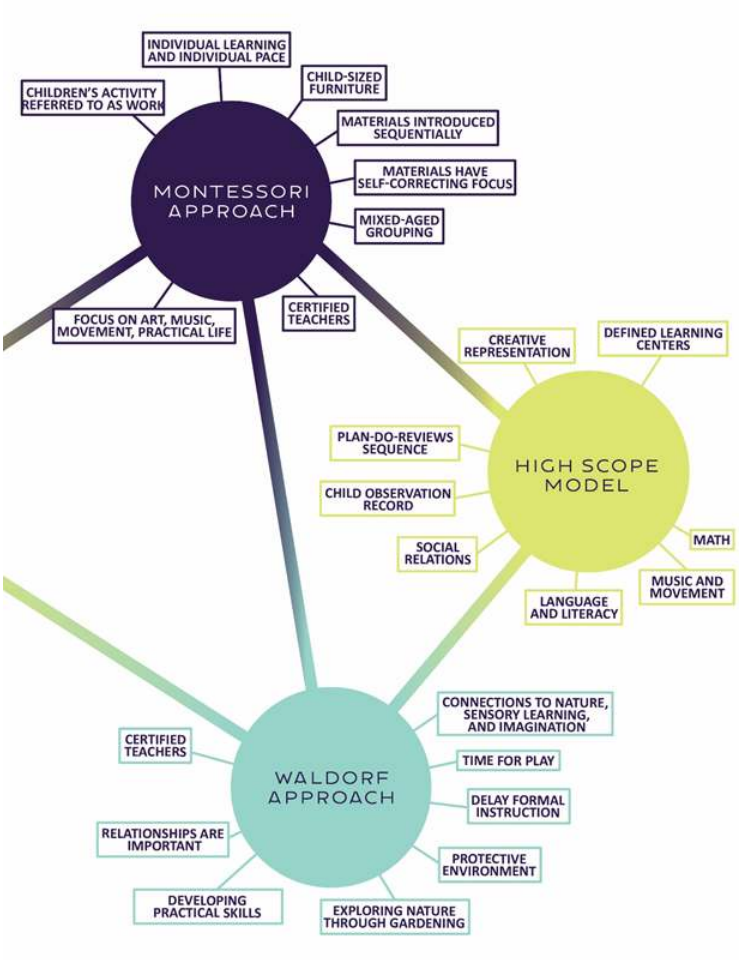

Figure 4.4: Curriculum models.[8]

Webbing

The Reggio Emilia Approach is an emergent curriculum. One method many early childhood educators use when planning emergent curriculum is curriculum webbing based on observed skills or interests. This method utilizes brainstorming to generate ideas and connections that build upon children's interests, thereby enhancing their developmental skills. Webbing can look like a "Spider's Web" or be organized in a list format.

Example:

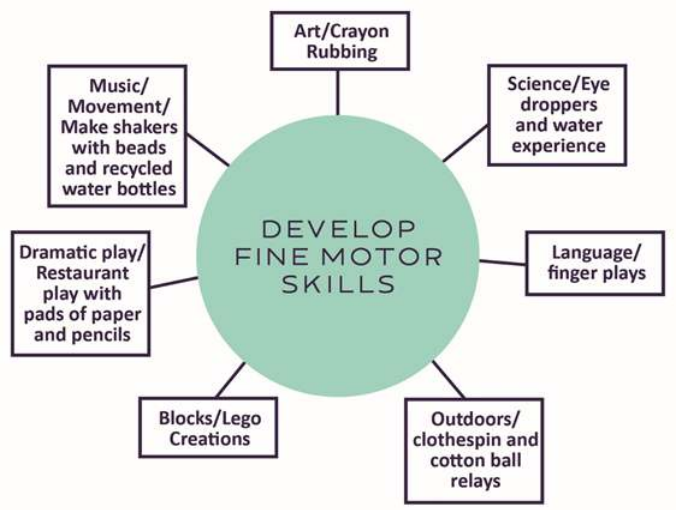

Figure 4.2: An example of webbing.[9]

Webbing can be completed by:

- An individual teacher
- A team of teachers
- Teachers and children
- Teachers, children, and families

Webbing provides endless planning opportunities as extensions continue, from observing the activities to following the skills and interests exhibited. As an example demonstrates, a web can begin with a skill to develop, but it can also be used in a thematic approach, such as transportation, friendships, animals, nature, etc. In our class, we will use the idea of "webbing" as we develop themes to be implemented in the preschool.

Project Approach

The Project Approach is an in-depth exploration of a topic that may be child- or teacher-initiated and involve an individual, a group of children, or the whole class. A project may be short-term or long-term depending on the children's interests. What differentiates the project approach from an inquiry-based approach is that, within the project approach, there is an emphasis on creating a specific outcome that may take the form of a spoken report, a multimedia presentation, a poster, a demonstration, or a display. The project approach provides opportunities for children to take agency of their own learning and represent this learning by constructing personally meaningful artifacts. If utilized effectively, possible characteristics may include: active, agentic, collaborative, explicit, learner-focused, responsive, scaffolded, playful, language-rich, and dialogic.[10]

In the project approach, adults and children investigate topics using a six-step process: Observation, Planning, Research, Exploration, Documentation, and Evaluation.

1. *Observation:* A teacher observes children engaging with each other or with materials and highlights ideas from the observations to explore further.
2. *Planning*: Teachers talk with children about the observation and brainstorm ideas about the topic and what to explore
3. *Research:* Teachers find resources related to the topic
4. *Explore:* Children engage with experiences set around the topic to create hypotheses, make predictions, and formulate questions
5. *Documentation*: Teachers write notes, create charts, and children draw observations and fill in charts as they explore topics/questions
6. *Evaluate:* Teachers and children can reflect on the hypotheses originally developed and compare their experiences to predictions. Evaluation is key in determining enhanced skills, what did or didn't, and why.

The benefits of a project approach are that young learners are directly involved in making decisions about the topic focus, research questions, investigation processes, and the selection of culminating activities. When young learners take an active role in decision-making, agency and engagement are promoted.

As young learners take ownership of their learning, they ‘feel increasingly competent and sense their own potential for learning so they develop feelings of confidence and self-esteem’ (Chard, 2001).[11]

References

[1] Gordon, A. M. & Browne, K. W. (2001) *Beginnings and Beyond, 8th edition*. Wadsworth, Cengage Learning. (pg. 364)

[2] The Creative Curriculum for Preschool, Fourth Edition by the U.S. Department of Education is in the public domain

[3] Montessori education: a review of the evidence base by Chloë Marshall is licensed under CC BY 4.0

[4] On the Unique Place of Art in Waldorf Education by Gilad Goldshmidt is licensed under CC BY 4.0

[5] Imagination, Waldorf, and critical literacies: Possibilities for transformative education in mainstream schools by Monica Shank is licensed under CC BY 2.0

[6] Reggio Emilia Theory and Application by One Community is licensed under CC BY 3.0

[7] Image by Ian Joslin is licensed under CC BY 4.0

[8] Image by Ian Joslin is licensed under CC BY 4.0

[9] Image by Ian Joslin is licensed under CC BY 4.0

[10] Age Appropriate Pedagogies Project by Hanstweb is licensed under CC BY

[11] Age Appropriate Pedagogies Project by Hanstweb is licensed under CC BY

4.4: The Thematic Approach

Note: You will be planning a thematic unit in class, and many details of thematic planning will be discussed within the assignment guidelines.

In a thematic approach, activities and materials are linked to a theme relevant to young children. This allows a group of children to be connected through the theme, even if they are at different learning levels. While themes revolve around a central idea, they allow for much individualization to meet children's needs.

Effective Themes

What makes a theme effective? If you did a quick internet search for themes for preschool classrooms, not all results would be appropriate or effective. For example, a beach theme sounds fun, but how relevant is it for children who do not live near a beach?

The following criteria should help in determining if a theme might be effective for young children:

1. **Relevance:** Is the theme age-appropriate? Is the theme tied to children's background and experiences? Does it build on children's interests? Does it help the children better understand the world around them? Does it meet the needs of a particular group of kids? I once created and implemented a theme about babies. This theme was relevant to the children at the time because they were all experiencing their families having babies.
2. **Hands-on Experiences**: Can the children explore the theme through real, hands-on experiences? What opportunities exist for children to discover and construct their own knowledge? This criterion always comes in handy when someone wants to implement a theme about space. What first-hand experience can I provide for a child with a space theme? I can provide some simulations, but young children need real experiences before they can make sense of a simulation.
3. **Resources**: What resources are available to support this theme? Are there children's books on the topic? Can you utilize the expertise of a parent, community member, or other relevant individuals? A great way to include families in children's learning experiences is to tap into their expertise. If you know what the children's families do in their work or hobbies, you might find a way to support children's learning and help families feel connected.

Basic Thematic Planning Process

1. Select an appropriate theme
2. Look for resources
3. Conduct basic research
4. Identify main concepts
5. Brainstorm activities, addressing the main concepts and learning domains
6. Plan activities
7. Implement theme
8. Evaluate the effectiveness of the theme and implementation

Questions

What benefits might a thematic approach have for children and teachers?

What are the drawbacks of using a thematic approach?

4.5: How It's All Connected

Young children's experiences at home and in their communities are a powerful source of connections. Teachers nurture children's appetites for learning and making meaning by building upon the knowledge children bring to the preschool setting. For example, children may come to preschool with knowledge of many family stories. Their teachers may have observed that the children used the stories in the dramatic play area. However, the children did not seem to be aware that their stories could be written down and then read by someone else. Teachers can partner with families to create a story dictation study in such a case. In planning an exploration, the teachers and family members may ask:

- Would the children be interested in seeing their family stories written down, and would such experiences help them increase their awareness of print in the world around them?
- What strategies or adaptations might help a nonverbal child become engaged in family storytelling?
- Would children in the group who are English learners make the connection to print more easily if they can dictate their stories in their home language to family members or community volunteers?
- What topics may be interesting and engaging for children to dictate? What questions would help individual children, English learners, or children with diverse cultural experiences get started with dictation?
- How might the activity be adapted to accommodate children with disabilities or other special needs?
- Would asking children about how their family helps them prepare for preschool encourage them to define a meaningful experience?
- Would a child who likes to draw pictures have an easy time dictating a story about a drawing?

Teachers can explore these questions and see where the exploration leads.[1]

References

[1] California Preschool Curriculum Framework, Volume 1 by the California Department of Education is used with permission (pg. 23-24)

CHAPTER OVERVIEW

5: The Basics of Effective Planning

Learning Objectives

By the end of the chapter, you should be able to

- Explain how observation is the basis for curriculum planning
- Connecting reflection to the planning curriculum
- Write effective lesson plans for use in an early childhood program

5.1: Introduction to Planning for Preschoolers

Learning Objectives

By the end of this introduction, you should be able to:

- Summarize the developmental characteristics of preschoolers
- Describe the purpose of early learning standards
- Identify the domains that we categorize curriculum into to plan and implement

What Preschoolers are Like

To plan for children, it is vital to start with one aspect of developmentally appropriate practice, which relates to the developmental characteristics of children based on their age. Here are some representations of what children are like at each age in the preschool years.

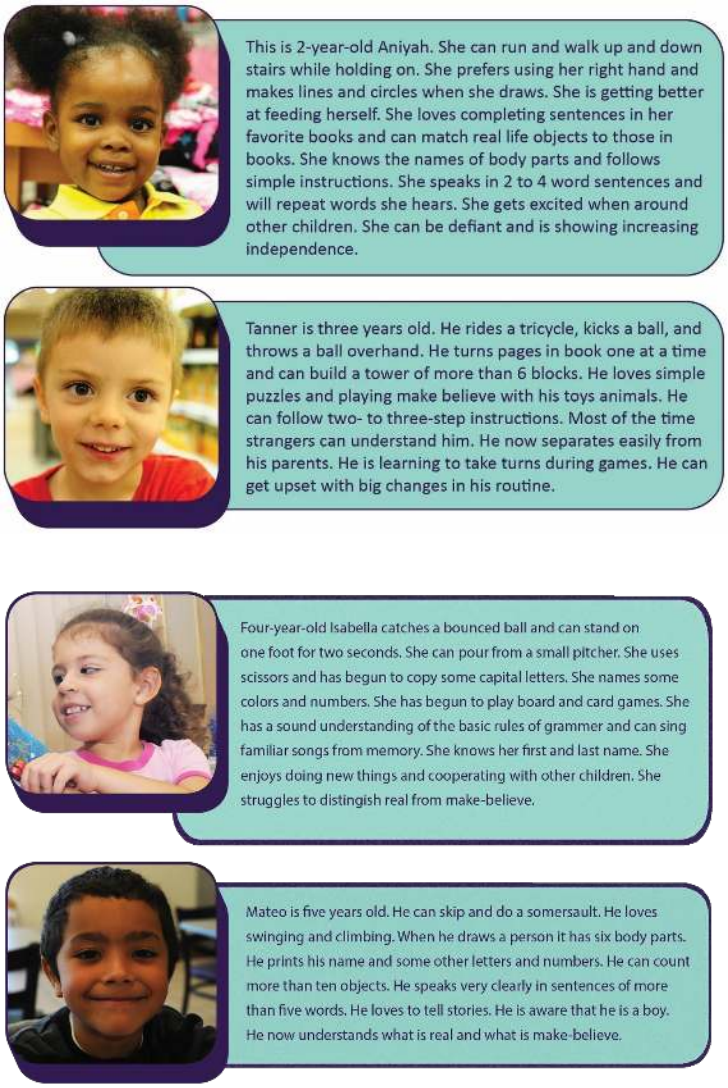

Figure **5.1.1**: What Preschoolers are Like.

You will notice that consideration for the other two aspects of developmentally appropriate practice, which are also critical to our work, understanding individual children and seeing children in the context of their families and larger culture, are included

throughout each domain-based chapter.

Kansas Early Learning Standards

The Kansas Early Learning Standards (KELS) outline competencies—knowledge and skills—that most children can be expected to demonstrate in a high-quality program at various ages. In other words, the standards serve as destination points of learning that, with appropriate support, children move toward and often reach in various early childhood programs.

The standards are designed to promote understanding of young children's development of knowledge and skills and to help when considering appropriate ways to support children's learning. In essence, the standards serve as a cornerstone for educating practitioners about children's learning and development. The standards are designed to be used in combination with other sources of information: formal educational course work on early learning and development, information on individual differences, including those related to disabilities, knowledge about the contribution of cultural and linguistic experiences to early development, and English-language development, insights from children's families, and the practical experiences of early childhood teachers and program directors.

The support needed to attain the competencies varies from child to child. Many children learn simply by participating in high-quality preschool programs. Such programs offer children environments and experiences that encourage active, playful exploration and experimentation. With play as an integral part of the curriculum, high-quality programs include purposeful teaching to help children gain knowledge and skills.

Two major considerations underlie the "how-tos" of teaching. First, teachers can effectively foster early learning by thoughtfully considering the learning standards as they plan environments and activities. Second, during every step in the planning for young children's learning, teachers have an opportunity to tap into the prominent role of play. Teachers can best support young children by both encouraging the rich learning that occurs in children's self-initiated play and introducing purposeful instructional activities that engage preschoolers in learning playfully.

Professional development is a key component in early care and education, helping to foster children's learning. The standards can become a unifying element for both teacher candidates and practicing professionals. Early childhood program directors and teachers can use the standards to facilitate curriculum planning and implementation. The standards are designed to help teachers be intentional and focus their efforts on the knowledge and skills that all young children need to acquire for success in various early childhood settings—and throughout life.

Figure **5.1.3**: Some of the most engaging play is sensory-based. What might these children be learning here?

Note: Other Learning Standards

The Kansas Early Learning Standards are not the only standards or competencies that an early childhood professional might use in their work. Many states have standards linked to their state's department of education. Commercial curriculum packages also include standards that an early childhood professional might use. It is impossible to predict which set of standards might be helpful to you in your future career. Therefore, we will explore a few sets of standards in our class to highlight differences in structure and terminology, but will exclusively use the KELS in our planning and instruction.

Dividing Development and Curriculum Into Domains

We know that children certainly do not develop in isolated domains (as the images earlier in this introduction might suggest). Their development is holistic, and the domains are interrelated. What happens in one domain or area influences and/or is influenced by what happens in other domains or areas. We also recognize that learning is an integrated process and that the curriculum should

reflect this. Children do not just learn about one curriculum area or domain. A spontaneous or planned experience will touch on numerous curriculum areas.

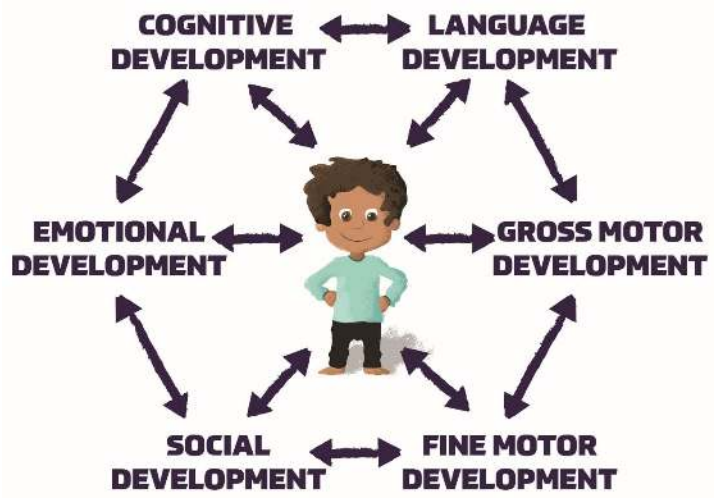

Figure **5.1.5**: Domains of Development

But to make these domains easier to explore, we study them separately, while keeping in mind that they are interconnected and interrelated.

The Kansas Early Learning Standards are divided into seven domains. Our book will feature these as eight separate chapters. This table summarizes the relationship between these.

Table **5.1.1**: Curriculum Domains

Kansas Early Learning Standards	Textbook Chapter
Approaches to Learning (ATL)	(not included)
Physical Health and Development (PHD)	Physical Development Health and Safety
Social-Emotional Development (SED)	Social and Emotional Development
Communication and Literacy Skill Development (CL)	Language and Literacy
Mathematics (M)	Mathematics
Science (S)	Science
Social Studies (SS)	History and Social Science
Creative Arts (CA)	Creative Arts

5.2: Developmental Direction

In early childhood, development generally proceeds in predictable directions, moving from simpler to more complex skills and behaviors. This includes developing from the head down, the body's center outwards, and from concrete to symbolic thinking. When planning, it is essential to consider the developmental direction to ensure that your lessons and activities align with the children's needs.

In class, we will go over developmental direction in more detail. For now, here are brief explanations of each developmental direction:

- **Known to Unknown**: Children build new knowledge by connecting it to what they already understand. Learning begins with familiar experiences and gradually introduces new concepts.
- **Self to Other**: Young children start by focusing on their own needs and gradually develop the ability to understand and relate to others' perspectives and feelings.
- **Simple to Complex**: Learning begins with basic concepts and skills, which provide a foundation for understanding more complex ideas and processes over time.
- **Exploratory to Goal-Directed**: Young children begin learning through open-ended play and exploration, later progressing to more purposeful and structured tasks with specific outcomes.
- **Concrete to Abstract**: Early learning is grounded in hands-on, sensory experiences, and over time, children develop the ability to think about ideas that are not directly observable.
- **Whole to Part**: Children first perceive and understand objects or ideas as whole entities before learning to recognize and analyze their individual parts.
- **Enactive to Symbolic Representation**: Children first express understanding through physical actions (enactive), then through visual images (iconic), and eventually through language and symbols (symbolic).
- **Less Accurate to More Accurate**: Children’s early ideas are often imprecise or based on misconceptions, but with experience and guidance, their understanding becomes more accurate and refined.

5.3: Contexts for Written Plans

Early childhood teachers sometimes write plans for an individual child, a small group of children, or the entire group of children. [1]

Individual Plans

One-on-one moments of teaching and learning play a major role in early childhood settings. Early childhood teaching requires teachers to be present and guide individual children when needed, adapting their instruction to support each child's unique learning needs. 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 create a plan to watch for opportunities to be a "social bridge" of support for the child who tends to be cautious, helping that child join in 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.

Vignettes

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 with her hand and another reassuring smile. "You could let Martin know you want to help. Tell Martin, 'I can collect the tickets.'' 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 an individualized curriculum is a component of early childhood teaching, the teacher–child ratio must be kept sufficiently low to allow the teacher to know each child in depth as they develop and learn. In infant/toddler programs, assigning a primary care teacher who stays with three or four children throughout infancy enables teachers to get to know each child well and tailor individualized plans to support their 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 tailored to the child's specific needs. 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 enables a teacher to track a child's individual needs, maintain a record of planned support for those needs, and document progress in learning. Such individualized planning is not posted, unlike the plans designed for groups of children; however, the plans included 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 is aware of temperamental differences and knows how to take on the role of a "social bridge" to help the child join in with 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 observes how this social context influences the child's ability to express and manage emotions, understand and use language, collaborate with others, and solve problems. Individualized planning applies to all areas of learning, highlighting those concepts and skills that children would otherwise miss the opportunity to develop if teachers created plans only for the large group of children.

Another of the overarching principles from the California Preschool Curriculum Framework states that individualized learning is inclusive of all children. Of course, some children have individual plans developed by specialists to address the children's developmental needs. For children under the age of three, these plans are referred to as Individual Family Service Plans (IFSPs). For children over the age of 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).[2]

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 often posted in a predictable location and referenced throughout the day or the week by teachers and families. These group plans may be daily or weekly. 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:

Vignettes

During one of their discussions about the children's interest in snails, the teachers decided to conduct a 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 a small group collaborated over several days to transform a glass terrarium into a habitat for snails, complete with soil, plants, and sufficient space for other small creatures.

Planning for a Large Group Context:

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 week and makes the learning plan 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 children to notice or count who is present and who is absent, or setting up an outdoor painting area. These activities eventually become routines.

To build on the children's interest in snails, the teachers announced 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 accompany easel activities, which usually occur each day. These routine experiences do not need to be written into each daily plan. Instead, 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. 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
- A 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[3]

Note

You will notice in our preschool program that we include a weekly overview in the binder, which we refer to as "the book," that highlights the different plans for meetings, small groups, and adding materials to learning centers. The weekly overview is followed by plans for each large and small group activity scheduled for the week.

Pause to Reflect

"Being in the Moment with Children"

Meaningful experiences are also created spontaneously in the moment with children. Sometimes teachers must act in the moment, without a pre-existing plan, to foster children's ideas.

For example, I was observing a child building a structure with blocks. After observing the child and discussing his work with him, the child said to me, "I need more stuff for my project!" So, I simply asked him what he needed and how I could assist him. He listed some items: glue, popsicle sticks, pipe cleaners, tape, and cardboard. We went on a mission together and gathered all his materials, which he used to build with for quite some time. He was proud and satisfied with his work, which he took home.

There are countless ways that teachers can be present with children and foster their ideas without a specific plan. Plans often don't go the way we expect. When we are flexible, we can honor the children's decisions and ideas.

Reflect

Why is it important to follow the child's lead in their play? How can teachers reflect on these spontaneous experiences and document the learning that occurred for the children involved?[4]

Family Focus

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 can 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 underway, the teachers in the four-year-olds' room wondered whether they might tap into the life experiences of the families for stories related to fresh fruits and vegetables from the garden. The teachers decided to display a photo of the children's cucumber-tasting experiences near the classroom's entrance. They added a note and a clipboard. The note was an invitation for families whose home language was not English to write down in their home language the name for a 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.[5]

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 still find ways to modify the planned activities to respond to the unique cultural and family contexts of their program and their specific group of children. For example, investigating fresh foods from the garden could be implemented within a curriculum that includes a theme about plants or spring.[6]

Connecting Families to Curriculum Planning

Documentation is an invitation to families. Family and community partnerships create meaningful connections. Documentation not only guides curriculum planning and provides evidence of children's learning, but it also offers an easy and effective way to engage families in planning for their 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 illustrates how teachers use documentation to invite families to join them in the work:[7]

References

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5.4: Planning for Small and Large Groups

In early childhood classrooms, teachers have many choices when planning. One choice often made early in the planning process is whether an activity or lesson is better suited for a small or large group.

Planning for Small Groups

What is a Small Group?

What comes to mind when you hear the term 'small group'? Small group sizes will vary depending on the total number of participants. A small group may consist of four children when the total group size is twelve, or seven children when the total group size is twenty.

Benefits of Small Group Lessons/Activities

- increased focus and attention
- relationship building between adult/child and child/child
- more opportunities for individualization
- easier to manage a smaller group
- children can be grouped according to interests, needs, strengths, etc.

Planning for Large Groups

What is a Large Group?

A large group typically includes all the children from a program or classroom. Children should have opportunities for whole-group activities multiple times a day to provide variety in a daily schedule. Not all activities can be carried out in a large group.

Typical Large Group Experiences

- greetings/welcome
- planning
- reading books or storytelling
- music
- movement activities
- group games
- receiving instructions
- mini-lessons
- guest speakers or visitors
- sharing
- class meetings
- reflection
- problem-solving

Note

In FCS 490, we will explore the options for small and large group instruction in greater detail.

5.5: Common Activities

Many types of activities are commonly used when planning activities for young children. It is crucial to strike a balance between child-initiated and teacher-directed activities. Ideally, there should be more child-initiated activities available. Activities planned for children will often target skills from multiple learning domains. The following examples are listed from more child-initiated to more teacher-directed activities.

- **Sensory Exploration**: Activities that engage the senses to help children investigate materials, regulate emotions, and build cognitive and language skills. Children explore a “sensory box” filled with textured objects, describing what they feel without looking.
- **Exploratory Play:** Children choose materials and engage in self-directed play, discovering properties and relationships through trial and error. This type of play fosters curiosity, independence, and intrinsic motivation. A child explores a water table with cups, funnels, and boats, learning about volume and buoyancy without specific teacher direction.
- **Dramatic Play**: Children engage in pretend scenarios that support role-playing, empathy, communication, and storytelling. In a pretend doctor’s office, children take turns being the doctor, patient, and nurse, using props to create a realistic play experience.
- **Hands-On Manipulatives**: Using tangible materials to explore concepts, especially math, science, and spatial reasoning. Children use pattern blocks to create and extend a repeating pattern.
- **Open-Ended Art**: Children create with no set outcome, which supports creative expression and process-focused learning. Given paper, glue, and recyclables, children build their own robots using their imagination and problem-solving skills.
- **Outdoor and Nature-Based Learning**: Children learn through physical interaction with their environment, fostering exploration, sensory awareness, and gross motor development. Children collect sticks and leaves to build a “fairy house” outdoors, applying creativity and spatial awareness.
- **Music and Movement**: Activities that use rhythm, movement, and song to build motor skills, auditory processing, and expressive abilities. Children jump and move to a drum beat, stopping and starting with cues, developing coordination and listening skills.
- **Scientific Inquiry/Experimentation**: Hands-on learning experiences where children form hypotheses, test ideas, and observe results. Children hypothesize whether an object will sink or float, test their ideas in water, and discuss their findings.
- **Problem-Solving Activities**: Children are challenged and work individually or collaboratively to find solutions. Builds cognitive flexibility and persistence. “How can we build a bridge between these two chairs using only blocks and cardboard?” Children test and revise their ideas.
- **Storytelling and Shared Reading**: Literacy-rich experiences where children listen, respond, and interact with stories to build vocabulary and narrative understanding. During a read-aloud, the teacher pauses to ask, “What might happen next?” and encourages children to retell the story afterward.
- **Guided Discovery**: The teacher provides structured opportunities for children to explore, offering intentional guidance through questioning or prompting. Encourages active engagement and critical thinking. A teacher asks, “What do you notice when we mix red and blue paint?” and lets the children experiment to discover the properties of color mixing.
- **Discussions**: Verbal exchanges between children and/or the teacher that develop reasoning, reflection, and communication skills. After a group activity, children share what worked, what was hard, and what they would do differently next time.
- **Demonstration**: The teacher models a concept or skill, allowing children to observe and prepare them to try it themselves. A teacher demonstrates how to properly use scissors properly, showing safe technique and grip before children try cutting paper.
- **Direct Instruction**: Teacher-led, explicit teaching of a concept or skill. Often brief, used when clarity and structure are needed. A teacher introduces the letter “M” by showing how it’s written, its sound, and examples of words that start with it.

5.6: Using the PSU Preschool Lesson Plan

Please use this guide to help you write lesson plans using the PSU preschool lesson plan template. A blank, editable template is provided for you in Canvas.

Teacher: As you write lesson plans in FCS 490, you will always use your name as the teacher.

Date: For our class, the date isn't always important. When planning lessons for your preschool practicum, include the date you are assigned to teach the lesson. For lesson plans that are included in your final theme project, you can leave the date section blank, as you won't know when they will be taught in the coming semesters.

Activity Name: This is the section where you will give your activity a name. It's essential to use concise, descriptive names rather than whimsical ones.

Domain: For the several lesson plans you will write, you will be assigned the domain in which you will design your activities. For your theme project, select the domain in which you think the activity fits best. Many activities target skills in more than one domain; in those situations, it is acceptable to list more than one domain in this section.

College & Career Ready Standards: This section is sometimes completed early in the lesson planning process, while at other times it is completed near the end of the process. For each lesson plan, you should include at least one, but no more than three, Kansas Early Learning Standards (KELS) that fit the focus of your lesson. It is recommended to cut and paste each standard you wish to use in its entirety. As you plan your activity, ensure that the chosen KELS align with the domain and are addressed in the lesson.

Materials: List the specific materials that are required for the activity. This list should help you gather all the items needed to teach the lesson. The best way to ensure you have included everything is to imagine whether someone else could carry out your plan with the items you listed. If you mention an item or material in another section of the lesson plan, it should also be included in the materials section.

Location: In this section, identify the best location for you to conduct the lesson. Again, be specific and consider all your options — carpeted large group rug, round tables, rectangular tables, specific learning centers, outdoor areas, etc.

Lesson Introduction: In this section, you will describe how you plan to motivate the children, assess or review their prior knowledge, and introduce the lesson to them. This might be a statement, a question, a book, or another visual. Be creative in how you attract the children's interest and pique their curiosity.

Main Activity: Describe the activity in detail as a step-by-step narrative that includes how the children will participate in the lesson. The main activity is where you want to include any new information, terms, and facts. Be sure to use the materials listed previously. When planning, some people begin with the standards, while others start with the activity. If, at this point in planning, you have already chosen the KELS addressed in your activity, ensure that the activity allows you to assess how the children are meeting the standards selected for the lesson. When planning, some begin with the main activity and build the rest of the plan around it. This means you might describe the activity and then choose the KELS that will be addressed in it.

Closure: After the main activity, bring the lesson to a close by reviewing it with the children. The closure may include your assessment of the children's attainment of the standards listed. Specific questions can be created to help you assess children's understanding of concepts from the lesson, providing some review and allowing you to evaluate their learning.

Transition: In this section, describe how you will transition the children to the next activity. Ideally, your transition will tie into your lesson and provide some review or opportunities for the children to apply what they've learned.

Questions: In your lesson, you should plan to ask at least three relevant questions. Ask questions that will help you determine if the children have met your goals. Open-ended questions will likely help you ascertain what the children understand. You can list all questions for the lesson in this section or include them in the section where they will be used, such as the introduction or closure. If you include your questions throughout your lesson, please highlight them.

Individualization: This section is divided into three parts: specific children, simplifications, and extensions. First, describe any modifications needed for specific children who require adjustments to participate or succeed in the lesson. For example, a child

who needs more guidance may be paired with another child or an adult. A child who dislikes getting their hands messy may be given a paintbrush during a fingerprinting activity. It's possible that some plans will not need modifications for specific children.

For each lesson plan, you will need to include simplifications and extensions. A simplification might include describing how you would modify the activity for a younger age group than the one for whom the lesson is planned. You may also want to consider modifying a lesson if children are unable to participate because they haven't yet acquired a particular skill. For example, children may tear paper for an art project instead of using scissors, or items may be pre-cut for those who are not yet able to use scissors. An extension should describe how to make the activity more challenging or suggest an activity to follow that extends on the original lesson. A straightforward way to come up with an extension is to consider the next logical step related to your activity. For example, if children are planting seeds to watch the life cycle of a plant, a natural extension would be for them to observe and record changes in their plants each week in a journal or classroom chart.

Assessment: In this section, you will include each of the KELS that you chose for this lesson and explain how you will know each has been met. You might indicate that you will know the standard has been met by describing what you might observe or how children might answer questions. During a lesson, children may produce evidence that helps you determine if standards were met. For example, the children might identify different body parts by including them in a self-portrait. When writing this section of the plan, if you are unable to determine how to assess whether the standard has been met, you may need to reevaluate whether the chosen standards are adequately addressed in the lesson.

CHAPTER OVERVIEW

6: Language and Literacy

Learning Objectives

By the end of the chapter, you should be able to:

- Discuss the importance of language and literacy development for children's overall well-being and learning
- Summarize the foundations in language and literacy that high-quality early childhood programs support
- Identify ways for educators to support children's listening and speaking, reading, and writing
- Describe how the environment should contribute to children's language and literacy
- Summarize ways to engage families in supporting their children's language and literacy

6.1: Introduction

Language is one of the most crucial tools that children acquire. It is essential for cognitive development, reading achievement, overall school performance, and social relations. Language allows people to share a society's achievements and history, and the deepest emotions. Language includes conventional sounds, gestures, and visual symbols, such as writing, that are used separately and jointly for communication.

The human brain is "hard-wired" to learn language, a process that is quite similar in all children. Yet children differ greatly in when they hit milestones such as when they use their first words, start combining words into sentences, and use complex sentence forms to communicate meaning. Though children begin to develop language and literacy at birth, with nonverbal cues such as eye gaze and gestures, they arrive at preschool ready to communicate with symbols: words, signs, and pictures.

Children's early language and literacy environments often vary, with the amount and kind of experiences differing across families. Some children experience more conversations and book reading than other children, and more than one language. Some children see print primarily in the environment (e.g., street signs, store coupons, labels on containers). Other children engage with print in many contexts, including sharing and reading books regularly.

Figure 8.1: These children are engaged with these books. Their prior experience with books and being read to helps them understand how books are used.[1]

Some children have opportunities to scribble, draw, and write with crayons and markers long before they come to preschool, while others have few of these emergent writing opportunities. Teachers should encourage all preschoolers to join activities that will expand their language and literacy skills. Each child's family should be invited to participate in this exciting process.

The following components constitute oral language:

Figure 8.1: Parts of Oral and Sign Language System[2]

- Phonology—the sound system of language, such as noticing that hat, cat, and mat differ by only a single initial sound
- Semantics—the meaning conveyed by words, phrases, and sentences
- Syntax or grammar—the rules that govern how sentences are put together
- Morphology—the units of meaning within a language, also called morphemes, such as *--ed* for past tense (e.g., walked) and s for plural (e.g., dogs)
- Vocabulary—the words in a given language
- Pragmatics—the rules of language used in social contexts (e.g., one would talk differently to the president than to one's mother). Pragmatics includes gathering information, requesting, and communicating. Good conversations depend on staying on the topic and turn-taking

These components are used in the auditory (i.e., listening, speaking) and visual (i.e., sign, reading, writing) modalities. Language allows children to express their feelings and needs, acknowledge the feelings and needs of others, and talk about emotions.

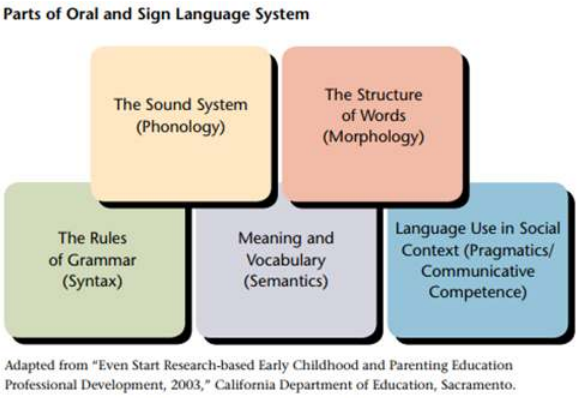

Figure 8.2: Language allows you to express yourself, understand others, and work together. [3]

Preschool is also an exciting time for developing written language and promoting an interest in reading. Suppose the social and physical environments in preschool and the home support the development of reading and written language. In that case, children will be more inclined to hear stories from books and use them to learn more about things that interest them. They will also be inclined to create marks that approximate letters and learn how to write their names. They will also enjoy playing with the sounds of language. These experiences lay the foundation for the conventional reading and writing that come later.[4]

Research Highlight

The principles and curricular suggestions presented in this chapter are grounded in 40 years of scientific research on language acquisition and literacy development. Here are just a few of the amazing discoveries that form the background of this chapter. The following findings come from this vast body of research:

- Even in infancy, children are active learners who use data from the language they hear to grasp patterns. Children learning language behave as young mathematicians who respond to patterns and calculate, for instance, that in English –ed generally comes at the end of verbs to indicate the past tense (e.g., he walked or it dropped).
- When young children hear language around them, they are accumulating the data they need to use their skills and to grasp the features of their native language. In addition, the very practice of reading with children (e.g., starting at the front of a book and moving page by page to the end) teaches the patterns of book structure and handling and the general ways that print works (e.g., English is read from the left to right and top to bottom on a page). When book reading is accompanied by explicit comments (e.g., "This is the title of the book: Whistle for Willie") and actions (e.g., underlining the title as it is read), children learn even more about the features of books and how print works.
- Children's storytelling skills and vocabulary development are supported through shared reading experiences. Stories have a predictable structure: setting, characters, a problem, and its resolution. As children hear stories, they learn this basic structure and begin to use this knowledge to shape the stories they create. Children also learn the meaning of new words from listening to multiple readings of good stories, "friendly explanations of words" (explanations with wording and examples within the preschool child's grasp rather than a more formal definition from a dictionary) offered by teachers and parents as they read stories to children, and from engagement with adults in discussions during story reading.[5]

Sources:

P. W. Jusczyk, The Discovery of Spoken Language (Cambridge, MA: Massachusetts Institute of Technology Press, 1997).

G. F. Marcus and others, "Overregularization in Language Acquisition," *Monographs of the Society for Research in Child Development* 57, no. 4 (1992), Serial No. 228.

L. M. Justice and H. K. Ezell, "Print Referencing: An Emergent Literacy Enhancement Strategy and Its Clinical Applications," *Language, Speech, and Hearing Services in Schools* 35, no. 2 (2004): 185–93.

N. L. Stein, "The Development of Children's Storytelling Skill," in *Child Language: A Reader*, ed. M. Franklin and S. S. Barten (New York: Oxford University Press, 1988), 282–95.

W. B. Elley, "Vocabulary Acquisition From Listening to Stories," *Reading Research Quarterly* 24 (1989): 174–87.

I. L. Beck, M. G. McKeown, and L. Kucan, *Bringing Words to Life: Robust Vocabulary Instruction* (New York: Guilford Press, 2002).

S. Q. Cabell and others, “Strategic and Intentional Shared Storybook Reading,” in *Achieving Excellence in Preschool Literacy Instruction*, ed. L. M. Justice and C. Vukelich (New York: Guilford Press, 2008), 198–220.

G. W. Whitehurst and others, “Accelerating Language Development Through Picture Book Reading,” *Developmental Psychology* 24, no. 4 (1988): 552–59.

National Center for Family Literacy, *Developing Early Literacy: Report of the National Early Literacy Panel* (Jessup, MD: National Institute for Literacy, 2008).

References

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6.2: Guiding Principles for Supporting Language and Literacy

Teachers and caregivers must be responsive to young children's attempts at communication and language by focusing on meaningful things for them and their families. No single component of any curriculum will have a greater impact on a preschooler's development than language.

Figure 8.3: Listening to children's messages (and not correcting their errors) is vital to their language development.[1]

Here are some guiding principles on how to support children's language and emerging literacy:

- Language and literacy work together. They often occur in the same context. Well-developed oral language contributes to later success with more formal reading and writing.
- The more language children hear, the more their language grows.
- Providing children with rich models of speech, communication, reading, and writing is essential.
- Opportunities to learn language and literacy are everywhere.
- Children learn best from engaging, informative, and enjoyable experiences. These include silly songs, poems with surprise endings, and interesting and informative books.
- Celebrate and support the individual. Temperament, prior experience, and disabilities affect children's starting points in language and literacy.
- Connect with families. Providing them with materials and strategies to support their children's language and literacy development benefits children's learning.
- Create a culturally sensitive environment. Some children have been encouraged to speak up more than others.
- Encourage children to use language to negotiate with other children, ask for what they want, and express their emotions.
- Create numerous opportunities for children to engage in conversation. Ask open-ended questions and model engaging in conversational back-and-forth.
- Make thoughts more explicit to children by thinking out loud.
- Support curiosity and confidence. Children should freely use "Why? and "How come?"
- Create well-organized, literacy-rich environments, both indoors and outdoors.
- Observe how children engage with language and literacy to meet each child's needs.[2]

References

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6.3: Environmental Factors in Supporting Language and Literacy

Figure 8.4: This large-group experience effectively engages language.[1]

The arrangement of the learning environment affects how children learn to talk, read, and write. An environment that fosters language development, two-way communication, and literacy skills provides rich curriculum content. The daily schedule accommodates a variety of groupings (e.g., large groups, small groups, and individuals), and the learning materials fascinate children. Children learn more when adults model language and literacy and provide playful, purposeful instruction. Play spaces with literacy props (e.g., signs, lists) allow children to congregate and to make choices that foster rich language and literacy experiences.

- Create time in the daily routine for adult-child and child-child interactions.
- Have space and time for large-group experiences
- Create spaces and times for children to gather in small groups
- Provide a space to display family-related items; consider how to add text to those displays
- Organize your classroom into centers or interest areas to create clear spaces for children to engage and collaborate (and communicate), including
  - A dramatic play area
  - A block area
  - An art area
  - A writing area
  - A cozy library or book area
  - A science area
  - A game area
  - A math area
- Choose materials for small- and large-group times that the children will be interested in and use them with intention
- Create a learning environment to fascinate children and prompt conversations
- Extend the classroom beyond its walls; being outdoors, going on walks, and taking field trips are all great for promoting conversation
- Be flexible in your environment; allow children to expand their ideas to new areas[2]

Figure 8.5: In this image, you can see the reading area (on the left) and the writing area (on the right).[3]

Pause to Reflect

How might the centers just listed each support language *and* literacy?

Learning English as a Second Language

In California, as many as half of the children will be identified as English learners upon kindergarten entry. Their home languages include Spanish, Vietnamese, Cantonese, Hmong, Tagalog, Korean, and several other languages.

In general, the development of a second language follows these predictable stages

Stage	Description of Stage of Second Language Development
1st stage	The child uses their home language to try to communicate
2nd stage	The child figures out that it is not successful to use the home language, so they pass through a period of observation and listening
3rd stage	The child attempts to use new language in a more abbreviated form through the use of one or two-word sentences
4th stage	The child begins to use more elaborate phrases and short sentences to communicate in the new language.

While some express concern that learning more than one language is confusing or delays children's development, research has not found any negative effects of bilingualism. Gigi Luk, an associate professor at Harvard's Graduate School of Education, says, "Bilingualism is an experience that shapes our brain for a lifetime." There are many potential benefits to knowing more than one language, including: increased ability to pay attention, better reading of social cues, better reading ability, better school performance and engagement, increased comfort with diversity and different cultures, and even protection from age-related dementia[4] It's important for educators to support and advocate for the maintenance of children's home languages for both the benefits mentioned here but also because,[5] "[t]he child's first language is critical to his or her identity. Maintaining this language helps the child value their culture and heritage, which contributes to a positive self-concept.[6]

Children who are English language learners bring a wealth of abilities and knowledge, as well as varied cultural backgrounds, to early childhood settings. English learners also require curricular adaptations to make the most of their abilities while they progress toward full English proficiency. The high-quality early childhood practices described in the other domains will also benefit preschool children who are English learners; however, they may not be sufficient.[7]

There are many resources available to support teachers of children who are English Language Learners.

References

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[2] The California Preschool Curriculum Framework, Volume 1 by the California Department of Education is used with permission

[3] Figure 8.5 by Community Playthings is used with permission

[4] Kamenetz, A. (2016). 6 Potential Brain Benefits Of Bilingual Education. Retrieved from National Public Radio.

[5] Content by Jennifer Paris is licensed by CC-BY-4.0

[6] IDRA. (2000). Why is it Important to Maintain the Native Language? Retrieved from Intercultrual Development Research Association (IDRA)

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6.4: Introducing the Foundations

The preschool learning foundations for language and literacy are organized into three broad categories or strands

listening and speaking

reading

writing[1]

Refer to the Communication and Literacy content area in the Kansas Early Learning Standards for specific indicators of how children of various ages meet the benchmarks and standards. The structure of the KELS for the area of communication and literacy is as follows:

- Speaking and Listening: conversation and comprehension, expressive language
- Language: conventions of language, vocabulary acquisition, and use
- Literature: identifying and finding meaning, details and ideas from literature, structure and format, integration of knowledge and ideas, range of reading and level of text complexity
- Foundational Reading Skills: print concepts, phonological awareness, fluency,
- Writing (Kansas State Department of Education, 2024).

Supporting Listening and Speaking

Language takes place all around us—in social interactions between teachers and children, in classroom management, in play between children, and in instructional activities. For example, when children learn mathematics and science, they do so through language and meaningful, multisensory experiences.

Figure 8.5: This hands-on math activity includes a language-rich interaction.[2]

Language also enhances or limits children's ability to choose playmates and join in games on the playground. The foundations for listening and speaking include:

Language use and conventions focus on how children use their language for various purposes, including learning how to participate in short conversations.

Teachers can support children's development of the listening and speaking foundations with the following:

- Set aside time for children to discuss and share their ideas.
- Acknowledge their contributions by making eye contact, using their names, restating their talk, providing an explanation when they ask a question, and building on what they say.
- Engage in "getting to know you" conversations.
- Model the use of language conventions and encourage children to do the same.
- Build on preschool children's own experiences by asking children to recount simple daily experiences.
- Use dramatic play and co-construct stories.
- Give story stems.
- Notice where children look and then discuss the things that are the focus of their attention and action, using interesting and rich vocabulary.
- Narrate what you are doing.
- Use new vocabulary in natural conversations.

- Play language games.
- Ask children to tell you about their artwork and other creations.
- Talk one-on-one with children.
- Know individual children and their families (especially important for children whose home language is not English)[3]

Vignette

It is Lara's turn to share a special story from home. Lara, who is beginning to use an assistive technology communication device, had some key words added to her device that enable her to share. As Mr. Tony holds up the pictures, she pushes the button that labels the picture. Mr. Tony expands the label by saying, "Tango. This is your new dog, Tango." Lara beams as the children get excited. "I got a dog like that!" Emilio says, "He is black too." Mr. Tony holds up another picture and asks, "What is Tango doing in this picture, Lara?

In response to the construction outside their classroom, the room is filled with activity as children use their plastic hammers, wrenches, tool belts, and benches. The planned curriculum includes a unit on construction. Outside the window, the children can see the cranes move and the workers in hard hats. They hear the sound of a hammer against a nail. This week, the teacher reads stories about construction equipment to the class and information books about how tall buildings are made. The construction outside allows Ms. Vase to expose children to the names of common and even not-so-common tools. Ms. Vase sent home a one-page newsletter in the languages of the families represented in her classroom, informing parents about the Construction Unit and the vocabulary children are learning. She asked if any parents who are builders or carpenters would like to come to class to share their experiences.[4]

Pause to Reflect

How do you find yourself naturally engaging with others through conversation? What do you already do that will translate well into supporting children's listening and speaking? What might you want to change or add to grow your skills in supporting their ability to speak and listen effectively?

Supporting Reading

Reading billboards effortlessly on a car ride or making a shopping list involves literacy skills. Literacy includes both reading and writing. Literacy is also involved when people understand language and possess sufficient knowledge of the world to comprehend the books they read. Children hear many books read aloud before they can read for themselves, and they can use scribbles to represent the thoughts they compose before they use conventional print. Literacy does not develop overnight; it comes from being talked to and read to and encouraged to look at books, draw, and write. Children begin their journey to literacy at birth through visual and auditory observation of their world and interactions with people and materials in various daily experiences, both at home and at school.

Figure 8.6: This sign for the math center includes print in the children's home languages and images to help children interpret the print.[5]

Reading provides access to meaning represented by print. It requires the translation of print into speech and the interpretation of meaning. Reading depends heavily on oral vocabulary, grammar, specific literacy knowledge (e.g., names of alphabet letters), and skills (e.g., detecting sounds in spoken words). Preschool children engage in reading by listening to stories and by retelling familiar books. They also engage in reading when they interpret environmental print by using physical clues (e.g., the stop sign is the red one at the end of their street) or when they reenact through play the literacy-related social behavior of family members (e.g., making a shopping list or pretending to read the cooking directions on a food box).

Teachers can support children's development of reading foundations with the following:

- Provide print props to support dramatic play.
- Provide print props in the block area.
- Use literacy terminology, such as letter and word, naturally.
- Use print, with supporting images, to support classroom routines and limits.
- Take the time to read environmental print.
- Model, using print as a tool to get things done and to record information.
- Use print to support teacher-guided activities.
- Model basic print conventions, such as reading left to right.
- Write down interesting words as they come up and encourage verbal explanations of word meaning.
- Play games that focus on sounds.
- Use silly songs and poems daily.
- Play with sounds.
- Discuss rhyming words and words that begin with the same sound.
- Use children's printed names as labels and to support routines, transitions, and free-play experiences
- Provide access to alphabet letters in a variety of contexts.
- Focus on the first letters and sounds in alphabet books and posters.
- Use everyday opportunities to model attending to print details in words.
- Provide materials with environmental print in an interest area.
- Provide predictable textbooks in the library and listening areas.
- Read stories daily.
- Make stories come alive with your voice and expression.
- Make story time just the right length (not too long or short).
- Read stories several times over a few days.
- Define new words in a story you are reading.
- Discuss a story after reading it.
- Read information (nonfiction) books.
- Model using information gained from text (books and non-book sources) and provide opportunities for children to do the same.
- Provide the space and materials for children to retell stories independently.
- Place books in all areas of the classroom.
- Make reading and writing meaningful and useful.
- Provide ample opportunities for children to cross their midline (moving the left hand or foot to the right side of the body, and the right hand or foot to the left side of the body, which requires communication between your brain's left and right hemispheres)[6]

Figure 8.7: This flannel set corresponds with a book recently read in the classroom. He can use these pieces to retell the story.[7]

Vignettes

Pairs of children walk hand in hand to return to their classroom after playing outside. Sasha stops walking, points to a sign posted in the hallway, and says to Yasmin, her partner, "That sign says to be quiet because the babies are sleeping." The teacher softly

says, “Yes, we are walking past the babies’ room. We’ve talked about how they might be sleeping. This sign says, “Remember to Walk.” Do you think we need to make another sign for the hallway, one to remind us to talk softly?” The children agree that the second sign is needed, and several offer to help.

After singing “Down by the Bay” at circle time, Mr. Zhang used an illustrated book to review the song and engage children in playing with some sounds in the words: “Here’s the funny bear, combing his hair. Bear, /b/-/ear/; hair, /h/-/air/. The last parts of those words [i.e., the rime portion] sound the same, don’t they? They rhyme.” Several children agreed enthusiastically. “And who’s on this page?” “The llama,” shout several children. “Eating his /p/ . . . (pause)” Mr. Zhang continued.

“Pajamas!” several children called out. As he turned the page, several children called, “The fly with a tie.” “Yes, the fl-y wearing a t-ie. Before I turn the next page, I’ll give you a clue about what you’ll see next: A /wh/-ale . . .” “A whale!” the children called out. “With a polka-dot /t/-ail,”the teacher continued. “Tail,” several children called out.

The caregiver shares an alphabet book with a few children. “This is the page for the letter B. Here is the big B and here’s the little b.” She engaged the children to help identify the pictures on the B page: “Blueberries, broccoli, beets, bananas, beans.” Then she comments, “B is the first letter in each of these words. This word (pointing to the first letter in blueberry, printed above a picture of a box of blueberries) starts with the letter B. It says, Blueberry (underlines the rest of the word, as she reads it). Blueberry starts with the /b/ sound. What do you think this word says? (She points to the word above the picture of some bananas.) One child says, “banana,” another says, “platano.” The caregiver confirms that banana can be called by either name, one Spanish and the other English. “The words in this book are written in English—/b/ is for banana (points to banana). I think we could write some of these words in Spanish and paste them into the book. We could write brecol to put here with broccoli.” “When can we do that?” a child asks. “After rest time today, if you’d like. Miguel and Alexandria will still be sleeping. I can help you and Aaliyah spell Spanish words that will work in this alphabet book. We can type them on the computer and print them out to paste in our book.”[8]

Pause to Reflect

What memories of reading and books do you have from your childhood? How do you feel about reading now? Is that how you want children to feel about reading? If so, how can you share that? If not, what might you do to ensure they have a different perspective about reading?

Supporting Writing

Developing as a writer depends on the writer’s understanding of how a particular written language looks and the writer’s language and thinking skills. Conventional writing requires knowing the alphabet letters and an understanding that letters represent sounds in spoken or signed words. Deciding what to write requires oral or sign language, knowledge, and thinking. Preschool children engage in writing when they use scribble marks and proudly announce their meanings (e.g., “This says ____”). Preschool children frequently use drawing, rather than writing marks, to represent their thoughts, and they often combine scribbles or other writing-like marks with their drawings to communicate. Preschool children are happy to serve as their own interpreters, telling people what their early writing and drawing is meant to say. Teachers are careful not to criticize children’s early scribble productions. To find out what a child’s writing means, teachers may ask a child: “Tell me about these wavy lines down here.”

Figure 8.8: Ask children about their writing to see what it represents.[9]

Writing focuses on understanding that print represents ideas and learning to transition from drawing and scribbling to using letters and words. Much exploration with paper and writing tools occurs before children will try to write to convey specific meanings.

When children write to convey meaning, they use their language, their physical ability to hold a crayon or pencil, and the cognitive understanding that the marks they make on the page represent a meaning that can be shared.

While direct writing instruction is not yet developmentally appropriate for preschool-aged children, who do not yet have the fine motor coordination needed to write legibly, they are developing important skills and knowledge that contribute to their ability to communicate in writing.

Table 8.1: Four Levels of Writing Development over the Preschool Years

Level	Description
Exploring	The child explores with marking tools on a variety of writing surfaces, creating scribble marks. The child sometimes focuses on making marks without any intention of using these to stand for writing. Sometimes the marks prompt the child to think of something from the child's world that is familiar, and the child attributes meaning to scribbles.
Developing	As the child continues to explore with mark making, the child organizes scribble marks into lines when "writing," which indicates the child's observation that marks for writing and marks for pictures are organized differently. Often, the child will point to scribble marks that are lined up and say, "This says . . ." In other words, children begin to attribute meaning to their scribbled writing.
Building	Children's skill in using marks to create both pictures and writing increases to the point where others can recognize a child's intentions. Although the marks are still not always well-formed, adults have a good idea of what the child intended to portray and the letters the child intended to write. Children sometimes make up new designs that look remarkably like actual letters. They do not yet know that there are just 26!
Integrating	At this phase, children know most, if not all, of the uppercase alphabet letters, and they combine these to make words. Some of the words are ones they see frequently, such as their names. Most are quite legible, although not perfectly formed, of course, and a letter might be written with its orientation reversed. In addition to their names, children sometimes write a few simple words, such as love, yes, and no. They also might string letters together in sets that look like words and ask adults, "What word is this?" A few older preschoolers might have figured out that letters selected to make words relate to the sounds in the spoken words, and invent spellings, such as KK for cake or CD for candy

Figure 8.9: Often, the first word that children write is their own name.[10]

Teachers can support children's development of writing foundations with the following:

- Setting up a well-stocked writing area
- Frequently adding new materials to the writing area
- Providing writing materials in other interest areas and outdoors
- Embed writing in everyday transitions and routines
- Encourage children to write in the art interest area
- Respond sensitively to children's emergent writing; focus on the meaning that children are trying to convey rather than on the form of their writing
- Respond to children's questions and requests for help with writing; describe and model how to write the letter on a separate piece of paper

- Model writing
- Display children's writing
- Provide ample opportunities for children to cross their midline
- Provide experiences in which children strengthen fine motor muscles (fingers, hand, wrist, forearm), and develop dexterity, such as working with clay, cutting with scissors, and working with tools[11]

Crossing the Midline

"The body's midline is an imaginary line down the center of the body that divides the body into left and right. Crossing the body's midline is the ability to reach across the middle of the body with the arms and legs. This allows children to cross over their body to perform a task on the opposite side of their body (e.g., being able to draw a horizontal line across a page without having to switch hands in the middle."

"Crossing the body's midline is an important developmental skill needed for many everyday tasks such as writing... When a child spontaneously crosses the midline with the dominant hand, then the dominant hand gets the practice needed to develop good fine motor skills by repeated consistent hand dominance. If a child avoids crossing the midline, then both hands tend to get equal practice at developing skills, and the child's true handedness may be delayed. This means that once a child starts school, learning to write is much more difficult when they have two less skilled hands rather than one stronger, more skilled (dominant) hand. Difficulty crossing the mid-line also makes it difficult to visually track a moving object from one side to the other or track from left to right when reading, meaning reading can also be delayed."[12]

Vignettes

Jessalyn is delighted with the birthday card picture from a peer and wants to write a thank-you note. She draws a picture and tells the teacher, "I want real words, too, but I can't make them."

"What would you like the words to say?" the teacher asks. Jessalyn dictates: "I liked the pretty picture of me. It was a pretty birthday card." "Do you want me to write that down or help you?"

"I can do letters," Jessalyn explains, "but I can't make words. Well, just love." The teacher helps Jessalyn spell the word pretty by segmenting some of its sounds and naming the letters needed to write the sounds. After the teacher names the last letter in pretty, Jessalyn remarks, "y? Why not e?" The teacher explains that e is used to write this sound in many words, but in others, y is used.

Then the teacher asks, "What letter is at the end of your friend Jeremy's name?" "Oh, y!" Jessalyn realizes. "Do we have anybody with e?" she asks. "Not this year. But last year, there was a girl named Kaylee, and she used e to write the /e/ sound."[13]

References

Kansas State Department of Education. (2024). *Kansas early learning standards*.

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[12] Kidsense. (2019). Crossing the Body's Midline.

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6.5: Engaging Families

Engaging Families

Teachers can employ the following strategies to help families develop their children's language and literacy skills.

- Send families home with items to look for on the weekend, topics to discuss, or stories to share (written in their native language).
- Suggest ways parents can respond to the classroom.
- Send books, other reading materials, and writing materials home with children.
- Provide a lending library in the home languages of the children and encourage parents to read to their children in their home language.
- Share ideas with parents about questions they might have about books, and provide answers in their home language.
- Introduce parents to community resources to get books for home
- Encourage family members to share their writing with children.
- Share children's triumphs and experiences, and people they really enjoy with their families.
- Use displays to help family members understand the developmental nature of writing.
- Invite families to share their stories with you.
- Consider projects that can be done in class, allowing children to bring materials from home.[14]

Figure 8.10: It looks like a father, a younger sister, and an older sister have all joined this girl in a favorite classroom activity. Family involvement is a great way to validate children's interests and efforts. (And it can spark great conversation later!)[15]

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6.6: Conclusion

Decades of research have demonstrated that playful learning, intentional teaching, and a rich curriculum facilitate children's understanding of the world and their mastery of language and literacy. The principles and strategies presented in this chapter are grounded in this research. Teachers must be mindful of what the research has revealed about how children acquire vast knowledge and skills. However, teachers must also assume responsibility for weaving together a program that combines children's play with their own specific plans in ways that secure a bright academic future for each child. By definition, this means that children's interest in and motivation to learn are maintained. The satisfaction and joy of teaching come from knowing that the very best efforts were made and from seeing the results of such efforts in the children's faces every day. The progress documented for each child over the course of a year also brings joy and a sense of satisfaction.[1]

Pause to Reflect

What are some of the ways language and literacy occur naturally in children's everyday lives? What additional elements will teachers need to intentionally incorporate into the program (e.g., materials, interactions, activities, environmental design, etc.)?

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CHAPTER OVERVIEW

7: Creative Arts

Learning Objectives

By the end of the chapter, you should be able to:

- Explain how young children naturally express themselves through the arts
- Advocate for the arts being included in early childhood education
- Describe each of the four disciplines/strands of the creative arts
- Summarize the foundations in the arts that high-quality early childhood programs support
- List materials that educators can include in their classrooms to support the arts
- Identify ways for educators to support the arts through their curriculum planning
- Discuss ways to engage families in the curriculum for the arts

7.1: Introduction

The creative arts are as natural to young children's lives as language and play are. The arts foster problem-solving and critical thinking skills, providing parallel opportunities for developing language and communication, mathematics, social, and interpersonal skills. The following activities are often called children's play: scribbling with a crayon, pretending to be a pirate or a bird, humming bits of a tune, banging on a drum, or swaying to music. However, these behaviors showcase artistic expression and creative elements that support the ongoing development of creative skills. They also show the hallmarks of children's abilities to express themselves through symbols and aesthetic images.[1]

The creative arts domain is presented in four familiar disciplines:

Visual Art: The visual arts include drawing, painting, sculpting, and assembling collages in two or three dimensions. Preschool visual art is process-based and open-ended, allowing children to explore using a variety of materials. The product is not the focus, though the children will likely view their creation as a masterpiece!

Figure 11.1[2]

Music: Preschoolers love listening to music, singing along, and moving to it. Music learning in preschool is a time to make new discoveries. Preschoolers can engage in music making, perform rhythms, musical sounds, and passages with a variety of instruments, or simply sing along to a favorite tune.

Figure 11.2[3]

Drama: For preschoolers, this domain involves spontaneous dramatic play and teacher-structured drama, each of which inspires the other. Preschoolers are naturally inclined to engage in solitary, parallel, and group play, and draw on these experiences when acting out situations and using props (with teacher guidance). Similarly, engaging in drama feeds children's imagination and inspires dramatic play. A goal in dramatic play and drama for preschoolers is unleashing the child's imagination. Thus, the focus is on children's creative engagement in drama rather than on actual performance or "the theater."

Figure 11.3[4]

Dance: The dance domain for preschoolers emphasizes the creative, often expressive use of movement. Movement is explored in all its range (e.g., small and large, fast or slow, hopping or marching) and for various purposes, such as learning math or language skills, or for the joy of moving. Dance can be a nonverbal tool for expressing ideas, telling stories, or communicating emotions. It is often rhythmic and accompanied by music. Requiring thinking, social interaction, and physical exercise, dance is a motivating way for preschoolers to engage in learning.

Figure 11.4[5]

The specific foundations, including the knowledge, skills, and behaviors that preschool children typically develop in a quality preschool environment in visual art, music, drama, and dance, are outlined later in the chapter as each strand is explored.[6]

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7.2: Supporting Children's Learning

Much of a child's development in the creative arts during the preschool years proceeds naturally and requires only fertile soil, along with time, to grow. Children initiate many behaviors and routines as they engage in play. They practice many skills along the way, and supportive physical and social–emotional development occurs as children progress from ages three to five. At the same time, their drawings become more mature and expressive, their pretend characters and settings become more complex and social, their musical expression skills grow with their muscular coordination and abilities to discern beat, tone, and melody, and the movements they coordinate with music or simply orchestrate in silence gain in surety and expressive complexity.

A primary responsibility of the preschool teacher is to let such natural developments occur. Child-initiated artistic activity is valuable not only because it is deeply intertwined with various developmental aspects of children, but also because children take great pride in ownership of much of what they create. Children follow their hearts and minds to what interests them and to areas where they experience increasing mastery. They draw as they will and may not be interested in exactly what thing, animal, or person the creation represents. They may hold firm to their idea of how to draw a tree, behave like a bear, or sing like a bird; it often becomes important for teachers and other adults to avoid critiquing such expressions (except where the child may solicit advice). Teachers would do well to let the child experiment with, and perhaps revise, her expressions as needed or as maturing views of the world and its possible representations take hold.

Figure 11.5 Participating and having fun with the arts should be the focus[1]

Along with child-initiated art, a complementary perspective needs reinforcement. This perspective acknowledges how teachers can and should support young learners in their development. An element of this scaffolding is creating conditions in the preschool program that allow for interesting and important connections between the arts and other developmental domains. Capitalizing on language and communication opportunities is another example; placing children in settings where cooperation is important and where cooperative dispositions and skills may grow is yet another. Some art activities can help children become aware of and reflect on the differences among people, become exposed to diverse art forms from different cultures, and create a common platform for learning that bridges the gap between home and school. These considerations will set the stage for children's growth and interest in the arts.[2]

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7.3: Guiding Principles

The following guiding principles relate to the importance of teaching, knowing their children, and providing instructional activities that tap into the children's prior knowledge and experiences. Exploration in the arts is important, and creative expression is more authentic when not dictated by adult expectations. Adults need to scaffold this process of exploration, providing structure to activities, mediating potential problems, and inspiring and encouraging children's progress. In this manner, adults can make the arts rewarding to all children, including those with special needs.

Figure 11.6: To bring the arts to children with disabilities, you may need to make accommodations, such as this tray for a wheelchair.[1]

Beyond helping to build artistic skills, reflection and modification are important to the creative process. These opportunities in the arts also build skills such as problem solving and critical thinking; the arts bring parallel opportunities for developing language/communication, mathematics, and social and interpersonal skills. In the same vein, the arts have applications in many disciplines and aspects of social–emotional development. Observant teachers can capitalize on the arts to foster the development of the self, identity, and emotional outlet.

Figure 11.7: Using tools with playdough is an opportunity to problem solve and explore cause-and-effect. [2]

The arts can be pursued even with meager budgets and free materials. Children benefit from high-quality learning experiences and materials—both as vehicles to encourage exploration and as symbols that demonstrate adult care for children's welfare.

- The arts are inclusive of and can be enjoyed by all children.
- The arts are a language that is common to all and foster understanding between children from different linguistic, cultural, and socioeconomic backgrounds, as well as between children of differing abilities.
- The arts promote dispositions for learning, and regular experiences in the arts during the preschool years cultivate lifelong engagement in arts-related activities.
- Children make their own meaning. Original, imaginative expression is a natural occurrence when children engage in the arts, which adults scaffold in an appropriate environment.
- Children are capable of creating original art in all its forms.
- Children learn about human connections, beauty, and appreciation of the arts.
- The child's work is play, and experiences in the arts should be offered in play-oriented approaches.
- Children are active learners who thrive when challenged appropriately. An effective curriculum includes a broad range of methods, experiences, and definitions of success for all children, teachers, and preschool settings.

- Arts experiences for preschoolers are more about process than product. What is important is being engaged, not the end result or product.
- The arts reinforce the integrated nature of learning. Because children learn holistically, the arts should be presented in an integrated way with other learning domains.
- Cultural competence is approached through art. The arts can help children reflect on their own cultures and origins as well as those of others.
- The arts motivate and engage learners. They are a means to explore, take risks, communicate, and define personal perspectives and preferences regardless of culture, developmental status, or ability.
- Since children have a propensity for imitation, more than anything else, a teacher who is enthusiastic about the arts can potentially inspire children from any culture, language, or ability to become excited about art-making.
- The arts offer a unique means for families to connect and interact. They have songs, stories, games, and many other talents to share.[3]

References

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7.4: Environments and Materials

Most materials necessary to support preschoolers' learning in the creative arts are inexpensive and easy to obtain and can often be shared across art domains. In fact, by rotating props, books, masks, and the like, teachers reinvent them in novel ways.

Each art discipline has some basic needs to create exciting and enriching learning experiences. As each discipline is discussed later in the chapter, further materials will be summarized.

- Dance and movement require only space in a room and benefit further from music and costumes of modest scope and cost.
- Many things handy in a preschool environment can serve as props for dramatic play (spontaneous engagement in pretend play) and drama (guided experiences with instruction on acting out a drama), where imagination can turn almost anything into something else.
- Visual arts primarily involve drawing, painting, and creating two- and three-dimensional works. These activities commonly make use of natural materials in addition to traditional art supplies, such as crayons, pencils, finger paints, watercolor paints, moldable dough, construction paper, and sufficient drawing or painting paper to provide the inspiration for children's creations. Children need flat places to draw and paint—tabletops, the floor, or outdoor surfaces, such as fences.
- It is important that music is not limited to prerecorded songs. Music is an active process that may require specialized materials. Children can use a variety of rhythm instruments, such as wooden blocks, bongo drums, or hollow, hardwood boxes; little instruction is necessary. When these materials are not available, clapping hands and stomping feet can keep the rhythm. Other musical instruments that may extend this collection include recorder-like wind instruments, shakers, stringed plucking devices, and so on.
- Adaptive materials may be necessary to ensure that activities are accessible for all children with disabilities or other special needs, allowing them to participate in art activities with a sense of enjoyment and accomplishment.
- Materials that may serve as props for pretend play, or costumes that reflect the children's cultural backgrounds in the preschool program, are good to have on hand.
- Any and all art materials can be used to foster the creative process. Having a wide range of loose parts available provides children with numerous opportunities to explore their creative tendencies.

Figure 11.8: Children enjoy playing basic musical instruments.[1]

Physical environments that support learning in the creative arts begin with sufficient, appropriate space. The few basic materials described above and space for the children's use of materials and movement are all that is required of the environment. For example, costumes, prop-like objects, and art supplies, along with a designated workspace accessible to children, can help encourage learning while creating an aesthetically pleasing physical environment.

Scheduled time for arts activities, with an organized flow of necessary preparation and cleaning up (or possibly winding down of excited children), will also help facilitate learning. Teachers quickly learn—often through trial and error—the importance of allowing sufficient time for an art experience. The arts can also be woven into other areas of the curriculum throughout the day.

An effective environment for teaching and learning in the creative arts for the preschool child considers:

- The suitability, accessibility, safety, amount, and variety of materials.
- The aesthetics (beauty) of the early childhood environment.
- Sufficient open space for movement, dance, and theater play.
- Support for children's drawing skills.

- Indoor and outdoor environments for creating art.
- Art is displayed at the children's eye level. This includes their examples of visual arts and photographs of those engaged in the arts.
- A well-constructed environment for social and collaborative learning.[2]

Research Highlight: Is It Art?

What is the difference between “art” and a mere scribble? Preschool parents may be as interested in this question as the puzzled adult viewing modern, abstract art at the local gallery. One sense of art stressed in this curriculum framework is that the creative arts aim at the joys of free expression and the pleasures of seeing and creating images. Art instruction at the preschool level is also concerned with basic, first steps that can lead to more advanced artistic skills.

Differing views prevail concerning the child artist. One approach seeks artistic significance in a child’s work—perhaps a genius or a prodigy is emerging. A contrasting view dismisses the child artist by labeling his artwork “haphazard” and its occasional glimpses of clever expression and beauty as “accidental.”

Over the years, the work of Nelson Goodman and Howard Gardner at Harvard University’s Project Zero has helped to demystify children’s art. Those scholars view art through the lens of cognition rather than through a value-driven critique of aesthetics. Art is a cognitive activity, requiring thinking, problem-solving, communication, and intent. Learning in art is frequently tied to learning in language and culture as well.

For Goodman, the classical question "What is art?" is transposed into a less familiar question: "When is art?" As Goodman suggests, art “occurs” when its symbols are functioning aesthetically. The aesthetic functions of symbols include expressiveness (conveying meaning or emotion), susceptibility to multiple interpretations, and richness (full or abundant rendering). These ideas de-emphasize judgments of beauty or merit; Goodman’s artistic creator is the individual with sufficient understanding of the properties and functions of certain symbol systems to allow her to create works that function in an aesthetically effective manner.

And what of preschool-age children? Rhoda Kellogg’s documentation and classification of hundreds of thousands of children’s drawings from 30 countries testify to children’s ability to use symbols at an early age, often depicting qualities of the artist as defined by Goodman. Children’s art is often expressive, conveying emotions, feelings, actions, and stories. Children’s art may be more or less replete, with abundant renderings of objects or symbols and vague, sketchy treatments at other times. Young children are unlikely to plan and create works with multiple readings—this ability typically belongs to more mature developmental stages and can emerge in adolescence.

Appearing commonly in drawings of children, especially those of two- or three-year-olds, is the mandala, a term used to designate symbolic representations that typically incorporate a circular motif, often featuring a cross-like figure. For the child, the mandala is a well-balanced, pleasing form that lies en route to genuine representation. The contrasting, superimposed elements of the circle and cross are precursors to the figure’s metamorphoses into rounded figures with legs, arms, and facial details.

According to Gardner, the conditions suggested by Goodman, though helpful in thinking through the puzzles of children’s art, nevertheless leave the debate about art created by children in a state of relative limbo. The preschool teacher’s role is to introduce children to a range of constructive symbolic media and provide them with the faith that the child’s own vision and ability to give form to vision are worthy. The preschool teacher can view children’s art without an eye for realism; rather, the gaze might borrow from Paul Klee, who, when discovering his childhood drawings, described them in a 1902 letter to his fiancée as the most significant ones he had yet created.[3]

Sources

H. Gardner, Art, Mind, and Brain: A Cognitive Approach to Creativity. New York: Basic Books, 1982, 60.

H. Gardner, Artful Scribbles: The Significance of Children’s Drawings. New York: Basic Books, 1980, 38. 6. Ibid., 53.

J. H. Davis, 2005, Framing Education as Art: The Octopus Has a Good Day. New York: Teachers College Press, 70.

> As cited in L. Camhi, “When Picasso and Klee Were Very Young: The Art of Childhood,” New York Times, June 18, 2006. www.nytimes.com/2006/06/18/arts/design/18camhi. html?pagewanted=1&_r=1 (accessed September 10, 2009).

Let’s take a closer look at each of the strands/disciplines of the Creative Arts.

References

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7.5: Supporting the Visual Arts

Preschool children often have a natural inclination to create visual art. Making marks, squishing clay, and using a brush to apply color are activities that most young children find appealing. In groups where children speak multiple languages and may not share common vocabulary, visual art can create connections and serve as a means of communication. Art can become a way for people to connect across cultures to their common humanity; an appreciation for it may begin in preschool. Inviting families into the environment to share works of art from their homes is an opportunity to build a bridge to their homes.

Young children are naturally creative. The visual art framework is designed to encourage creativity; open-ended projects emphasize the process of working with visual materials. In other words, the curriculum is not focused on encouraging a child to produce a specific painting, but rather on practicing the use of a brush on paper without a predetermined outcome.

Figure 11.9: This child painting at the easel.[1]

Children are both consumers and creators of the visual arts, which is reflected in the foundations:

Visual Art

Refer to the Creative Arts content area in the Kansas Early Learning Standards for specific indicators of how children of various ages meet the benchmarks and standards in the visual arts (Kansas State Department of Education, 2024).

Developmental Sequence of Drawing

When provided with tools and a supportive environment, children ages three to five progress more rapidly in the visual arts than during any other two-year period before adulthood. Creativity and imagination reach their peak at around age four and a half; most experienced preschool teachers will attest to this. The arts are a natural outlet for a preschooler's creative thinking, and learning occurs at a rapid pace.

The progression of children’s drawing ability is the most documented in the visual arts. When children are given a means and a place to make marks, they begin with a series of vertical lines and move on to mandalas (i.e., repeated circles). The mandalas soon sprout legs, arms, faces, and more detailed features such as hair, fingers, or eyes. Harvard University Professor Howard Gardner refers to this process as “the birth of the potato person.” This research has gained such widespread recognition that medical doctors will now assess children’s intellectual progress by asking the child and parent to describe the details in the child’s human-figure drawings (rather than focusing on letters and numbers) during the four-year and five-year checkups. Because children speak multiple languages and progress at different rates in writing skills, the question about drawing is more relevant and telling for this age group.

Figure 11.10: Early, nonrepresentational mark-making

Figure 11.12: A mandala becomes an early representational drawing of a sun.

Figure 11.13: The emergence of the “potato person”: a first effort at representing a person

Figure 11.14: A more advanced drawing: person wearing “sparkly shoes”

The progress of children's painting is not as well-documented as their drawing progress. In general, children begin by simply experimenting with brushstrokes and the process of applying paint to a surface. Children’s first paintings are usually solid sections of a single color, two colors, or at most three colors. The brushstrokes begin to change directions, and shapes emerge. Finally, children begin to attempt representational paintings. The subject matter of such paintings varies depending on the child, the teacher, and the environment.[2]

Teachers can support children’s development of the visual arts foundations with the following:

- Encourage engagement with art at all levels.
- Support exploration and discovery.
- Give children the time and space needed to explore creativity.
- Provide a comfortable environment in which children can practice art.
- Provide opportunities for children to reflect on their own work.
- Respect individual developmental, cultural, and linguistic differences, and encourage children to respect them.
- Provide children simply with a means and place to make marks (e.g., a crayon and paper), and they will begin with the same basic images.
- Encourage communication around shape and form to aid children’s drawing skills.
- Help children acquire painting skills through practice with the tools.
- Stimulate children’s interest in color and the application of paint through other forms of painting.
- Create opportunities for children to work with dough, clay, or wet sand.
- Provide only the malleable material, without tools, during children’s initial sculpting explorations so that children can explore through touch.
- Communicate with a group of linguistically and culturally diverse children through sculpture techniques by using nonverbal methods.
- Introduce tools after observing that children have had many “hands-on” opportunities to explore clay and dough sculpture.[3]

Figure 11.15: Working with clay is a different experience from working with playdough.[4]

Table 11.2: Suggested Materials for Visual Art[5]

Type of Materials	Examples of Materials
Found or Recycled Materials	Old magazines for cutting and assemblage, toilet paper, and paper towel rolls
Basic	Tempera paints, construction paper, chunky crayons, tray watercolors
Enhanced	Tube watercolors and palette; watercolor paper
Natural Environment	Sticks, rocks, and pinecones for sculpture; clay and natural materials for pressing
Adaptive Materials	Thicker handles on some materials; an easel that can be adjusted to an appropriate height

Vignettes

Ms. Cheng is showing children how colors can be mixed to create other colors. While pouring some yellow paint on the plate, she says, “What is this color?” “Yellow!” shout the children. Knowing that some children speak other home languages, Ms. Lin asks, “Milagros, how do you say yellow in Spanish?” “Amarillo,” Milagros answers. “Samantha, how do you say yellow in Mandarin?” “Huang!” Samantha answers. Ms. Cheng pours out some blue paint and asks the same set of questions. As she moves on to mix the two colors, they turn green. This time, without prompting, some children shout, “Green!” others say, “¡Verde!” and others say, “Lu!”

It is springtime. The children have returned from a walk outdoors with handfuls of yellow flowers. The teacher places the flowers in a cup in the middle of the painting area and asks the children the color of the flowers. Then he asks, “What shapes do you see in the flower?” The children say, “Circles!” “Lines!” “Squares!” The teacher says, “Really? Where?” The children point at different parts of the flower. The teacher brings out brushes and paint and asks the children if they would like to paint the flowers.

Many of the children sit down and begin to work with the materials, producing all kinds of images. When a child has too much paint on the brush, the teacher assists in showing the child how to wipe paint from the brush on the side of the paint container. As the children finish, the teacher encourages them to discuss their paintings and place them in the drying area. Some children finish quickly, and others become absorbed and work for a very long time. Some want to try several times on a new paper. A few children attempt to represent the flowers in their paintings, and others experiment with the movement of the brushes and the mixing of colors on the paper.[6]

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7.6: Supporting Music

When children develop an awareness and knowledge of musical elements, they progress in their understanding and ability to control the elements for personal musical expression. Although early childhood music education is primarily about introducing the child to musical sounds and holistic experiences that are of the highest quality, enriched learning occurs when the child has an understanding of and ability to manipulate the music elements of rhythm, melody, form, loudness/softness, tempo, timbre, articulation, and style.

The foundations of music include responding to music, developing musical skills, and creating music.

Music

Refer to the Creative Arts content area in the Kansas Early Learning Standards for specific indicators of how children of various ages meet the benchmarks and standards in music (Kansas State Department of Education, 2024).

Teachers can support children's development of music foundations with the following:

- Find ways to expose children to music being conducted and performed.
- Provide music areas where children can experience instruments or engage in musical activities individually or in small groups.
- Set up a "Science of Sound" area where children can explore and experiment with building sounds.
- Provide a conductor's listening and play area.
- Make instruments with the children.
- Incorporate chant games and songs related to sound production.
- Include a variety of songs that are related to a particular topic area
- Use songs that have movements or gestures that accompany the words.
- Provide children an opportunity to conduct the group by singing or playing instruments.
- Dramatizing poetry and nursery rhymes is a fun way to explore and develop young singers' vocal inflection and pitch capabilities.
- Invite young children to move through instrumental music programs or music that "tells a story."

Figure 11.16: Music with actions is popular in early childhood.[1]

- Encourage children to invent accompaniments with musical instruments.
- Invite local professional musicians or family members to demonstrate and discuss their instruments and the sounds they produce.
- Invite live musicians for the children to conduct. Encourage the child conductor to stop and start, go faster and slower, and make arm gestures for louder and softer sounds.
- Incorporate books related to music. Include storybooks on conductors and orchestras.
- Encourage children to create simple rhythm patterns.
- Extend learning about different ways to lead a music group.
- Incorporate freeze-and-move games as a fun, simple way to help children develop spatial control of their bodies and learn and practice fundamental locomotor movements.
- Provide independent and group play opportunities through musical play kits, which can be stored in a music area.
- Incorporate the use of websites of children's music and other age-appropriate software (if available), to engage children's interest in sound

- Encourage children to be playful and spontaneous when singing—they often sing made-up songs as they play alone or with other children.
- Minimize the use of recorded music when the goal is singing.
- Have the children draw pictures of songs.[2]

Figure 11.17: This teacher is introducing the children to a guitar.[3]

Table 11.3: Suggested Materials for Music[4]

Types of Materials	Examples of Materials
Found or Recycled Materials	Pots, pans, metal or plastic cans, spoons, chopstick-beaters with cork stoppers for rhythm, glass jars filled with different levels of water for a water xylophone, pieces of 12” dowel for rhythm sticks, shakers made of plastic eggs filled with different materials
Basic	Rhythm sets with shakers and simple drums, singable books, glove puppets for nursery rhyme songs, song maps made of paper or fabric, a selection of CDs, a CD player, and a headset for personal listening
Enhanced	Single-note resonator bells; child-sized xylophones; multiple-sized hand drums; ethnic instruments; child-sized guitar or ukulele; small electronic keyboard; recorder/flute; music software; music videos; songbooks
Natural Environment	Rhythm blocks made of small tree limbs; homemade wooden or stone xylophones suspended on a garden hose; wind chimes made of natural objects
Adaptive Materials	Thicker handles on some materials; instruments in a fixed position (such as a drum on a stand). For children with reduced hearing ability, instruments that resonate and vibrate allow for touching or holding.

Research Highlight

The following points about music and development in early childhood are based on Start the Music Strategies, a collaboration among the National Association for Music Education (NAfME), the National Association for the Education of Young Children, and the U.S. Department of Education. They were developed after a review of the research and professional literature.

- We know that music is among the first and most important modes of communication experienced by infants.
- As young children grow and develop, music remains a fundamental medium not only of communication but also of cultural expression and self-expression.
- As preschool children not only listen to music but also learn to make music by singing and playing instruments together (and responding to music in various ways), they create important contexts for the early learning of vital life skills such as cooperation, collaboration, and group effort. Music in an educational setting also begins to teach young children to judge what constitutes “good” music, helping them develop the rudiments of an aesthetic sense.
- Music contributes to “school readiness,” a foundational education aim of the American people for all our children.

- When children develop musical skills and knowledge, they acquire the fundamental cognitive, social, and motor skills necessary for success throughout the educational process and in life.[5]

Source:

Start the Music Strategies. Reston, VA: National Association for Music Education, n.d.

Vignette

It is raining outside. Miriam and Pablo, age three, begin clicking and tapping their fingers on the window glass to imitate the rain hitting the window. Soon, all the children are making different kinds of rain sounds on the window. After a few minutes, the rain stops, and the children are invited to circle time.[6]

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7.7: Supporting Drama

Drama is a valuable part of the preschool curriculum. Typically, children aged three to five first experience drama by participating in dramatic play at home and in early childhood environments. Dramatic play is the foundation for the development of drama. This play typically progresses from the time a child is 36 months old, when he or she engages almost exclusively in solitary play and in watching others play, to the equal time engaged in solitary, parallel, and group play at 48 months; and to primarily group play with some solitary and parallel play at 60 months.

Because of circumstances beyond their control, some children may arrive at school with limited exposure to these areas. Regardless of prior exposure, however, all children bring experiences that can enrich drama, and all children can enjoy and participate in drama. Preschool-age children enjoy participating in various types of dramatic play and drama, from pretending to cook a meal in the dramatic play area to acting out part or all of a favorite story with their teacher and peers.

Figure 11.18: What might these children have been acting out?[1]

During preschool, drama should be about the process of creating and exploring, rather than the end product, such as a rehearsed play or other formal performance.

Drama

Refer to the Creative Arts content area in the Kansas Early Learning Standards for specific indicators of how children of various ages meet the benchmarks and standards in dramatic play (Kansas State Department of Education, 2024).

Teachers can support children's development of drama foundations with the following:

- Observe dramatic play and role-playing.
- Step in or model when needed.
- Provide adaptations to support the participation of children with disabilities or other special needs. This may include pre-teaching, using pictures, sign language, and other multisensory enrichment techniques, as well as modified equipment and props.
- Use drama-based vocabulary, such as blocking, actors, stage, scenery, voice, and props.
- Encourage children to use drama-based vocabulary
- Encourage and model the expression of interests and preferences.
- Encourage and allow initiative.
- Model and note appropriate ways of using drama materials.
- Move in and out of the role as appropriate (decide when to participate and when to facilitate).
- Use costumes, props, and scenery to inspire dramatic play and drama.
- Facilitate children's engagement in drama by first discussing expectations.
- Scaffold and encourage children during and after participating in drama to build their understanding and use of plot.[2]

Figure 11.19: Props for drama can be handmade (by adults and/or children).[3]

Table 11.4: Suggested Materials for Drama[4]

Types of Materials	Examples of Materials
Found or Recycled Materials	Scarves, sashes, and fabric remnants varying in size, color, design, and texture for a costume area; include strips of furry fabric to be used as animal tails. Wooden spoons, paint sticks, cardboard tubes, yarn, and boxes can serve as nonrepresentational props that help children create meaning.
Basic	Large and small blocks; stuffed animals; dolls; wooden or plastic fruits and vegetables
Enhanced	Puppets; textual props such as menus and signs; large pieces of blue, green, yellow, brown, and floral fabric to depict rivers, grass, dirt (for “planting” vegetables), and flower gardens; headbands with various types of animal ears sewn on
Natural Environment	Wood, tree cookies, and other materials for building; pinecones, feathers, smooth stones, and pebbles
Adaptive Materials	Consider props that are easy to use and handle (e.g., oversized objects and items with few complex parts). Adapt clothing and fabric by removing buttons, enlarging openings, and so on, for ease of wearing.

Research Highlight

It is important that children be given the opportunity to make decisions and determine the course of action during dramatic play and drama. It helps cultivate social–emotional skills such as taking initiative in one’s learning. However, teachers should often look for opportunities to participate in children’s play. The teacher’s participation adds an important dimension to children’s play. Research suggests that young children derive greater benefits from dramatic play when the teacher or other adult is involved—monitoring and assisting children in engaging and fruitful play, rather than just observing passively.

Ann Podlozny looked at numerous studies that examined the role of children’s participation in drama in their ability to understand stories. In the 17 studies she examined, children listened to a story and either acted it out or listened to it a second time. Podlozny found that children not only displayed greater story understanding and recall when acting out the story rather than just hearing it, but that story understanding was greatest when the teacher or other adult was in-role, working with the children during the drama.

In another study, Robert Fink looked at how teacher involvement in role play affects children’s abilities to understand that people and objects retain original qualities when others are added (conservation), that the physical world stays the same even if one’s view changes, and that people take on multiple roles within a group (perspectivism). In Fink’s study, children were assigned to one of three groups. The first group participated in dramatic play with teacher support, the second group participated without teacher support, and the third group did not participate in dramatic play. After four weeks, it was found that the group that participated in dramatic play with teacher support outperformed both groups on measures of conservation and perspectivism and showed higher levels of imagination when observed during dramatic play.

There are numerous social and educational benefits for children when they engage in dramatic play and drama, and evidence suggests that teacher involvement may enhance these benefits. Although it is important and valuable to allow children

autonomy (independence) and the ability to make decisions and choices while engaging in play, frequent observation and guidance are important. See “Interactions and Strategies,”“Teachable Moments,” and the vignettes in this section for suggestions and descriptions of how adults can enhance children’s engagement in dramatic play and drama.[5]

Sources:

54. A. Podlozny, “Strengthening Verbal Skills Through the Use of Classroom Drama: A Clear Link,” Journal of Aesthetic Education 34, nos. 3-4 (2000): 239–76. 55.

R. S. Fink, “Role of Imaginative Play in Cognitive Development,” Psychological Reports 39 (1976): 895–906. As summarized in Critical Links: Learning in the Arts and Student Academic and Social Development. Edited by R. Deasy. Washington, DC: Arts Education Partnership, 2002.

Vignettes

A day after reading and discussing “The Three Billy Goats Gruff” during story time, Mr. Longfeather watches as a group of four-year-old children in his class pretend to be goats. The three children portraying the goats are trying to get into the “castle” as Juan, who is acting as a troll, stands guard. Mr. Longfeather is pleased to see that the children are using several objects he placed at the dramatic play area as props and scenery. Juan is clearly having a great time and laughs as he uses a deep voice and makes funny “troll” faces.

After dramatic play time is over and the class has gathered on the rug, Mr. Longfeather listens as the children excitedly recount and describe what they did during dramatic play. “Juan was a funny troll,” says Kim. Juan adds, “And I used a walking stick.” The teacher responds, “That’s right, Juan. When you were the troll, you were using the paint stick as a ‘prop.’ A ‘prop’ is a thing actors use while pretending. I heard your deep troll voice and saw your scrunched troll face. I noticed that you were laughing as you made the faces. Did you enjoy making the faces?” The children ask if they can keep their “castle,” made from large blocks and fabric, in the dramatic play area. Mr. Longfeather agrees.

Several children in their preschool program begin arranging the dramatic play area to resemble a preschool. They excitedly call out their plans to play the teacher, the assistant teacher, the parents, and even themselves. As their teacher, Ms. Jackson, observes the activity, she notes that three children are evident leaders of this enterprise: Peter, Emma, and Jamila, all about four years old. The other children take an interest in this development and look at the preparations without participating much—they occasionally toss in ideas or suggest odd props. Emma interrupts the proceedings by pronouncing, “Come sit down on the rug, class. I’m the teacher, and you are my children!” Peter and Jamila say nearly in unison, “No, I’m the teacher!” Some of the remaining children express a preference for who should be the teacher, including themselves.

As the project begins to fall to some grumbling and squabbling, Ms. Jackson steps in and says, “This looks really great—you’re building the whole classroom in just one corner of the room. I’ll bet you’d all like a chance to be the teacher. So let’s figure out how that can work.” Jamila says, “How do we tell who is the teacher?” Seizing a large plastic capital T from the alphabet box, Emma says, “With this!” The teacher nods and says, “That will be helpful because the word 'teacher' starts with the 't' sound. Peter adds, “The person with this yellow T will be the teacher for a minute and show the class something a teacher does. And we’ll take turns.” As the children finish organizing the dramatic play area, Ms. Jackson sits down next to Lulu and Alejandro, who are just beginning to learn English, to help them understand the plan and participate.[6]

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7.8: Supporting Dance

Dance and movement are inherent in life, as natural as breathing. Dance is an elemental human experience and a means of expression. It begins before words are formed and is innate in children before they use language to communicate. It is a means of self-expression and can take on endless forms. Movement is a natural human response when thoughts or emotions are too overwhelming or cannot be expressed in words.

Figure 11.20: Dancing with wings[1]

Dance

Refer to the Creative Arts content area in the Kansas Early Learning Standards for specific indicators of how children of various ages meet the benchmarks and standards in dance (Kansas State Department of Education, 2024).

There are many ways to describe each dance element. Teachers and children can add their ideas to this chart.

Table 11.5: Elements of Dance

Body	Space	Time	Energy
Body parts: Head, torso, shoulders, hips, legs, feet **Body Actions:** Non-locomotor--Stretch, bend, twist, circle, rise, fall Locomotor--Walk, run, leap, hop, jump, gallop, skip, slide Movement quality--Swing, sway, shake, suspend, collapse	**Size:** Big, little **Level:** High, medium, low **Place:** On the spot (**personal space**), through the space (**general space**) **Direction:** forward, backward, sideways, turning **Focus:** Direction of gaze of the face **Pathway: C**urved, straight **Relationships:** In front of, behind, over, under, beside	**Beat:** Underlying pulse **Tempo:** Fast, slow **Accent:** Force **Duration:** Long, short **Pattern:** A combination of these elements of time produces a rhythmic pattern	**Attack:** Sharp, smooth *(qualities of movement)* **Weight:** Heavy, light **Strength:** Tight, loose **Flow:** Free-flowing, bound, balanced, neutral

Teachers can support children's development of dance foundations with the following:

- Help children become enthusiastic participants in learning dance.
- Warm up! Even though preschoolers' bodies are much more resilient than adults', they should still be gradually prepared for vigorous activities.
- Use play with games that require dance movements and cooperation.
- Be aware of cultural norms that may influence children's participation.
- Create environments and routines conducive to movement experiences.
- Consider the space, music, costumes, and props you provide.

- Establish spatial boundaries to ensure children have personal space when engaging in movement and dancing.
- Use children's prior knowledge.
- Structure learning activities so children are active participants.
- Introduce the learning of a dance skill by using imagery.
- Draw on children's interests in dance making.
- Plan movement activities appropriate for various developmental stages and skill levels.
- Incorporate dances that can be performed without moving the entire body.
- Encourage variety in children's movement.
- Teach rhythm using traditional movement games.
- Use the "echo" as a helpful rhythm exercise.
- Use dance to communicate feelings.
- Use movement to introduce and reinforce concepts from other domains.
- Provide opportunities for unplanned, spontaneous dancing[2]

Figure 11.21: These children are dancing at group time.[3]

Table 11.6: Suggested Materials for Dance[4]

Type of Materials	Examples of Materials
Found or Recycled Materials	Boxes, wheels, chairs, hula hoops, balloons, umbrellas, scarves, and other found objects can be used for choreographic variety. Costumes can be assembled from fabrics or donated by families or the community.
Basic	Open rug space; outdoor environment with a defined dance space
Enhanced	Piano, drums, maracas, tambourines, claves, triangles, cymbals, woodblocks, or a music system. A local dance troupe may donate children's costumes no longer used in productions.
Natural Environment	Palm leaves, feathers, sand, water, and sticks can be used in movement activities.
Adaptive Materials	If a child has a prosthesis, he or she can decide whether to dance with it on or off. If a child uses a wheelchair, props can help extend what the body can do; a few possibilities include balloons tied to a stick, crepe paper streamers, and scarves.

Research Highlight

Research supports the inclusion of dance in a preschool curriculum for several reasons, not the least of which are the social–emotional benefits gained from dancing at an early age.

In The Feeling of What Happens, neuroscientist Antonio Damasio describes the body as the theater for emotions. He considers emotional responses to be responsible for profound changes in the body's (and the brain's) landscape. Damasio creates three distinct classifications for emotions based on the source of the emotion and the physical response to the emotion: primary, secondary, and background emotions. The primary emotions are familiar in preschoolers and adults alike: happiness, sadness, fear, anger, and surprise. Damasio describes secondary emotions as social emotions, such as jealousy or envy when a child is eyeing a friend's toy, or feelings of pride when accomplishing a difficult task. And of particular interest in a discussion of

dance are the background emotions—much like moods. These refer to indications that a person feels down, tense, cheerful, discouraged, or calm, and others.

Background emotions do not use the differentiated repertoire of explicit facial expressions that easily define primary and social emotions; they are also richly expressed in musculoskeletal changes, for instance, in subtle body posture and overall shaping of body movement. Movement and dance are natural vehicles for the expression of these emotions.[5]

Source:

A. Damasio, *The Feeling of What Happens: Body and Emotion in the Making of Consciousness* (New York: Harcourt Brace, 1999), 51–53.

Vignettes

Sammy, a four-year-old in Ms. Huang's class, pulls a top hat off the hat rack and begins performing controlled balances high on the balls of his feet. Two other children become interested in this performance, and suddenly three children are using hats as creative props to stretch high into the air, with their arms, as they rise up on their toes forming a chorus line; Sammy continues to play the lead, placing a hat on a foot and balancing on one leg like a bird; the other children imitate. The movement progresses to a balancing game, and the children occasionally tumble to the floor, giggling.

Ms. Huang observes the movement game for several minutes and notices the children have taken to making the same shape of the lifted bird leg. She recognizes the children's imagination by commenting on their creative play with the hat; she then suggests to Sammy that he attempt to bring his leg behind him (in a pose resembling a ballet arabesque) while keeping the hat balanced on his foot. The trio becomes more focused with their balances and inventive with the shapes, moving the legs from the front to back and even experimenting with lowering the torso while lifting the leg.

Mr. Soto leads the children in a lively singing and dancing performance of Juanito (Little Johnny). The children shake and twist their bodies while clapping their hands as they sing. "Juanito cuando baila, baila, baila, baila. Juanito cuando baila, baila con el dedito, con el dedito, ito, ito. Asi baila Juanito." (When little Johnny dances, he dances, dances. When little Johnny dances, he dances with his pinkie, with his pinkie, pinkie, pinkie. That's how little Johnny dances.)

In the first verse, they wiggle the pinkie back and forth; in the second, they shake the foot and then wiggle the pinkie. Each time a new verse is sung, a movement is added until the children's bodies are in motion, from head to toe!

Even Matthew, who is generally reluctant to dance, raises his knees and waves his arms exuberantly. Mr. Soto changes the character of the song to Mateo, and Matthew dances into the center of the circle.[6]

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7.9: Engaging Families

Teachers can make the following suggestions to families to facilitate their support of the creative arts for their children:

- Try drawing, painting, and sculpting with the child at home.
- Embrace dramatic play at home. Provide props, costumes, space, and time.
- Show interest in their play and play with them.
- Turn on the music and move with your children.
- Incorporate dance and movement into everyday routines.
- Tap and clap to the rhythm of songs and encourage children to do the same.
- Notice and talk about works of art seen and songs and music heard at home and in the community.
- Notice and discuss shapes and colors in works of art and the environment.
- Identify sounds heard in the environment and play.
- Incorporate dramatic play into activities such as reading and going on outings or trips.
- Bring the child to an art museum or to a community area with public art displays, community concerts, family-friendly music classes, community dance performances, or movement programs.
- Be open-minded and encouraging about works of art that are sent home from the preschool setting, children's spontaneous musical performances, and children's dramatic play
- Share art, songs, music, dance traditions, or movement games from their homes.
- Donate materials that can be used in a variety of art experiences.
- Come to watch or participate in an art show, children's dramatic experiences, or a parent-child dance event[1]

Figure 11.12: These children are examining a three-dimensional piece of artwork.[2]

References

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7.10: Conclusion

The arts take on different meanings and expressions for individuals and communities. Therefore, this chapter acknowledges that the arts will manifest and thrive in ways that are unique to each child and the early childhood setting. This curriculum framework serves as a starting point and reference for teachers and child care providers to shape how the arts can be orchestrated or simply unleashed and integrated with other early learning experiences. Each arts strand (visual art, music, drama, and dance) is given attention; suggested teaching strategies, interactions, and environmental supports are illustrated with vignettes. However, numerous opportunities exist within each strand to weave two or more of the four art forms into the learning environment. More importantly, there are opportunities to integrate the arts into other domains, such as physical development, science, mathematics, and language and literacy.

It is essential to remember that teachers serve diverse groups of children. The interactions between the home and school are mutual and mutually important. Diversity is an essential aspect of human existence, and the creative arts offer excellent opportunities to learn, understand, and express it.[1]

References

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CHAPTER OVERVIEW

8: Mathematics

Learning Objectives

Explain what math education in early childhood is and what it is not

- Summarize the foundations of mathematics
- Identify ways educators can support spontaneous experiences with math and intentionally plan to build children's mathematical knowledge.
- Describe how the environment supports mathematics.
- Relate how to engage families in supporting their children's mathematical knowledge.

8.1: Introduction

Mathematics is a natural part of the preschool environment. Young children actively construct mathematical knowledge through everyday interactions with their environment, whether inside or outside.

Figure 9.1: When measuring two cups of flour, ½ cup of salt, and two tablespoons of oil to help make playdough, children use and build their mathematical knowledge.[1]

Mathematics learning grows naturally from children's curiosity and enthusiasm to learn and explore their environment. During the preschool years, children continue to exhibit a spontaneous interest in mathematics, further developing their mathematical knowledge and skills related to numbers, quantity, size, shape, and space. Teachers should encourage children's natural enthusiasm and interest in doing mathematics and use it as a vehicle for supporting the development of children's mathematical concepts and skills.

High-quality mathematics education in preschool is not about elementary arithmetic being pushed down onto younger children. It is broader than mere practice in counting and arithmetic. It is about children experiencing mathematics as they explore ideas of more and less, count objects, make comparisons, create patterns, sort and measure objects, and explore shapes in space. Mathematics learning occurs throughout the day and is integrated with learning and development in other developmental domains, such as language and literacy, social-emotional development, science, music, and movement. The general consensus is "that high-quality, challenging and accessible mathematics education for three- to six-year-old children is a vital foundation for future mathematics learning."

Teachers have a significant role in facilitating children's construction of mathematical concepts. When teachers help children become keen observers of their environment and reason about numbers, shapes, and patterns, mathematics becomes enjoyable and exciting for all.

Figure 9.2: Songs and games are fun ways to support math.[2]

Teachers may not always realize the extent to which their current everyday classroom practices support children's mathematical development. For example, when singing with children "Five Little Ducks Went Out One Day," incorporating finger play with counting, the teacher develops children's counting skills and understanding of numbers. Discussing with children how many children came to school today and how many are missing supports children's arithmetic and reasoning with numbers. Playing with children in the sandbox by filling different cups with sand and discussing which cup is the smallest, the largest, or how many cups of sand it would take to fill a bucket introduces children to concepts of comparison and measurement.[3]

References

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8.2: Guiding Principles for Supporting Math

The following principles will guide teachers' classroom practices in establishing a high-quality, challenging, and sensitive early mathematics preschool program. These principles are partially based on the 10 recommendations in *Early Childhood Mathematics: Promoting Good Beginnings*, issued by the National Association for the Education of Young Children and the NCTM in 2002.

- · Build on preschool children's natural interest in mathematics and their intuitive and informal mathematical knowledge
- · Encourage inquiry and exploration to foster problem-solving and mathematical reasoning
- · Use everyday activities as natural vehicles for developing preschool children's mathematical knowledge
- · Introduce mathematical concepts through intentionally planned experiences (in addition to what they spontaneously engage in)
- · Provide a mathematically rich environment
- · Provide an environment rich in language, and introduce preschool children to the language of mathematics
- · Support English learners in developing mathematical knowledge as they concurrently acquire English
- · Observe children to discover opportunities to clarify, extend, and reinforce their existing mathematical concepts and to help them discover new mathematical concepts
- · Provide an environment in which all children can learn mathematics, set appropriately high expectations for all children, and support individual growth
- · Establish a partnership with parents and other caregivers in supporting children's learning of mathematics[1]

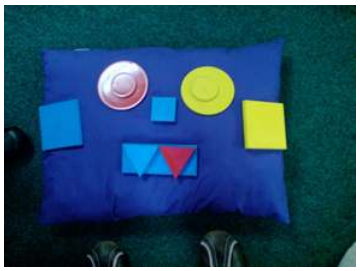

Figure 9.3: This pillow face, made with shapes, is a great example of math in action.**[2]**

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8.3: Environmental Factors in Supporting Math

Young children actively construct mathematical knowledge through everyday interactions with their environment. Setting up a high-quality physical environment is essential for children's mathematical development. The preschool environment sets the stage for children's physical and social exploration, as well as the construction of mathematical concepts. It should provide access to objects and materials that encourage children to experiment and learn about key mathematical concepts through everyday play.

- Enrich the environment with developmentally appropriate, challenging, and engaging materials that promote mathematical growth
- Integrate math-related materials into all interest areas in the classroom
- Use materials, books, and real-life settings that reflect the culture, ways of life, and languages of the children in the group
- Use children's books to explore mathematics with children
- Be intentional and mindful in setting up and using the physical environment (children do not effectively use materials and engage in experiences just because you provide them)[1]

Figure 9.4: This spindle box is designed to support math in a Montessori classroom.[2]

Research Highlight

Research indicates that the ability to reason about numbers starts as early as infancy. Five-month-olds show sensitivity to the effects of adding or subtracting items from a small collection of objects. Toddlers viewing three balls put into a container and then one being removed know to search for a smaller number of balls, and many search for exactly two balls.

By the time children enter preschool, before receiving formal arithmetic lessons, they employ various strategies to solve simple addition and subtraction problems. They may use manipulatives or fingers to represent the numbers in the problem and count out loud to find the answer. As they get older, they rely less and less on finger counting. To solve an addition problem such as 4 + 2 presented with concrete objects (e.g., color crayons), the child may count all objects "one, two, three, four" and then continue with the second set of objects "five, six" and find out there are a total of six. At a later stage, the child may "count on" the second set of objects. Knowing the number of objects in the first set (e.g., "four"), the child starts with "four" and continues to count "five, six" to find out the total number of objects, rather than starting to count from "one" with the second set of objects.[3]

Source:

K. Wynn, "Addition and Subtraction by Human Infants," Nature 358 (1992): 749– 50.

P. Starkey, "The Early Development of Numerical Reasoning," Cognition 43, no. 2 (1992): 93–126.

R. S. Siegler, "The Perils of Averaging Data Over Strategies: An Example from Children's Addition," Journal of Experimental Psychology: General 116, no. 3 (1987): 250–64.

References

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8.4: Introducing the Foundations

Introducing the Foundations

In this class, we will look at math divided into five broad areas or strands.

- Number Concepts
- Patterns and Relationships
- Measurement
- Geometry and Spatial Sense
- Data Collection and Organization[1]

Refer to the Mathematics content area in the Kansas Early Learning Standards for specific indicators of how children of various ages meet the benchmarks and standards. The structure of the KELS for the area of mathematics is as follows:

- Counting and Cardinality: know number names and counting sequence, count to identify the number of objects, compare numbers
- Operations and Algebraic Thinking: understand addition as putting together and subtraction as taking from
- Measurement and Data: describe and compare measurable attributes, classify objects and count the number of objects in each category
- Geometry: identify and describe shapes, analyze, compare, create, and compose shapes (Kansas State Department of Education, 2024).

Supporting Number Concepts

The number concepts strand encompasses concepts related to numbers and their relationships. It includes the development of counting skills, understanding quantities, recognizing ordering relations (such as “more,” “fewer,” or “less”), part-whole relationships, and a basic understanding of “adding to“ and “taking away” operations.

Figure 9.5: These children are exploring numbers and quantity as they play with dominoes.[2]

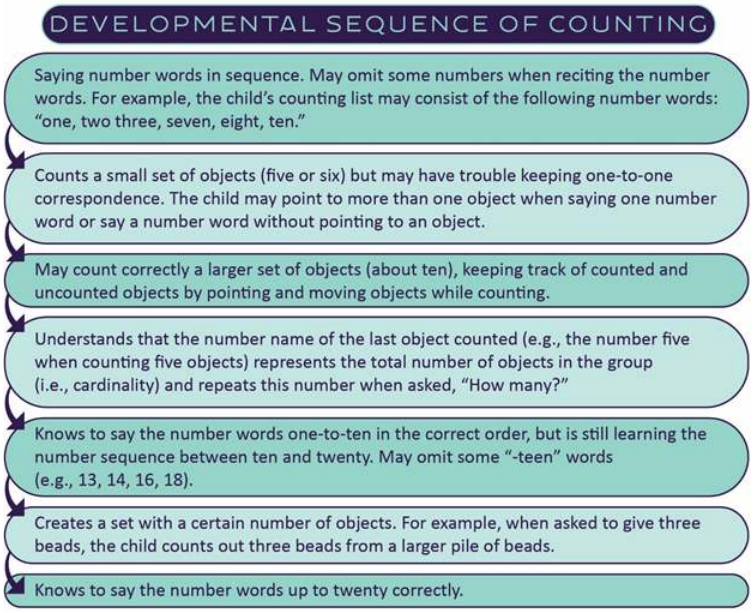

Figure 9.5: Image by *Ian Joslin is licensed by* CC-BY-4.0

Teachers can support children's development of the number sense foundations with the following:

- Observe children's spontaneous counting and foster growth through scaffolding or modeling
- Encourage counting during everyday interactions and routines
- Include preschool children's home language in counting activities, whenever possible
- Ask questions that encourage purposeful counting
- Foster one-to-one correspondence within the context of daily routines (such as setting the table)
- Support preschool children's ability to apply the counting procedure by
  - Providing a lot of objects to count
  - Starting with small sets
  - Modeling counting
  - Encouraging children to self-correct their counts
- Consider adaptations for children with special needs
- Use games, books, and other materials accessible to preschool children
- Plan group activities focused on counting
- Promote the use of comparison terms (more, same as, fewer, or less) through everyday interactions
- Use everyday interactions and routines to illustrate and discuss addition and subtraction transformations ("adding to" results in more and "taking away" results in less)
- Make estimations
- Use graphing with children[3]

Figure 9.6: Here is a material that supports children's understanding of Arabic numerals and counting.[4]

Vignettes

Playing with cars on the rug, a child argued, “I have more: one, two, three, seven, nine, ten.” His friend replied, “No, I have more: one, two, three, four, five, six, seven.” The teacher intervened and asked, “How do you think we can find out who has more cars?” “I count,” said one of the children. The teacher suggested, “Let’s count together,” and she modeled counting together with the children. She put the cars in each set, in a row, and lined up the two sets against each other. The teacher pointed to each car while counting.

During snack time, Veronica asked: “Can I have two more crackers?” The teacher replied, “Yes, and I see you already have two crackers. When I give you two more, how many crackers will you have altogether?”[5]

Supporting Patterns and Relationships

Obviously, preschool is not the time to teach traditional algebra, but it is when foundational algebraic concepts begin to evolve and gradually develop. Children observe the environment and learn to recognize similarities and differences. They learn to sort, group, and classify objects. They learn to recognize ordering relations, such as large-to-small, and to identify patterns. They develop the ability to make predictions, form generalizations, and derive rules.

Figure 9.7: As she built this tower, this young girl made a pattern with red and blue colors.[6]

Teachers can support children’s development of algebra and functions foundations with the following:

- Organize the classroom into different categorized storage areas to facilitate classification
- Include materials and objects for sorting in the environment
- Identify opportunities for sorting and classifying in everyday routines
- Recognize and extend sorting in play
- Plan for children at different levels
- Integrate sorting into children’s current topic of interest and study
- Point out patterns in the environment
- Engage preschool children in conversations about patterns
- Play with patterns in various formats, such as
  - Objects
  - Movement
  - Sounds
  - Rhymes and stories[7]

Figure 9.8: Providing sets of materials in different colors sets up natural opportunities for classification and grouping.[8]

Vignettes

As part of a curriculum unit on the seasons, the children went for a nature walk and collected various types of leaves. During the walk and later in the classroom, the children explored the leaves and were encouraged to describe different attributes of the leaves such as shape (pointy, round, long, needle), size (small, tiny, wide, big), color (red, green, yellow, orange, brown) and texture (smooth, soft, hard, wet, dry, rough). Children were then asked by the teacher to sort the leaves: “Put leaves that belong together in groups.”

The teacher asks Enrique, “Why did you put these leaves together and those leaves together?” Enrique responds, “They are same.” The teacher asks, “How are these the same?” Enrique points and says in Spanish, “Café aquí, amarillo aquí, y hojas rojas.” (“Brown here, yellow, here, and red leaves here.”). The teacher points to each group of leaves and says in English, “Great! Brown, yellow, and red leaves. What other ways can we sort the leaves? How about putting all the big leaves here and all the small ones there?” The teacher models sorting leaves by size for the child. “Where do you think this leaf would go?”

Pause to Reflect

Before reading this section, did you think that algebra was something that should be considered in the preschool classroom? Why or why not?

Supporting Measurement

The measurement strand involves comparing, ordering, and measuring things. This strand encompasses the child’s ability to compare and order objects by length, height, weight, or capacity, use comparison vocabulary, and begin to measure. Young children develop an intuitive notion of measurement through natural, everyday experiences. They explore and discover properties such as length, height, volume, and weight as they look for a longer block, measure who is taller, pour sand from a small bucket to a larger one, or try to pick up a heavy box and ask for help. They make comparisons to see which is longer, taller, heavier, larger, or smaller.

Figure 9.9: Tools such as this balance can help children compare weight.[9]

Teachers can support children’s development of measurement foundations with the following:

- Provide opportunities to promote measurement concepts in the environment (things to measure and measurement tools)
- Observe preschool children’s measurement concepts in everyday play and routines
- Facilitate and reinforce measurement concepts in everyday play and routines by
  - Building the descriptive and comparative vocabulary
  - Asking questions to bring their attention to the measurable properties of objects
  - Challenging them to use measurement to solve problems

- Provide opportunities to compare and order objects
- Use literature to illustrate measurement concepts
- Provide small-group activities using standard and nonstandard measurement
- Encourage estimations of measurement
- Encourage recording and documentation of measurements[10]

Figure 9.10: This boy is measuring the boulder with a yardstick[11]

Vignettes

As part of exploring and learning about growth, the children have planted sunflower seeds in the garden. A long stick was attached to each plant, and the teacher asked the children to mark the sunflower's height on it every week. Tracking sunflower growth has provided opportunities for comparison and measurement. For example, one week the teacher pointed to one of the sunflowers and explained to the children, “Last week when we measured this sunflower, it was up to here. It was seven inches long. This week it is up to here. How many more inches do you think it grew in the past week? What is your estimate?”

Children were encouraged to make estimates and then were invited to measure the growth of this sunflower. “How can we measure how much it has grown since last time?” Children had different ideas. Some children said, “You need a ruler.” Others said, “With this,” and pointed to a measuring tape. Over time, children also compared the sunflowers among themselves. On one occasion, the teacher helped a small group of children compare the heights of two flowers by using a string to represent the height of one flower, then laying it against the second flower.

Children enjoyed tracking the sunflowers’ growth and finding out, “Which sunflower is taller?” and “Which is taller?”—the child or the sunflower.[12]

Pause to Reflect

Involving children in measuring things that are meaningful to them is a great way to engage children in mathematics. Do you remember any measurement experiences from your childhood? This could be formal, like keeping track of your height on a wall or growth chart, or measuring the weight and/or length of a fish caught, or informal, such as recognizing that a new storage container holds more (volume) or noticing the length difference in a new pair of shoes.

Supporting Geometry and Spatial Sense

Geometry is the study of shapes and spatial relationships. Children enter preschool with a strong intuitive knowledge about shapes, spatial location, and transformations. They learn about geometry as they move in space and interact with objects in their environment. From infancy, they begin to form shape concepts as they explore their environment, observe shapes, and play with different objects. Before they can name and define shapes, very young children can match and classify objects by shape. During the preschool years, children develop a growing understanding of shape and spatial relationships. They learn the names of shapes and start to recognize the attributes of two- and three-dimensional shapes. They also develop an understanding of objects in relation to space, learning to describe an object’s location (e.g., on top, under), direction (e.g., from, up, down), and distance (e.g., near, far).

Figure 9.11: By using their bodies to make a triangle, these children are working with shapes and spatial understanding.[13]

Teachers can support children's development of geometry foundations with the following:

- Refer to shapes and encourage the use of shape names in everyday interactions
- Engage preschool children in conversations about shapes, including both
  - Two-dimensional shapes (such as circles, squares, and triangles)
  - Three-dimensional shapes (such as spheres, cubes, and cones)
- Provide materials that encourage preschool children to explore and manipulate shapes in space
- Include books, games, and other learning materials with shape-related themes in the preschool environment
- Provide preschool children with playful opportunities to explore and represent shapes in a variety of ways
- Present preschool children with many different examples of a type of shape
- Provide materials and equipment to promote spatial sense
- Support preschool children's spatial sense in everyday interactions
- Provide preschool children with planned experiences to promote the understanding of spatial sense, including
  - Songs and games
  - Books
  - Construction opportunities[14]

Figure 9.12: Building with pattern blocks such as these promotes geometry.[15]

Vignettes

The teacher had noticed that several children in her group had shown a strong interest in castles. They built castles in the block area, in the sandbox, and even looked for castles in fairy tale books when visiting the library. The teacher suggested that the group build a big castle outside. They started by gathering the materials. The children brought different-sized boxes and figures or characters from home to be included in the castle. The teacher also offered big cylinders, cones, building blocks, construction boards, and other materials. The children made different suggestions: "Put all the big boxes here and the small ones on top of them." "I put it above this for the roof." "We can use these for the tower."

The teacher described their ideas using the names of shapes and spatial terms: "So you want to put the small square blocks on top of the big rectangle blocks?" "Are you suggesting using the cylinders to build the tower?" The children enjoyed building the structure using various shapes and materials, and they were proud of their work.

During circle time, the teacher invited children to describe the castle and how it was built. "Look at the castle you built. Can you tell me what it looks like?" Children were encouraged to use spatial words and the names of shapes in their talk. The activity evolved into a long-term project. The children continued adding pieces to the structure and incorporated various elements to decorate the castle.[16]

Supporting Data Collection and Organization

In preschool mathematics, the area of data collection and organization introduces young children to foundational concepts of gathering, sorting, and interpreting information. At this stage, activities are typically hands-on and exploratory, allowing children to collect data through simple observations, surveys, or classification tasks (e.g., counting how many children prefer apples vs. bananas). They then organize this data using concrete materials like charts, pictographs, or manipulatives. These experiences help children begin to recognize patterns, make comparisons, and draw basic conclusions, all of which are essential skills for more advanced mathematical thinking. For early childhood educators, fostering these skills supports the development of logical reasoning, problem-solving, and early analytical abilities.

Supporting Mathematical Reasoning

Mathematical reasoning is a key process in learning and developing mathematical knowledge in all areas of mathematics, including number and operations, classification, patterning, measurement, and geometry. It involves the ability to think and reason logically, apply mathematical knowledge in various problem-solving situations, and devise multiple solutions. Mathematical reasoning is natural to most young children as they explore the environment and make sense of the world around them.

Figure 9.13: This boy uses mathematical reasoning when he constructs his train tracks.[17]

Teachers can support children's development of the mathematical reasoning foundations with the following:

- Identify and create opportunities for mathematical reasoning through both spontaneous interactions and planned experiences
- Pose meaningful questions that promote investigation and inquiry, and challenge children to think through a problem and come up with a solution
- Support preschool children in reasoning mathematically by providing clues, encouragement, and modeling, as needed[18]

Vignettes

The children cleaned up the play yard before going back inside. The teacher, Ms. Denise, had noticed that not all the shovels were picked up from the sandbox. Ms. Denise asked for help, saying, "We need all five shovels back in the box so our toys aren't lost. I see only three here. We need more shovels in the box. How many more shovels do we need?" The teacher had noticed that Ling Wa, one of the older preschool children in the group, was counting her fingers, trying to find out how many shovels were missing.

Ling Wa suddenly said, "Ms. Denise, we need two more."

Ms. Denise went further, asking, "Do you think we need two more shovels?" How did you figure that out?"

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Kansas State Department of Education. (2024). *Kansas early learning standards*.

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8.5: Engaging Families

Teachers can use the following strategies to help families develop their children's mathematical understanding:

- Communicate with families
  - The broader aspects of developing number sense include using counting in real-life situations, comparing numbers and discussing which is more or less, making estimations (e.g., "How many grapes are in this bowl?"), and solving simple addition and subtraction problems.
  - Classification and patterning play a crucial role in children's understanding of mathematics.
  - The importance of early measuring experiences and the types of measurement experiences they can do with children.
  - Mathematical reasoning involves thinking mathematically and exploring various approaches to problem-solving.
  - We can gather and represent information using math.
- Remind parents that daily use of numbers (which are everywhere!) can become learning experiences for children.
- Provide number-related games and books that children can take home or that families can make or purchase.
- Encourage parents to
  - involve children in everyday measurement experiences,
  - refer to shapes in the environment when talking with children,n
  - use spatial words in everyday interactions with children,
  - recognize math in everyday events and interactions, and turn them into learning experiences[1]

Figure 9.14: Cooking and baking are excellent opportunities to explore math with children.[2]

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8.6: Conclusion

Young children have a natural interest, curiosity, and competence in exploring and constructing mathematical concepts. Mathematics is a way of thinking and organizing the world around us. It is a natural part of day-to-day activities and events. Mathematics in preschool is learned through children's play and exploration, such as in the blocks area or the sandbox, through everyday routines like setting the table and cleaning up, and through participation in teacher-initiated activities. Some teacher-initiated activities are designed with a focus on math, and others may focus on art, movement, literacy, or science, but present opportunities for math learning.

When teachers recognize the potential for exposing students to math in various situations, they can turn everyday occurrences into exciting and effective mathematics-learning experiences. Children are excited to explore the size or volume of objects, to discover and create patterns, to manipulate and build with shapes, to sort and classify objects, and to try to figure out "how many." Teachers get to experience the day-to-day excitement of learning and discovering math with children. This process is joyful for the children and for the teacher, who guides and challenges them in building mathematical concepts, skills, and language [1]

Pause to Reflect

Many adults (including parents and teachers) shy away from math because they "aren't good at it." How do you feel about math? How comfortable are you "teaching" math? Has the way this chapter presented math affected that at all? If so, how?

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CHAPTER OVERVIEW

9: Science

Learning Objectives

By the end of the chapter, you should be able to:

- Explain how children's natural curiosity and exploration lay the foundation for the science curriculum.
- Justify the importance of active, hands-on science experiences.
- Describe the foundations in science that high-quality early childhood education programs support
- Discuss how the environment supports children's continual investigation of the natural world
- Identify ways teachers can support children's scientific inquiry and investigation
- Summarize ways to engage families in the science curriculum

9.1: Introduction

Children have a sense of wonder and natural curiosity about objects and events in their environment. Just like scientists, they seek information and actively explore and investigate the world around them, try things out to see what happens, and confirm or adjust their expectations.

Science is a natural and developmentally appropriate focus for young children. Preschool science is about active learning, not merely memorizing scientific facts or passively observing the teacher's science demonstrations. Preschool science aims to nurture children's habits of inquiry, critical thinking, creativity, innovative problem solving, open-mindedness, and the motivation to learn. Preschool science guides children's natural curiosity into opportunities to observe, explore, and inquire about basic phenomena and materials in their world.

Children learn and develop concepts about living things and physical objects from infancy. Preschool science provides children with focused experiences that allow them to learn ways to explore and extend their knowledge. Children begin to adopt scientific ideas and to acquire the basic skills and language of scientific inquiry (ways to explore and develop knowledge and understanding of scientific ideas). Making observations, posing questions, planning investigations, using tools to gather information, making predictions, recording information, and communicating findings and explanations all combine in an evolving process of developing science understanding and creating a disposition to choose to learn science in the future.

Science can be conducted in any preschool setting. Regardless of the level of resources and access to nature, all preschools can utilize their existing resources to create a program that offers meaningful science learning experiences. Pushing cars down an incline, building with blocks, manipulating tubes at the water table, or mixing clay with water are everyday play activities that engage children in experimenting with objects and materials. Collecting leaves, searching for insects in the yard, sorting and classifying fruits and vegetables, and sprouting seeds in pots engage children with living things. Experiences of child-initiated play are important as they provide children with opportunities to construct understanding and integrate knowledge. With teachers' intentional planning, guidance, and support, children's play and interactions with objects can become rich experiences in scientific inquiry, facilitating children's knowledge and understanding of objects and events in the world.

Preschool teachers play a pivotal role in expanding children's understanding of science concepts and developing their attitudes, skills, and language of scientific inquiry. Teachers can focus children's attention on particular science concepts that are developmentally appropriate, interesting, and engaging for both children and teachers. They can create engaging inquiry experiences that encourage close observations of objects and events.

Children may connect their own growth to the growth of other animals and begin to develop a broader understanding of living things. Such experiences of scientific inquiry not only support children's development of scientific knowledge but also provide a natural vehicle for developing their social skills and their development in mathematics, language, literacy, and other domains.

Figure 10.1: A teacher utilized background knowledge to assist the children in creating this bilingual butterfly life cycle documentation.[1]

Preschool teachers do not need extensive scientific knowledge to teach it effectively. Still, they should be willing to research and gain a general understanding of the concepts and principles they explore with children. Basic research readily provides the kind and amount of information or knowledge they need to know. Acquiring some background knowledge about the topic helps teachers plan inquiry experiences and challenge and support children through their explorations.

Teachers do not need to have answers to all the questions children will raise. Rather than providing answers, teachers can use children's questions as a springboard for further investigations. They may say, "I don't know. Let's find out together." Teachers must become "scientists" with children, modeling a questioning mind and thinking out loud to express interest and enthusiasm. Teachers' thoughtful guidance and support through inquiry experiences build a foundation for children's understanding of basic

science concepts, foster a positive approach to learning, and develop learning skills and attitudes necessary for later success in science and other subjects.[2]

References

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9.2: Guiding Principles for Supporting Science

The following principles guide teachers in establishing a preschool science program that fosters children's curiosity and develops their skills and habits of exploring and learning about their world. These principles are consistent with a constructivist approach to learning, where children actively construct knowledge through physical and mental interactions with objects and people in their environment. The principles are drawn from current research-based models and approaches to early childhood science and are consistent with the National Association for the Education of Young Children (NAEYC) guidelines on developmentally appropriate practice.

- The preschool environment supports children's curiosity and encourages inquiry and experimentation
- The teacher
  - acts as a researcher, joining children in exploring their world
  - asks open-ended questions to encourage children to think and talk
  - introduces children to new vocabulary, including scientific terms such as observe, explore, predict, and measure
  - demonstrates appropriate use of scientific tools
  - invites children to reason and draw conclusions
  - encourages children to share their observations and communicate their thoughts
  - models respect for nature
- The content of inquiry is developmentally appropriate and builds on children's prior experiences
- Scientific inquiry experiences are interesting and engaging for children and teachers
- Children explore scientific concepts directly through active, hands-on, minds-on, playful experiences
- Children explore scientific concepts in depth through multiple, related learning experiences over time
- Children construct knowledge through social interactions with peers and adults
- Children use language and other forms of communication to express their thoughts, describe observations, and document their work
- Teachers support children who are English learners in understanding and communicating scientific knowledge and skills
- Science is embedded in children's daily activities and play and provides a natural vehicle for integrating mathematics, literacy, and other content areas
- Individual differences are recognized, and all children are included and supported
- The preschool environment, home, and community are connected through science[1]

References

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9.3: Environmental Factors in Supporting Science

The indoor and outdoor environments provide the context for children's physical and social explorations and the construction of scientific concepts. The following are strategies for helping teachers set up a physical environment that is rich, stimulating, and conducive to children's construction of knowledge

- Be thoughtful about what objects and materials to include in the environment
- Provide a variety of natural materials to observe and investigate
- Include objects and materials that allow for creativity and open-ended investigation
- Include living things in the preschool environment
- Include scientific tools for observation, measurement, and documentation
- Make scientific tools available throughout the preschool environment
- Consider adaptations in scientific tools and materials for children with special needs
- Use technology to support children's scientific experiences
- Present documentation of science-related experiences in the preschool environment
- Include children's books with science-related content
- Use the outdoors for natural explorations and investigations
- Organize the space in ways that promote children's explorations
    - Allow space for observations and for objects, materials, tools, and resources related to science
    - Allow for flexibility in the use of physical space and furniture to accommodate the changing needs of each activity
    - In order to promote self-direction and free exploration, tools and materials need to be accessible and consistently available to children
    - Social interactions are necessary for conceptual growth and the development of communication skills
- Always be aware of children's safety
- Foster children's curiosity and questioning
- Guide children in exploring their questions
- Be an active observer
- Talk with children and engage them in conversations during their investigations
- Provide children with time.
- Know when to intervene and when to stand back
- Model the use of scientific vocabulary[1]

Scientific Vocabulary[2]

Words that can be used to describe scientific activities:

- Observe, observation
- Predict, prediction
- Test
- Similar, different
- Compare, contrast
- Count
- Measure
- Investigate
- Explore
- Experiment
- Discover
- Record
- Explain
- Hypothesis

Table 10.2: Suggested Scientific Tools[3]

Types of Tools	Names of Tools
Observation Tools Tools to extend close observations	• Magnifying glasses, hand lenses • Binoculars • Tweezers • Microscope Trays (Collectors' trays)
Measurement Tools Tools for measuring length, height, weight, volume, and temperature	• Tape measures, strings, unit blocks • Rulers Scales (e.g., balance scale, bathroom scale) • Measuring cups • Measuring spoons • Thermometer
Recording Tools Tools for recording and documenting information	• Pencils, markers, crayons • Science notebooks/journals, charts • Papers, posters • Camera, computer • Felt board, magnet board • Materials to create 3-D models

Table 10.3: Suggested Open Ended Materials[4]

Types of Materials	Names of Materials
Materials for Building and Construction Open-ended materials can be used in multiple ways and therefore allow for investigation, creativity, and problem-solving	Sample Materials: • Blocks of various shapes, sizes, and materials (e.g., wood, foam, • cardboard) • Boxes • Cardboard, planks, ramps • Carpentry tools • Gutters, hollow tubes • Logs • Nuts and bolts • Screws • Sticks • Straws • Wheels, wheeled objects • Other construction materials
Collections of Objects and Reclaimed Materials For exploration of diverse materials and use in sorting, classifying, and ordering activities	Sample Materials: • Bottles • Boxes of various sizes • Buttons • Collection of balls of different sizes • Collection of different types of animals (for sorting and pretend • play) • Collection of household tools made from metal, wood, plastic • Collection of musical instruments • Corks • Fabrics (e.g., a collection of gloves made of wool, rubber, leather) • Glass nuggets • Metal lids • Plastic lids • Screws • Shakers, maracas, castanets • Styrofoam pieces • Wind chimes • Woodchips
A Variety of Substances/ Materials	• Cooking utensils • Corn starch • Dough • Eggshells • Flour • Liquids • Salt • Sugar
Natural Materials: Earth Materials Natural materials found on Earth	• Clay • Crystals • Minerals • Rocks • Sand • Seashells

Types of Materials	Names of Materials
	• Soil • Tools to dig and explore soil (e.g., trowels, containers, magnifiers, • trays) • Tools to explore water (e.g., water table, clear plastic tubes, • connectors, funnels, containers) • Water
Natural Materials: Plant Materials Materials derived from plants and animals	• Bark • Cotton • Feather • Fruits • Fur • Leaves • Seeds, seed pods (e.g., pinecones) • Tree logs • Twigs • Vegetables

Research Highlight

Children bring to science many ideas about how things work. These intuitive understandings or naïve theories that children have constructed often conflict with what is known to be scientifically correct. Children hold preconceptions and misconceptions about different topics of science, including forces, changes of matter, light, sound, and earth phenomena. For example, children believe that water disappears when it evaporates or that rain occurs when clouds are shaken. It is important to know how these conceptions differ from the scientific explanation and why children construct these ideas. Children's misconceptions are intuitively

reasonable, from the child's perspective, and are used by children to explain the "why" behind physical events. Some of children's ideas may be cultural beliefs that have been introduced at home. The teacher's role is to guide children through numerous opportunities to discover and re-create concepts, without overtly correcting their misconceptions. Remember, science is about experimentation, and the goal is to support children's scientific thinking, not to merely provide the correct answer.[5]

Sources:

C. E. Landry and G. E. Forman, "Research on Early Science Education, in The Early Childhood Curriculum: Current Findings in Theory and Practice, 3rd ed., ed. C. Seefeldt (New York: Teachers College Press, 1999).

N. L. Gallenstein, Creative Construction of Mathematics and Science Concepts in Early Childhood (Olney, MD: Association for Childhood Education International, 2003)

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[3] The California Preschool Curriculum Framework, Volume 3 by the California Department of Education is used with permission

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9.4: Introducing the Foundations

The preschool learning foundations for science are organized into four broad categories or strands:

- Scientific Inquiry
- Physical Sciences
- Life Sciences
- Earth Sciences[1]

Refer to the Science content area in the Kansas Early Learning Standards for specific indicators of how children of various ages meet the benchmarks and standards. The structure of the KELS for the area of science is as follows:

- Scientific Inquiry
- Movement and Simple Machines
- Living Things
- Environment and Climate
- Habitats and Human Impact (Kansas State Department of Education, 2024).

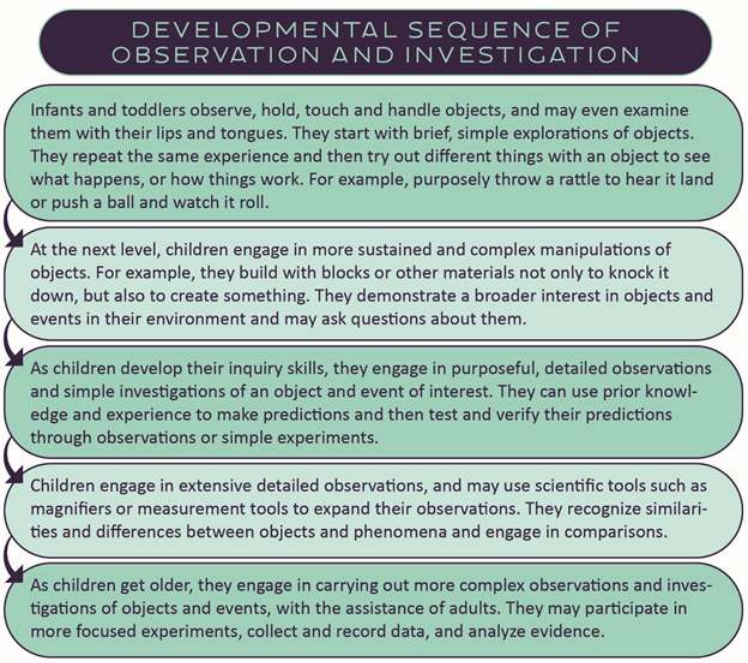
Supporting Scientific Inquiry

Young children's experience of science is an interplay between content knowledge (what children learn about) and inquiry skills (the skills and processes they apply to explore and develop knowledge and understanding of scientific ideas). Children build knowledge and understanding of concepts through active participation in the scientific inquiry process. Like scientists, children have a natural inclination to inquire, but they need guidance to develop their scientific inquiry skills.

- Observation and investigation skills involve observing, comparing, measuring, classifying, predicting, and investigating objects and events.
- Documentation and communication skills are employed to record information and communicate findings and explanations.

Scientific inquiry skills equip children to investigate and learn about science topics. Such experiences foster habits of questioning, critical thinking, innovative problem-solving, communication, collaboration, and decision-making.

Scientific inquiry skills are integral to children's ongoing play and explorations and are not taught in isolation. Children develop their abilities to observe, ask questions, and gather information through meaningful exploration and investigation. Teachers can foster a culture of inquiry and facilitate children's use of scientific skills and language through everyday explorations and planned experiences in scientific inquiry.



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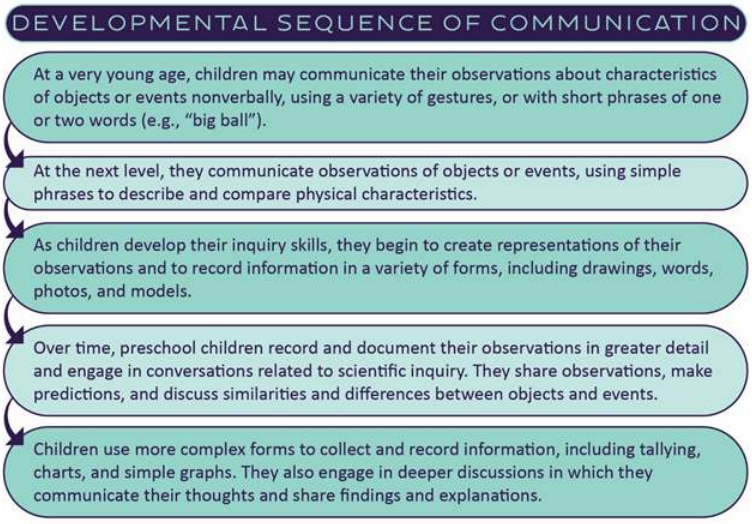

Figure 10.3: Image by Ian Joslin is licensed by CC-BY-4.0

Teachers can support children's development of the scientific inquiry foundations with the following:

- Facilitate children's observation skills by using the term "observe" and introducing the process with a familiar item
- Talk with children and ask questions to guide their observations
- Invite children to observe objects and phenomena related to the current focus of inquiry
- Promote the use of scientific tools to extend children's observations and investigations of objects
- Introduce children to scientific tools and their function, and support their appropriate use
- Encourage children to make predictions first and then check their predictions
- Remind children that predictions do not have to be right
- Record children's predictions
- Facilitate children's ability to make inferences and draw conclusions (when inferring and drawing conclusions, children observe what happened and make an assumption about the cause)
- Use everyday observations to model inferring

- Encourage children to explain the reasoning behind their inferences
- Encourage children to record observations, document investigations, and findings
- Promote the use of different forms to record and document information
- Consider adaptations for children with special needs
- Encourage children to describe their representations while you write their words
- Encourage different means of communication, including home language, sign language, and communication devices
- Invite children to record collaboratively, using charts, graphs, or models
- Ask open-ended questions to
  - Encourage children to share their observations
  - Facilitate problem-solving and investigations
  - Elicit predictions and explanations
- Engage children in collaborative discussions[2]

Vignettes

While exploring the play yard, children became fascinated with pill bugs (usually called a roly-poly by children). They would look for pill bugs in the yard and enjoy watching them curl into balls. One day, Ms. Lopez noticed that a group of children collected pill bugs in a bucket. She invited the children to put the "roly polies" on a tray and observe them closely at the outdoor investigation table. Ms. Lopez said, "Let's use our tools and look really closely at the pill bugs. What do you notice about their body?" Ms. Lopez assisted Jennifer in holding the magnifier above the pill bug: "Wow, it looks so big," Jennifer said. Jose observes the pill bug with a magnifier and gets excited: "I can see its head." Ryan asked, "When is it going to open up again? I want to see how many legs it has."

Ms. Brown presented the children with a big cube of ice. She asked the children to touch or hold it and tell her what they notice about it: "What does it feel like? What does it look like?" Children shared their observations: "It is cold." "It is slippery." "It is very smooth." "It is wet." "It is white." "It is square." Ms. Brown asked the children, "What do you know about ice?" Some children shared their ideas: "We keep it in the freezer," "It's very, very cold." "If you put it in water, it disappears." She invited children to draw their observations of the ice cube in their notebooks. The next day, Ms. Brown told the children that together they were going to explore what would happen to ice when it was left outside of the freezer. She has asked children: "What do you think will happen to this ice cube if we leave it in this bowl? What is your prediction?" "Will it stay the same?" "What will be different?" Children made predictions, and she wrote them on a chart (e.g., "It will not be so cold anymore." "It will turn into water"), "After lunch, we'll check our ice cube and find out what happened."

The children in Ms. Moreno's group are taking turns bringing home the picture book they created as a group. Today, it is Emilia's turn to take home this book. This picture book was created to document the growth of their plant. Emilia points to the photos in the book (taken by Ms. Moreno to document the process) and to the children's drawings. She tells the story out loud to her grandmother, who is picking her up, "First we had to buy seeds (points to a photo of the seeds packet on the first page), then we put the soil, and then we put the seeds inside the dirt . . ." Emilia continues with more details while looking at the pictures in the book: how they put the pot in the sun, watered the plant, and measured its growth. "Here it was one inch, and here it was bigger, and here it was very tall, and it has many leaves." At home, Emilia will share it with her family, and together they will retell the story in her home language.[3]

Pause to Reflect

How would you facilitate children's thinking skills through everyday observations and interactions?

Supporting Physical Sciences

Young children's inquiry in physical science involves actively exploring nonliving objects and materials, as well as physical events, in their everyday environment. When children build with blocks, play with different balls, push or slide objects of various kinds, and engage with water, sand, clay, and other materials in the preschool environment, they explore these materials in different ways

and begin to form ideas about their physical properties. They manipulate objects, act upon them, and observe the results. They may try a certain strategy repeatedly to see if the same result occurs again. Through such exploratory interactions with objects and solid and nonsolid materials, children can learn about cause-and-effect relationships, the physical properties of objects and materials (e.g., size, shape, rigidity, texture), and about changes and transformations of objects and materials. For example, when building with various kinds of blocks, children can learn about the size and shape of the blocks, as well as the characteristics of the materials used to make them (e.g., wood, foam, plastic). They may discover that the large cardboard blocks should be used at the bottom of a tower and the small unit blocks on top to create a strong and stable tower. When playing at the water table, they experience how water flows down and takes the shape of the container.

Figure 10.4: What containers could be added to this water table to expand the children's exploration?[4]

With teachers' guidance, children's everyday play can become rich, hands-on inquiry experiences of the key concepts in physical sciences. Teachers can provide children with materials to broaden their investigation. They encourage children to try out their ideas, even if the teacher knows the child's strategy will not create the desired result. Teachers challenge children's thinking by asking questions that focus attention on key science concepts being investigated: "What can you do to make the bridge higher?" "How can we make mud?" "Why did the ball roll down in this direction?" Interactions of this kind allow children to extend their experimentation with objects, notice patterns of cause and effect, reason, and think more deeply about the phenomena they observe, and use language to describe, explain, and reflect on their work.

Key Concepts in Physical Sciences

Through exploring objects and materials, children develop an understanding of key concepts related to the physical world.

- They learn about the size, shape, weight, texture, and other properties of objects and materials.
- They learn about the form and function of objects, and that an object's form supports its function.
- They continue to learn about cause and effect—that certain actions lead to certain reactions.
- They learn about changes in objects and materials, such as how mixing, heating, or cutting will produce changes in materials, and that some changes are reversible and some are irreversible.
- They begin to understand that objects at rest are in a state of balance.

They learn more about force and motion (inanimate objects can be set in motion; pushing and pulling can put objects in motion; objects can move in different ways).

Teachers can support children's development of the physical sciences foundations with the following:

- Provide children with opportunities to explore a variety of objects and materials in the daily environment.
- Prepare yourself and be purposeful about the scientific concepts children will investigate while engaged with objects and materials.
- Engage children in projects that allow them to explore, experiment, and invent with objects and materials for an extended period of time.
- Experiment with materials and objects before offering them to children.
- Invite children to observe and describe the characteristics and physical properties of the objects and materials they investigate.
- Plan opportunities for children to sort and classify objects and materials and reflect on similarities and differences.
- Provide children with opportunities to build and experiment with simple machines. Simple machines refer to six mechanical devices that make it easier to move or lift something: levers, a wheel on an axle, a pulley, an inclined plane, a wedge, and a screw.

- Provide children with opportunities to investigate the form and function of different tools and machines.
- Avoid presenting children with activities of “magical” science (such as chemical “snow” and exploding volcanoes) that are done for entertainment purposes and with the children as observers (not participants).
- Select activities or projects in which children can vary their actions on objects and observe the immediate reactions to their actions.
- Use cooking activities as opportunities to reason about transformations in materials.
- Invite children to set up an experiment and collect and analyze data.
- Focus children’s attention on the effect of one aspect (variable) at a time.
- Lead children to make predictions about what they expect to happen.
- Ask questions to raise children’s awareness of how they produced an effect.
- Encourage children to record and document investigations with objects and materials.[5]

Figure 10.3: There is science at play when making tamales.[6]

Vignettes

Ms. Yen introduced children to a variety of solid materials, including feathers, wood chips, pennies, foam pieces, marbles, and eggshells. After introducing the materials, she left them for the children to explore freely in the discovery center. The center also included tools such as magnifiers, trays, cups, and a balance scale to expand the children's observations of the materials, and they were familiar with how to use them. Children enjoyed exploring these materials, especially discovering how they are similar to or different from each other. They investigated one question: “Which materials are rigid and which are soft?” Children tried pressing, poking, twisting, tearing, and breaking the different materials and shared their conclusions with their classmates as they worked: “The pennies are hard.” “The feathers are very soft. You can bend them, and they do not break.” “The eggshell breaks when you press on it, and these (points to foam pieces) are soft, and you can break them like this (the child demonstrates how they break easily).” “The wood chips are very hard, too.” With the teacher’s assistance, some children recorded their findings on the chart by gluing a sample of each material under “Rigid” or “Soft.”

During the last cooking activity, Ms. Moreno noticed that the children were fascinated when they mixed the flour with water. The children’s reactions gave Ms. Moreno an idea for extending the group’s explorations with dry materials and engaging them in exploring mixtures. During small-group time, Ms. Moreno introduced the children to various dry materials, including salt, flour, cornstarch, and sugar, and invited them to explore these substances. She then suggested that they mix some of these materials with water. The teacher asked the children questions to invite them to make predictions: “What do you think will happen if we add salt to water . . .” As the children watched the salt crystals dissolve, they discovered that when salt is mixed with water, it is no longer visible. The teacher immediately asked questions that encouraged the children to check their predictions. Ms. Moreno asked the children, “What happened when you stirred the salt in water?” Children came up with different answers: “It disappears.” “It is inside the water, but you cannot see it anymore.” Ms. Moreno invited the children to taste plain water, stir it with salt, and tell them the difference. When the children reported that they had tasted the salt and that it was still in the water, the teacher introduced the word "dissolve" to the children and explained that the salt dissolved in water to form saltwater. The children tried out different materials and discovered that some dissolve in water and others, such as flour or sand, do not. The next day, the children tried mixing various materials, such as glue, lemonade powder, tea leaves, and playdough, to find out what happens to each of these materials when mixed with water.

The children played at the water table and took turns tossing objects into the water to find out which ones sink and float. Ms. Schultz held a plastic cup and asked, “What do you predict will happen to this cup when you put it in the water? Will it sink or float?” David said, “It will float like the other cup,” referring to the Styrofoam cup they tested earlier. Dana said, “It will sink because it is more hard than the white cup.” Gaby said, “Maybe if we put it in like this (facing up), it will not sink.” Ms. Schultz asked, “Why do you think so?” Gaby said, “Because the water will not go inside.” She put the cup in the water, facing up, and the children observed the cup floating. “You see! It is floating.” David said, “Now, let’s put it in like this (facing down).” Ms. Shultz said, “That’s a great idea. Let’s put the cup in the water, facing down, and see what happens. What is your prediction? Will the cup sink or float?”

The children predicted that the plastic cup would float again. Ms. Shultz asked, “Why do you think it will float?” David answered, “Because it was floating before.” She put the cup in the water, facing down, and everyone, including Ms. Schultz, was surprised when they saw the cup sinking in the water. The children were fascinated with what they discovered. They kept putting the cup in the water, one time facing up and one time facing down, watching it turn from a “floater” to a “sinker.”[7]

Pause to Reflect

How can different interest areas in the preschool environment (e.g., the block area, the water table, the sensory table, and the playground) be used to enhance children’s explorations of objects and materials?

Supporting Life Sciences

Life sciences for young children are about nurturing children’s curiosity and fascination with the natural world and building their understanding and appreciation of living things. Preschool children have numerous opportunities to interact with living things within their preschool environment. When playing in the yard, they may come across small animals or bugs or notice changes in the trees. They may help care for the class pet or the plants in the room. They participate in various planned activities related to living things, such as taking a neighborhood walk to collect different leaves, searching for bugs or other small animals in the yard, sorting and classifying fruits and vegetables, exploring different seeds, planting bulbs, sprouting seeds, or growing a garden. Such experiences in the preschool environment can provide the context for rich scientific inquiry into the properties and characteristics of living things.

The goal is to provide children with opportunities to observe living things, including humans, closely and to encourage them to question, explore, and investigate physical characteristics, behaviors, habitats, and needs. Through ongoing opportunities to observe and discuss what they have seen, children develop their ideas about living things, how they are the same, and how they differ. They start sorting, classifying, and looking for patterns. They begin to recognize commonalities, such as the physical structures and basic needs of different living things, as well as the diversity and variation among organisms.

Figure 10.4: Classrooms can get a butterfly kit to experience the life cycle of butterflies[8]

The teacher has a vital role in guiding children through experiences of exploring and observing animals and plants around them, whether outdoors, as they exist in nature, or indoors in an environment that is as natural as possible. They deepen children’s understanding of living things, including the features of their body parts and processes, by encouraging them to observe closely, raise questions, investigate further, describe and represent their observations, and create opportunities for discussion and reflection. At the same time, they model the wonder and excitement of the natural world, as well as a respect for living things and their habitats.

Key Concepts in Life Sciences

In studying animals, plants, and humans, children develop an understanding of key concepts related to living things, such as:

- All living things have basic needs that must be met for them to grow and survive.
- The body parts of living things are useful to them in meeting their needs.
- The physical characteristics of living things reflect how they move and behave.
- Living things inhabit various environments.
- All living things grow over time and undergo changes related to their life cycle.

There is variation and diversity in living things.

Figure 10.5: Children can help plant, maintain, and harvest from a garden.[9]

Teachers can support children's development of the life sciences foundations with the following:

- Focus children's explorations on key concepts of living things
- Take children on outdoor explorations of plants and animals
- Model curiosity and interest in nature
- Remind children to be respectful of nature
- Engage children in conversations about what they notice and point their attention to important aspects of living things
- Document children's outdoor explorations
- Provide children with tools for the exploration of living things
- Include plants and animals indoors
- Engage children in close observations of living things (animals, plants, fruits, and vegetables)
- Invite children to share in-home experiences with living things
- Use books to enrich and extend children's study of living things
- Provide children with opportunities to care for plants and animals
- Provide children with opportunities to observe and monitor plants' growth and development
- Engage children in reflective conversations in small or large groups
- Involve families in children's planting and gardening experiences
- Provide children with opportunities to observe changes and transformations in animals passing through stages of the life cycle
- Provide children with opportunities to observe changes and transformations in animals passing through stages of the life cycle
- Discuss the death of living things from the scientific perspective of death, and explain to them that all living things die (families should be informed of the discussions to be prepared to answer questions)
- Invite children to investigate their own growth[10]

Vignettes

While playing outdoors, Gregory pointed up to the oak tree and shouted, "Look, a squirrel up in the tree." Joanna whispered, "Shhh . . . You will scare the squirrel away." They stood there silently, watching the squirrel. Soon, more children joined them. Ms. Leon, watched them observing the squirrel and asked, "What do you think the squirrel is doing?" (Pause) "What do you think he is looking for?" She listened carefully to the children's ideas and questions while observing the squirrel: "It is climbing up." "He is looking at us." "I think he is looking for something to eat." Joanna asked Ms. Leon, "Is that where he

lives?" Ms. Leon returned the question to her and asked, "What do you think?" Ms. Leon expected this question to come up because they had recently been discussing the habitats of different animals and had commented that some animals live in trees. Later, during group time, Ms. Leon invited children to share their observations of the squirrel with the group. She brought up her question again: "What do you think the squirrel was looking for in the tree?" Some children said that squirrels were looking for food. Ms. Leon asked, "What kind of food do you think squirrels may find in the tree?" Joanna suggested, "Maybe they eat leaves." Miguel said, "Maybe the squirrel was looking for seeds." Ms. Leon answered, "Oh, so you think that squirrels may eat leaves, nuts, and seeds. Let's gather our small binoculars and journals and observe the squirrels to find out what they're doing in the tree and what they like to eat.

The teacher cut open the avocado, and Danny got really excited. "I knew there was going to be a big seed inside." Ms. Wilson replied, "You did predict that there was going to be a big seed inside." She invited children to observe the inside of the avocado. Rena said, "It has this thing inside." Sara pointed to the empty half and said, "This is where it was." The teacher replied, "It is the avocado seed." She took out the seed and handed it to Rena. "Oh, it is slippery." Ms. Wilson put it on a tray and said, "It does feel very slimy." She invited children to observe the seed. "What does it look like? What does it feel like?" After she gave the children time to observe the avocado seed, she pointed to the other fruits in the basket and said, "I wonder if these fruits are also going to have seeds inside. What do you think?" Rena said, "Maybe the orange will not have very big seeds." Danny said, "The avocado has a big seed inside, not the orange." Ms. Wilson asked, "What do you think is inside the orange?" The teacher invited the children to predict the type of seeds inside an orange, a mango, a butternut squash, a papaya, and a plum, and wrote down their predictions. She then invited the children to cut open the fruits and check what was inside[11]

Pause to Reflect

How can you find out what ideas, interests, cultural beliefs, or fears the children in your group bring to their study of living things?

Supporting Earth Sciences

When children play with dirt, jump in puddles, collect rocks, observe the rain, or feel the heat of the sun, they have direct contact with aspects of the earth. Daily interactions and direct contact with objects and earth events provide children with the context to observe and explore properties of earth materials and to identify patterns of change in the world around them (for example, patterns of day and night, and temperature changes). With teachers' guidance, children's everyday interactions and direct contact with objects and earth events can become rich, inquiry-based experiences of earth sciences.

Figure 10.6: Exploring outdoors helps connect children with nature.[12]

Teachers can provide children with opportunities to explore the physical properties of earth materials and observe, record, and track changes in the weather and how they affect the living world. Exploratory interactions with earth materials and ongoing observations of earth phenomena enhance children's connection to nature and raise their awareness of the importance of caring for and respecting the natural world. The box below summarizes key concepts in Earth sciences. The following section provides practical strategies to engage children in rich, focused explorations of earth materials and phenomena.

Key Concepts in Earth Sciences

In studying Earth materials and phenomena, children become aware of key characteristics of Earth:

- Earth materials (soil, sand, rocks, air, water) are part of the natural environment.
- Earth materials have different properties.
- Earth phenomena (day/night; seasons) have patterns of change. Natural objects in the sky (the sun and moon) are not always in the same place.
- Temperature and weather changes can be tracked over time.
- Weather and seasonal changes affect the environment.

People should respect and care for the environment.

Teachers can support children's development of the earth science foundations with the following:

- Take children on a search for earth materials in nature
- Invite children to observe, compare, and classify earth materials
- Invite children to explore and experiment with earth materials
- Use opportunities to explore earth materials in the context of studying living things or when exploring other solid and non-solid materials
- Invite children to share in-home experiences with earth materials
- Engage children in observing and describing the sun, the moon, and other natural objects in the sky
- Provide children with opportunities to observe, record, and discuss the weather
  - Develop an awareness of the daily weather
  - Invite children to record and discuss changes in the weather
  - Invite children to observe and discuss the effects of weather and seasonal changes on their lives and the environment around them
  - Engage families in children's explorations of weather and seasonal change
- Model and discuss respect for the environment
- Engage children in caring for and protecting the environment through everyday routines in the preschool environment
- Collect and use recycled materials[13]

Vignettes

Ms. Tina observes the children playing at the sandbox. Ted fills up the bucket with water and pours it on the sand. Olivia and Ted watch as the sand absorbs the water. Next, they begin to pile the sand into a mound. Olivia says, "It's like a mountain. Let's make it bigger." They add more sand and compact it together. Their mountain is beginning to take shape and growing larger and larger. Olivia says, "I am going to get water." She gets a small bucket and gently pours it on top of the mountain. She notices how the water creates a depression in the sand and then flows down. Ted says, "Like a river." He fills the bucket with more water and pours it back into the same place. The depressed part gets bigger. Ms. Tina gets closer and asks, "What happens when the water is flowing down your mountain?" Ted describes, "The water makes a hole in the mountain. Olivia says, "It takes the sand down." Ms. Tina said, "A little bit of water at the beginning helped to hold the mountain together, but pouring a large amount of water causes the sand to slip and slide away. It can also happen in nature, when water breaks down the land."

Today, Rena's father came to school to share some of his kites with the group and to build one with the children. First, he invited the children to observe him flying one of his kites in the air, and then the children took turns flying the kite together with him. After they came inside, Rena's father asked the children, "So what do you think makes the kite fly up?" Children came up with different answers. "The wind touches the kite all around, and it goes up in the sky. It pushes the kite up, up, up, up in the sky." Another child said, "The air goes through the holes of the kite, and it moves the kite to the sky." Rena's dad invited children to notice the shape of the kite, and together they discovered that the kites he brought have a similar shape, "like a diamond." He also asked them why they think the kite needs to be light and not heavy, and one of the children said, "Because it needs to fly up." Rena's dad told them, "A long time ago, kites were invented in China. People used bamboo sticks

and silk to make kites." He then invited children to build a kite. "Now we are going to build our own kite. What do you think we need to build a kite?

Every month, the children observe the oak tree outdoors and keep track of its changes from month to month. Ms. B. encourages children to make drawings of the tree, and together with the children, she takes photos of it once a month. While observing the tree, Ms. B invites them to share their observations: "What changes do you see?" "Why do you think the tree changed like that?" Through such discussions, Ms. B helps children to begin to draw the connection between the changes they observe in the tree and the changes in the weather and seasons. In the fall, children collected fallen oak acorns and leaves. They were fascinated with its deeply lobed leaves, and some of them made drawings of the oak leaves in their journals. They also observed the acorns and talked about them, as well as other trees around the yard that have dry fruit similar to the acorn. Ms. B creates a class book featuring observational drawings, children's words, and photographs that document the changes the children observe each month. By the end of the school year, the book will include their documentation of the tree in order of the seasons: fall, winter, spring, and summer.[14]

References

[1] The California Preschool Curriculum Framework, Volume 3 by the California Department of Education is used with permission

Kansas State Department of Education. (2024). *Kansas early learning standards*.

[2] The California Preschool Curriculum Framework, Volume 3 by the California Department of Education is used with permission;

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9.5: Engaging Families

Teachers can make the following suggestions to families to facilitate their support of history and social science

- Use science learning to involve families by inviting them to the program and sending home suggestions for activities they can do with their children.
- Communicate to families their important role in supporting children's curiosity and the development of scientific knowledge.
- Share your approach to science with family members and how you support children's development of inquiry skills.
- Invite family members to come and discuss their beliefs and connections to nature with the teacher and children.
- Share the importance of active, hands-on explorations of objects and materials.
- Inform families about children's explorations and experimentation with objects and materials.
- Involve family members as volunteers and provide rich resources in the preschool environment.
- Provide families with enrichment and follow-up activities they can do with children at home.
- Ask families about children's previous experiences, cultural beliefs, and theories about living things.
- Share children's experiences with science in the classroom with families.
- Remind family members of the many opportunities to engage children in life science explorations outside the preschool environment.
- Provide family members with tips to support children's awareness and understanding of their natural environment.[1]

References

[1] The California Preschool Curriculum Framework, Volume 3 by the California Department of Education is used with permission

9.6: Conclusion

Young children have a sense of wonder and a natural curiosity about objects and events in their world. Through exploratory play and experimentation with objects and materials, they discover how to make their car go downhill faster or how to control the movement and flow of water. They are excited to discover what's inside a pumpkin, how trees change over the year, how the rain feels and smells, and why pill bugs curl into a ball. The preschool environment nurtures children's innate or natural dispositions to observe and seek information. It guides their curiosity into opportunities to observe, explore, and inquire about objects and phenomena in their environment. Teachers provide children with a purposefully planned, play-based, supportive environment that expands their explorations. Children's explorations and guided investigations deepen their understanding of scientific concepts and develop their attitudes, skills, and language of scientific inquiry.

Figure 10.7: Capturing documentation of the worm this child found while exploring outside.[1]

While investigating concepts from physical, life, and earth sciences, teachers encourage children to ask questions, observe and investigate, predict and experiment with objects and materials, draw conclusions, document their work, and share their observations and ideas with others. Such experiences develop children's scientific inquiry skills and provide the context for learning and developing their language (building vocabulary in English and in their home language), literacy, mathematics, and social skills. Science also offers a special avenue to include families in the curriculum and bridge the home and preschool cultures. Preschool science is inclusive and prepares children for the scientific skills and knowledge they encounter later in school. It fosters a joy of discovery, a positive approach to learning, and the development of skills and attitudes necessary for many areas of learning throughout life.[2]

Pause to Reflect

What aspects of the natural world are you curious about? How might that affect how you plan curriculum for science?

References

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CHAPTER OVERVIEW

10: Social and Emotional Development

Learning Objectives

By the end of the chapter, you should be able to:

- Explain how social-emotional development lays the foundation for and is interrelated with all other domains and areas of development
- Describe the foundations in social and emotional development that high-quality early childhood programs support
- Discuss how the environment contributes to children's social and emotional development
- Identify ways educators can support children's social and emotional development
- Summarize ways to engage families in the curriculum for social and emotional development

10.1: Introduction

Social-emotional development indicates how preschool children acquire the social skills, self-awareness, and personal qualities interconnected with classroom learning. Why is social-emotional development important to early learning?

- Many social-emotional qualities—such as curiosity, self-confidence as a learner, self-control of attention, thinking, and impulses, and initiative in developing new ideas—are essential to learning at any age. Learning, problem solving, and creativity rely on these social-emotional and motivational qualities as well as basic cognitive skills.
- When learning occurs in groups, such as in preschool classrooms or family child care programs, the social environment significantly influences how learning occurs. When young children enjoy interacting with adults and other children, they are more enthusiastic about activities and participate more.
- The interest and enthusiasm of others fuel the child's own excitement about learning, and children are also motivated by others' acknowledgment of their accomplishments.
- Children who have been reported as having the greatest difficulties in learning are hindered more by a lack of social-emotional qualities than by academic concepts.
- The developing brain is not neatly divided into separate areas governing learning, thinking, and emotions. Instead, it is a highly interconnected organ with different regions influencing and being affected by the others. This means, for example, that young children who experience emotional challenges (perhaps because of stress) are less ready for learning because the brain regions related to memory are being affected by other regions governing emotion. [1]

Figure 7.1: Working constructively with a peer takes a lot of social skills.[2]

Pause to Reflect

What is your reaction to the importance of social and emotional development to children's learning? Did you already know this information? Do you think most people are aware of this?

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10.2: Guiding Principles for Supporting Social and Emotional Development

Early learning is supported by attention to social-emotional development. Rather than taking time away from activities promoting learning and thinking, attention to the development of self, social interactions, and relationships is an essential component of an early childhood curriculum designed to promote learning in all young children. Here are some guiding principles on how to do that:

- Support social-emotional development with intentionality and ample opportunities to practice skills
- Attend to the impact of overall program design on social-emotional development (how you group children, what you model, etc.)
- Utilize curriculum practices that support healthy social-emotional development, including:
  - allow many opportunities for practicing social interaction and relationship skills
  - provide support for the growth of age and developmentally appropriate self-regulation abilities
  - encourage curiosity and initiative
  - provide each child a network of nurturing, dependable adults who will actively support and scaffold his or her learning in a group setting
- The most effective approach is play-based active learning

Here are some additional strategies to support children's social and emotional development:

- Create a program environment and daily routines that offer children opportunities for responsible and cooperative roles in the classroom or family child care community.
- Model desirable behavior and attitudes in interactions with children and other adults.
- Use family culture to create bridges between the program and the home, support children's pride in their family experience, and understand individual differences in background and viewpoint.
- Enlist adults as active co-explorers in children's chosen activities.
- Encourage children's ideas, initiative, and contributions to shared activities.
- Observe children attentively as they play to understand each child's needs, interests, strengths, and areas for growth in social-emotional development.
- Establish developmentally and culturally appropriate expectations for children's behavior, especially expectations for self-control and self-regulation.
- Narrate for children what they are observed doing and expressing, providing language to describe their thoughts and feelings, and to clarify others' feelings.
- Provide specific feedback to children about their efforts, reinforcing their choices that support learning and linking their actions to outcomes.
- Coach and guide children's behavior using positive, respectful phrasing and tone to prompt problem-solving and give brief instructions and reminders.
- Help children understand social cues (facial expressions, body language, tone of voice). This can be fostered by simply allowing the children to freely play with their peers (learning through experience), or by modeling your own thought processes by thinking out loud ("I wonder what it means when Hayden is crying?")[1]

Figure 7.2: Children's emotions sometimes look like this. But with adult support they can learn to self-regulate.*[2]*

References

[1] The California Preschool Curriculum Framework, Volume 1 by the California Department of Education is used with permission;

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10.3: Environmental Factors in Supporting Social and Emotional Development

The physical environment provides young children with expectations for behavior. When educators are mindful of the aesthetics, organization, and function of each area in the space, challenging behavior is likely to decrease while constructive, cooperative behavior increases.

A program's vision for learning and philosophy of care dictate how an environment is designed. For example, if the curriculum is based on the view that children are competent directors of their own learning, educators develop a physical setting and activities that reflect children's emerging interests and provide easy access to meaningful play materials. Shelves for manipulatives and other materials are near the floor where children can easily reach them. Special areas in the room are designed for individual, small-group, and larger-group interactions. Play materials and other materials are carefully selected to reflect children's emerging interests, as observed in the context of play and conversation. In this environment, adult-child interactions can expand children's questions and comments.

High-quality learning environments set the stage for social-emotional exploration and growth. Children feel comfortable and secure when presented with a warm, inviting, and culturally familiar environment. The attractive spaces adults prepare for children communicate expectations of responsibility and cooperative care (we all play in and care for this beautiful place together).

Figure 7.3: This classroom sends clear messages about how children are to play with the materials and each other.[1]

Preparing a variety of learning areas with open-ended materials encourages each child to participate in meaningful play experiences that match their individual temperaments and abilities. Incorporating elements from the home creates an atmosphere of community while simultaneously acknowledging the presence of individuals.

A physical environment that supports social-emotional learning has the following characteristics:

- Challenging and developmentally appropriate materials
- Ample supply of materials
- Appropriately sized small-group activities
- A variety of small-group activities within a range of adult supervision
- Aesthetically appealing
- Spaces to be with others *and* spaces to be alone
- Furnishings and materials accessible to children
- Displays of children's work
- Space for children's belongings
- Reflective of diversity
- Space for arrivals and departures
- Supportive of children's active engagement
- Outdoor areas supportive of social-emotional development

Just as the physical environment helps young children successfully meet the social-emotional demands of the curriculum, so does the design of the daily schedule. Young children are better able to manage themselves and their relationships when daily routines and activities are predictable, transitions are signaled and supported, and there is a balance between relatively active and relatively quiet play and between group and individual activities. In the sections that follow, strategies to support social-emotional development are described in detail.[2]

Helping Children Cope with Stress

Teachers in an early childhood education program are often the first people outside the family to become aware that a young child may be experiencing overwhelming stress. They may notice a child who reacts with uncharacteristic aggression to a peer's comment that would not bother another child, or they may notice that a child has become unusually quiet and withdrawn lately. Young children convey their stress in individualized ways: some are emotionally over-reactive, while others are emotionally over-controlled; some become clingy, others withdrawn; some become provocative and defiant. A common characteristic is that young children under stress exhibit a marked change from their ordinary behavior. They often lose the capacity for competence and self-control that they previously had. When teachers observe these changes in a child, it can be helpful to consult with parents to discover whether recent events have created challenges that children are having difficulty managing. Often, these challenges arise from within the family.

How can teachers assist young children under stress? One of the most important things they can do is provide the child with a predictable, safe haven where children can feel secure. Teachers can create a comfortable and comforting everyday routine that is child-centered, individualized, responsive, and helpfully structured to give young children a sense of control and predictability that may be lacking in other aspects of the child's life. Central to these efforts is providing children with supportive adult relationships that are reliable and helpful. This may be more difficult than one would expect because young children under stress often test these relationships to see whether teachers and other adults will remain responsive to them even when children act defiantly or negatively.

Figure 7.4: A teacher who cares makes a difference.[3]

In some circumstances, it can be helpful for teachers to obtain the advice of an early childhood mental health consultant who can observe the child in the classroom, talk with the teacher about the child's behavior, and suggest strategies for providing supportive assistance. Early childhood mental health consultants can be valuable resources to an early childhood education program. They can help teachers provide much-needed support to young children who may not have other sources of support elsewhere.[4]

Pause to Reflect

What environments make you feel most socially and emotionally competent? How do you deal with your stress? Why should you be thinking about those things as a teacher?

References

[1] Figure 7.3 by Community Playthings is used with permission

[2] The California Preschool Curriculum Framework, Volume 1 by the California Department of Education is used with permission

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10.4: Introducing to the Foundations

The domain of social-emotional development encompasses three areas or strands:

- self
- social interaction
- relationships[1]

Refer to the Social-Emotional Development content area in the Kansas Early Learning Standards for specific indicators of how children of various ages meet the benchmarks and standards. The structure of the KELS for the area of social-emotional development is as follows:

- Character Development: foundations of character development
- Responsible Decision-Making and Problem-Solving: begin to develop the skills necessary to recognize and acknowledge the feelings and needs of others and how positive choices contribute to a safe community, demonstrate awareness of personal time and responsibilities within predictable routines, develop, implement and model effective problem-solving skills
- Personal Development: self-awareness, self-management,
- Social Development: social awareness, interpersonal skills (Kansas State Department of Education, 2024)

Supporting Children's Developing Self

Early learning deeply engages the self. Most preschool children approach learning opportunities with enthusiasm and self-confidence, excited by the prospect of new discovery. Their successes (and occasional failures) shape their sense of what they can do and sometimes drive their efforts to acquire new skills. Their achievements and occasional disappointments also provoke the responses of others—adults and peers—that further influence children's self-concept and self-confidence. Young children value learning for themselves because it is valued by the people who matter to them.

In a preschool program, learning is a social activity. Therefore, preschool children's success in learning depends on their capacity to understand and participate constructively in the social environment. Early childhood is a period of rapid growth in social and emotional understanding, during which children's capacity for empathy and caring is also developing. This is also a period of growth in self-regulation, as young children are acquiring skills to sustain their attention, focus their thinking and problem-solving, manage their behavioral impulses, and control their emotions. Even so, lapses in self-regulation are as apparent as young children's successes, and developmentally appropriate expectations for children's self-control are essential.

Figure 7.5: This group of children connects these pieces with their teacher.[2]

Therefore, a thoughtfully designed preschool curriculum that supports social-emotional development devotes considerable attention to the direct and indirect ways that children's classroom experiences shape their self-development.

The foundations for self include those for self-awareness, self-regulation, social and emotional understanding, empathy and caring, and initiative in learning:

Teachers can support children's development of self with the following:

- Provide ample space, use child-sized shelves and furnishings, and adapt materials to make all learning areas and activities accessible
- Designate learning areas to help children select preferred sites for exploration

- Place active play zones away from quiet areas to better support children in their choices for play
- Make use of adaptive tools and play materials to help the autonomous exploration of children with special needs
- Observe individual children attentively during a variety of activities
- Incorporate artwork and play materials that reflect children's home cultures
- Describe aloud for children observations of what they do and express as they play, explore, and participate in group activities
- Compare aloud children's past and present abilities as you observe them
- Give specific feedback to children about their efforts
- Use planned activities and children's own observations to draw attention to people's similarities and differences, including preferences and feelings
- Set up opportunities to practice problem-solving with children who have not yet developed those skills
- Use appropriately stimulating aesthetic elements such as soothing colors, natural woods and fibers, and soft textures
- Eliminate or reduce background noise to help children attend to what you want them to hear
- Model behavior and attitudes that are warm, respectful, and caring
- Maintain developmentally appropriate expectations for preschool children's behavior
- Guide and coach children's behavior
- Prompt and guide desired behavior
- Reinforce children's good choices and link their actions to positive outcomes
- Provide a consistent but flexible daily routine
- Alternate between active and quiet activities
- Time group experiences to match children's developing attention spans, social skills, and self-control
- Introduce children to relaxation exercises
- Plan developmentally appropriate transitions
- Play games with rules periodically to help children learn to focus their attention and regulate their impulses in order to achieve a goal
- Observe the levels of social and emotional understanding that children already have
- Label the emotions people express and communicate with children about what may be provoking those feelings
- Discuss characteristics openly and answer their questions about differences, being thoughtful to counter stereotypes by using concrete examples
- Make use of the experiences and emotions of characters in stories
- Acknowledge and express appreciation for children's empathic responses
- Encourage empathy and caring for the natural world, including plants and animals
- Model curiosity and enthusiasm when you learn new things
- Engage in play and exploration with children instead of simply supervising their activities
- Provide ample time for free exploration, scheduling play and exploration periods of at least one uninterrupted hour at a time
- Help children generate ideas for solving problems they encounter
- Model persistence during challenging tasks; explaining that unsuccessful attempts to do something are not failures, but simply steps toward learning what will work[3]

Many strategies were listed to help support children's developing sense of self. What are the top five that stood out to you? Are there any that you are unsure about?

Figure 7.6: Careful planning will ensure that group times are just the right length.[4]

Vignettes

A child in a wheelchair enters the housekeeping area, where three children are pretending to be a family. They have dishes on the table and dolls in the doll bed. The child in the wheelchair moves closer to the table and tries to join the play, but cannot get close enough. After a few minutes, one of the children takes some dishes and puts them on the wheelchair tray. The two children play together. Mr. Luke comments, “I like your idea to use Andy’s tray as a table.”

Chloe cries in Ms. Julia’s arms. Ms. Julia pats her back softly and communicates in a soothing manner. “It sounds like that hurt. You can tell Paz you don’t like that. Say, ‘I don’t like that, Paz.’” Chloe tucks her injured arm in toward Ms. Julia’s body, slowly shakes her head side to side, and looks warily at Paz. Paz stands close with her head lowered. “Chloe is upset because you pinched her arm. It hurt her quite a bit. Is there something you think we could do to help her feel better, Paz?” asks Ms. Julia.

Paz responds softly, “Sorry, Chloe,” and reaches forward to give Chloe a hug.

Chloe whimpers and clings more closely to Ms. Julia. “When a friend is hurt, giving a hug often helps. I guess Chloe isn’t ready for a hug right now. Thank you for trying, Paz. Maybe we can ask her again later.”[5]

Supporting Children’s Social Interaction

Group learning always involves social interaction. The ease and skill with which children interact with adults and peers (in a preschool classroom or family child care program) and the competence with which they assume their roles and responsibilities as group members significantly influence how they learn. The development of these skills in the preschool years is a foundation for children’s capacity to be socially skilled and competent classroom members in the primary grades.

For some children, unfortunately, difficulties in social interaction—because they are timid and inhibited, aggressive or disruptive, struggle with cooperation, or have physical or behavioral characteristics that often result in exclusion—can pose significant obstacles to benefiting from social interactions with adults and peers. For them and for all children, attention to social interaction skills can be a significant contribution to preschool children’s learning in early childhood classrooms.

Figure 7.7: This teacher stays close to support children as they navigate the problem-solving of both the computer program and working together.[6]

A thoughtfully designed preschool curriculum that supports social-emotional development devotes considerable attention to the direct and indirect ways classroom experiences shape children’s social interaction skills. This includes interactions with adults, peers, and in groups, as well as cooperation and responsibility.

Teachers can support children’s development of the social interaction foundations with the following:

- Get to know and create a warm and secure relationship with each child
- Be at the child’s level as much as possible
- Initiate conversations with children about their activities and experiences
- Describe what you see children doing with comments or questions that they can respond to
- Provide specific feedback to children about their efforts instead of general words of praise
- Show respect for cultural differences in your expectations of adult–child communication
- Encourage children to see familiar adults as resources and become comfortable in asking for help and support
- Model effective and respectful interaction by joining pairs or groups of children as they play and work together

- Incorporate play materials that promote and encourage peer play
- Suggest extensions for children's cooperative play
- Coach young children, step by step, as they learn conflict resolution skills
- Use books, puppet stories, and group discussions to reinforce children's social interaction skills
- Plan for project work, based on children's emerging interests, in pairs and small groups
- Plan large-group gatherings with flexibility
- Rehearse and prompt desired responses
- Acknowledge positive choices
- Build a sense of community through planned group experiences
- Arrange spaces for focused small-group work and effective large-group meetings
- Be thoughtful about group sizes
- Prepare materials ahead of time
- Incorporate nonverbal prompts to remind children of routines and expectations
- Ensure that adult expectations for children's behavior are developmentally appropriate
- Move beyond rules to expectations to emphasize guiding principles or values
- Enlist children's participation in creating examples of school or classroom expectations
- Focus on building a sense of classroom community
- Refer children to each other, instead of to an adult, for assistance to facilitate connections [1]

Figure 7.8: How do you think these children are going to navigate this conflict of wanting the same thing? [2]

As children mature, they are able to better understand the perspectives of other people and can negotiate more constructively with peers to resolve conflicts.

Table 7.1: Developmental Sequence of Conflict Negotiation [3]

Level	Description of Level
Beginning level	Children can express to each other (using words, actions, or facial expressions) their own desires, but adults need to provide ideas for resolving disputes.
Next level	Children begin to use appropriate words and actions to express their perspectives and desires to each other and seek adults for help during disputes.
Next level	Children not only express their own needs and desires to each other during a conflict, but can suggest simple solutions based on their own perspectives.
Mature or proficient level	Children can consider each other's perspectives when there is a disagreement and can suggest and agree on some mutually acceptable solutions.

Vignettes

Ju-Hye paints her palms and fingers with a rainbow of colors. With focused concentration, she slowly pushes her palm onto a piece of paper where she has already painted a "stem." She lifts up her hand quickly. Ju-Hye smiles widely and then picks up her paper to show Ms. Betty, who is playing on the floor with two babies. Ms. Betty looks up and responds with a grin: "You finished your flower. You worked hard at mixing colors to make the color of green you wanted for your stem."

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 with her hand and another reassuring smile. "You could let Martin know you want to help. Tell Martin, 'I can collect the tickets.'"

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. [4]

Pause to Reflect

One of the most challenging aspects of caring for and educating groups of young children is helping them develop socially appropriate ways to express themselves and get their needs met. How skilled would you be in helping children develop conflict resolution skills? Why?

Supporting Children's Relationships

Relationships shape young children's learning. From infancy, parent–child and family relationships guide and motivate children's love for discovery and learning and provide a secure foundation for the growth of exploration and self-confidence. In the classroom, special adults and friends make preschool an inviting place for children. The teacher is a bridge for the child, connecting her to relationships at home and in the classroom. Young children's close relationships contribute in concert to the growth of early learning.

Figure 7.9: These children are proud of the structure they built with blocks. [5]

Relationships

Teachers can support children's development of relationships with the following:

- Establish a warm and collaborative relationship with each child's family
- Talk with children regularly about their families
- Create predictable arrival and departure routines
- Communicate frequently with family members about children's preschool activities, progress, and any concerns you have
- Build and maintain a pattern of warm, nurturing interactions with each child
- Encourage child–adult collaboration in learning
- Plan a program that offers choices of activities and associations with peers
- Provide spaces in the classroom that only accommodate two or three children
- Use ongoing observations to inform your social structuring of experiences
- Use books, puppet plays, and group discussions to identify and reinforce friendship skills
- Communicate with children's families about their preschool friendships and encourage out-of-school contact with school friends, if possible [6]

Figure 7.10: Supporting relationships like this one are an important part of an early educator's work [6]

Vignettes

Tanya eagerly comes through the front door and greets caregiver Natalya with her news: "Ms. Natalya, we went to the fair last night, and I got to pet goats and sheeps and chickens, except Papa said to stay back from the ducks, because they have bills that can bite you fast!"

Ms. Natalya knelt down, and Tanya reached out to her. "Wow, Tanya! You sound really excited about your night at the fair. Did your whole family go, Grandpa too?" she asked, looking at Tanya's papa, who had accompanied her to the family child care home. Mr. Terebkov smiled and nodded, responding that it had been an enjoyable but late night for all of them. Ms. Natalya prompted Tanya to hug Papa goodbye, and then Tanya reached for Ms. Natalya's hand as they moved together into the play area. Ms. Natalya asked Tanya more about her favorite part of the county fair.

"No, you're not!" shouts Michelle. "Yes, I am! I'm the Mommy!" screams Lily.

"Well, you are a Silly Pilly. You're not my friend anymore," counters Michelle, standing with her hands on her hips and a scowl on her face.

At Michelle's words, Lily's lip begins to quiver. Tears form in her eyes as she yells, "I am your friend! I am!"

Miss Sandra moves over to the confrontation, kneels between the girls, and says with concern, "You both look really upset. Something is wrong. Can you tell me what is happening?"

"She said I am not her friend!" exclaims Lily, trying to overcome her tears.

"She is being a mean-y pants. I don't like her," says Michelle.

"It sounds like both of you have hurt feelings. Being friends with someone means that sometimes we disagree and we get mad or sad. It sounds like that is happening right now. What can we do?"

"I am going to play with David," huffs Michelle as she marches off.

Lily leans into Miss Sandra. Miss Sandra considers what she knows about each child's temperament before responding: "It's tricky sometimes with friends. Why don't we take a little break from playing with Michelle? I'll bet she will be ready to play when you both feel better." Miss Sandra helps Lily get involved in a new activity and then makes a mental note to check with each child's parent at departure time. [8]

Pause to Reflect

Separating from parents is challenging for both children and families. How can you support children and the adults to whom they are attached through this transition? Some of the strategies above are a great starting place.

References

[1] The California Preschool Curriculum Framework, Volume 1 by the California Department of Education is used with permission

Kansas State Department of Education. (2024). *Kansas early learning standards*.

[2] Figure 7.5 by Mary H. Allen is in the public domain

[3] The California Preschool Curriculum Framework, Volume 1 by the California Department of Education is used with permission;

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[4] Figure 7.6 by Jessica Gibson is in the public domain.

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[6] Figure 7.10 by Staff Sgt. Jeff Nevison is in the public domain.

10.5: Engaging Families

Engaging Families

Teachers can make the following suggestions to families to facilitate their support of the visual and performing arts for their children:

- Share stories about when they were babies and how they grew and changed.
- Share ideas about the many ways people can be the same and different.
- Model constructive coping strategies when frustrated.
- Wonder aloud about how a book character might feel and why.
- Help children find a balance between vigorous activity and calm and focused times.
- Have conversations with children about things they think, plan, and do.
- Encourage children to work out a disagreement with a sibling or friend by suggesting ideas for solving the problem. Remind children to consider each other's needs and feelings as they choose a solution to try. Stay close by to help children as they practice using words to resolve a conflict.
- Ask children for help with household chores or projects. While working together, discuss some things each person can do to help the family.
- Emphasize to children the family's values regarding cooperation, teamwork, good manners, and kindness toward others.
- Start a special good-bye ritual to use with a preschool child every day. A predictable routine is reassuring and makes the transition easier.
- Find at least a few minutes every day to spend special time with each child (e.g., reading a book, running an errand, completing a chore together).
- Recognize that opportunities out of school to play with other children build positive social skills. [9]

Figure 7.11: Books are a wonderful way to share examples and create discussion about social and emotional development. [10]

References

[9] The California Preschool Curriculum Framework, Volume 1 by the California Department of Education is used with permission

[10 Figure 7.11 is in the public domain.

10.6: Conclusion

Conclusion

Play is the heart of a curriculum that nurtures children's social-emotional development. A play-based, active learning approach allows many opportunities for practicing social interaction and relationship skills. It provides support for the growth of age- and developmentally appropriate self-regulation abilities and encourages children's curiosity and initiative. Finally, play in a well-planned early learning program provides each child with a network of nurturing, dependable adults who will actively support and scaffold their learning in a group setting.

Figure 7.12: Play provides opportunities for children to practice their developing social skills [11]

To be effective in accomplishing early learning goals, an active, play-based program must allow children to freely choose and pursue interests and activities, both alone and with others. It must encourage them to translate their own thoughts, ideas, and preferences into new activities and experiments. It must give them access to these opportunities for activity and exploration in a thoughtfully planned environment for a substantial portion of each preschool day. And most importantly, it must be planned and led by teachers who actively participate as co-explorers in children's chosen activities. In this context, play is essential and enhanced if materials are available to encourage creativity and problem solving, and if teachers are attentive to the social interactions surrounding children's play. This active, enthusiastic engagement of children and adults together in a learning community can lead to dramatic growth in children's social-emotional understandings and competencies and their readiness for the challenges of school.

References

[11] The California Preschool Curriculum Framework, Volume 1 by the California Department of Education is used with permission

CHAPTER OVERVIEW

11: History and Social Science

Learning Objectives

By the end of the chapter, you should be able to: Explain how history and social sciences are appropriate to plan for in early childhood education programs.

- Describe the foundations in history and social science that high-quality early childhood education programs support.
- Discuss how the environment supports children's understanding and participation in history and social science.
- Identify ways educators can support children's engagement in and understanding of history and social science.
- Summarize ways to engage families in the curriculum for history and social science.

11.1: Introduction

For many educators of young children, the terms history and social sciences conjure images of children studying past presidents, learning about other countries, and exploring related topics during primary school. Yet, a look at young children's emerging sense of identity, their growing interest in the larger social world in which they live, and their developing understanding of time and place shows that history and social sciences are also relevant to them.

Figure 12.1: Early childhood education programs are Social Science in action.[1]

Young children are natural historians when they talk about their experiences and enjoy hearing family stories of "long ago." They are intuitive geographers when they recognize the route to the grocery store and create a map of the preschool room. Children are simple ecologists when they worry about a wilted plant or a bird's egg on a nature walk. They learn about democracy by participating in shared decision-making and taking turns on the playground. Their interactions with other children acquaint them with diverse cultures, languages, backgrounds, and societal abilities. Young children are also everyday economists as they understand how money, bartering, and exchange work in the world around them.

Preschoolers' understanding of history and social sciences naturally derives from their expanding knowledge of the world and their place in it. It also provides a foundation for studying history, culture, geography, economics, civics and citizenship, ecology, and the global environment that begins in the primary grades and continues throughout life. Those topics are important because they provide a basis for understanding the responsibilities of citizens in a democratic society, the legacy of past generations who built society, the importance of caring for the natural world, and the rich diversity of other people.

In preschool, they are introduced to these important issues through everyday activities such as caring for a plant, remembering a recent trip to the zoo, deciding as a group on a name for the class pet, creating a shoe store, engaging in imaginative play with adult roles, or sharing family traditions from home. In other words, young children learn about history and social sciences from personal experiences, as they are enrolled in a preschool curriculum, and also from their experiences at home. [2]

References

[1] Figure 12.1 by the California Department of Education is used with permission

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11.2: Guiding Principles for Supporting History and Social Science

A thoughtfully designed early childhood program includes many activities that contribute to children's understanding of history and social sciences. Some activities are carefully planned by a teacher to help children learn about weather patterns, bartering for goods and services, responsibilities as a class member, adult occupations, and many other ideas and concepts. Other activities emerge from the opportunities created by children's spontaneous interests and a teacher's capacity to build these into teachable moments. Taken together, they reflect the assumption that young children develop knowledge of history and the social sciences as they are encouraged to enact their understanding in everyday interactions with other children and adults. This knowledge helps young children understand themselves in a wonderfully expanding world. Here are some guiding principles on how to help children gain this knowledge.

- Build a cooperative, inclusive preschool community by ensuring that the curriculum maximizes children's opportunities to work together in ways that require responsible conduct, fairness, and respect for others.
- Create activities that will actively engage children's social skills and understanding.
- Affirm children's home cultures, experiences, and values.
- Build on preschool children's natural interest in their social world and the similarities and differences among the people in it.
- Model social behavior and attitudes with explanations.
- Actively teach and practice the essential skills of democratic participation.
- Encourage children to incorporate their knowledge of adult roles and occupations into their dramatic play.
- Observe and converse with children during play in order to learn about their current understanding of time and history.
- Help children deepen their own sense of place.
- Nurture children's sense of wonder about nature.[1]

Figure 12.2: Part of good citizenship, even in preschool, is using your voice to vote.[2]

References

[1] The California Preschool Curriculum Framework, Volume 3 by the California Department of Education is used with permission

[2] Figure 12.2 by Airman 1st Class Kathleen D. Bryant is in the public domain

11.3: Environmental Factors in Supporting History and Social Sciences

Effective teachers consider the physical, curricular, and social elements when planning an environment to support children's learning in history and social science. The physical environment and daily routine set the stage for children's inquiry and should include ample time for children's self-initiated work, different spaces for solitary play and for collaborative play, and engaging materials that children are encouraged to use creatively. The curricular plan must provide opportunities and adult support for group learning, informal discovery, and skill development. The key to a positive social environment is a teacher who actively models curiosity, openness, and engagement and is eager to explore the world with children. An environment that supports children's learning in history and the social sciences has the following characteristics:

- Extended projects that are centered on a topic in history or social science and emerge from children's interests and inquiries
- Reflective of diversity, as opposed to a tourist approach, teachers and children participate in authentic experiences with culture
- A balance between child choice and adult direction
- A variety of materials to support children's inquiry-based learning and practice in the skills of social science
- Materials that connect children to times and places
- Real experiences with nature and other environmental education materials
- Tools and practices for appreciating and caring for the Earth and its resources
- Display of children's work and experiences
- Dramatic play props and materials that represent firsthand experience with social roles and occupations, as well as consumer actions
- High-quality children's books with content related to self, family, and community
- Extension of learning into the local community to help children learn in the "here and now" of the world around them
- Family involvement in program planning that is inclusive of community goals and values[1]

Research Highlight – Anti-Bias Curriculum Approach

High-quality early childhood programs support children in developing their physical, cognitive, social, and emotional potential. The settings encourage children to explore their own sense of self and to develop an awareness and appreciation of others. Such experiences are foundational to becoming positive and constructive members of society and the world.

Creating an inclusive community of learners—one in which all individuals feel comfortable, confident, and competent—requires educators to take an anti-bias approach to planning, implementing, and evaluating their program. Educators embracing an anti-bias curriculum approach reflect on their identities and experiences. They extend their knowledge of different cultures and communities through conversation and discussion with children, families, and colleagues. They also confront bias in the preschool setting (e.g., "Girls can't play here" or "His eyes are a funny shape") to send a message that all children should be respected and that one's words can hurt other people.

Instead of using a one-size-fits-all curriculum, anti-bias educators design environments and activities that reflect the real experiences of children's lives. Educators routinely partner with families and community members to further enhance the early childhood program. Throughout the day, the adults in the preschool setting engage children in developmentally appropriate conversations about similarities and differences, and promote justice and fairness for all by helping children think critically about teasing, bullying, and other hurtful behavior. Activities promoting anti-bias education are integrated throughout the daily routine, avoiding a tourist approach. "The heart of anti-bias work is a vision of a world in which all children are able to blossom, and each child's particular abilities and gifts are able to flourish." For more information on the anti-bias approach, refer to *Anti-Bias Education for Young Children and Ourselves*, by Louise Derman-Sparks and Julie Olsen Edwards.[2]

Source:

L. Derman-Sparks and J. O. Edwards, Anti-Bias Education for Young Children and Ourselves (Washington, DC: National Association for the Education of Young Children, 2010), 2.

References

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11.4: Introducing to the Foundations

The preschool learning foundations for history and social science are organized into five broad categories or strands:

- Self and Society: children's growing ability to see themselves within the context of society
- Becoming a Preschool Community Member (Civics): becoming responsible and cooperative members of the preschool community
- Sense of Time (History): developing understanding of past and future events and their association with the present
- Sense of Place (Geography and Ecology)**S**: developing knowledge of the physical settings in which children live and how they compare with other locations
- Marketplace (Economics): developing understanding of economic concepts, including the ideas of ownership, money exchanged for goods and services, value and cost, and bartering[1]

Refer to the Social Studies content area in the Kansas Early Learning Standards for specific indicators of how children of various ages meet the benchmarks and standards. The structure of the KELS for the area of social studies is as follows:

- Community
- Economics
- Geography
- Kansas, United States, and World History (Kansas State Department of Education, 2024)

Figure 12.3: This child explored aeronautics and space through a mobile exhibit.[2]

Supporting Self and Society

An early childhood education setting introduces young children to people with diverse backgrounds, family practices, languages, cultural experiences, special needs, and abilities. In their relationships with teachers and peers, preschoolers perceive how others are similar to them and how they are different, and gradually they learn to regard these differences with interest and respect rather than wariness or doubt. This is especially likely if early childhood educators incorporate inclusive practices into the preschool environment. The relationships that young children develop with others in the preschool provide opportunities to understand these differences in depth, in the context of the people the child knows well. One of the most valuable features of a thoughtfully designed early childhood program is helping young children perceive the diversity of human characteristics as part of the richness of living and working with others.

Young children are beginning to perceive themselves within the broader context of society in new ways. Their interest in adult social roles, occupations, and responsibilities motivates pretend play, excitement about visiting places such as a fire station or grocery store, and questions about work and its association with family roles and income. Teachers can help young children explore these interests as they try to understand the variety of adult roles.

Teachers can support children's development of the self and society foundations with the following:

- Practice a reflective approach to build awareness of self and others by examining your own attitudes and values
- Maintain a healthy curiosity about the experiences of others; ask authentic questions to build understanding
- Partner with families in goal setting and program design; learn individual family values and each family's goals for their child's care and education

- Prepare an active learning environment that incorporates the full spectrum of the human experience, including diversity of cultures, ethnicities, gender, age, abilities, socioeconomic class, and family structure
- Create an environment, both indoors and outdoors, that is inclusive, meaning every child can fully participate and engage in the learning environment regardless of gender, home language, or abilities
- Address children's initial comments and inquiries about diversity with honest, direct communication
- Have discussions about similarities and differences
- Sing songs and share stories in different languages
- Plan meaningful and authentic celebrations with the support of the children and families
- Read and talk about books that:
  - Accurately represent the lives and experiences of children
  - Deal with the theme of friendship and relating to others
  - Include images and stories of different workers
- Develop meaningful, nurturing relationships with the children in your program
- Prepare an early learning environment and daily routine that fosters peer interaction
- Support children's development of interaction strategies and relationship-building skills through:
  - Modeling
  - Explicit instruction during large-group times
  - Coaching and providing prompts
- Offer sensitive guidance through challenges
- Facilitate positive social problem solving
- Provide children with play props for exploring occupations and work settings
- Get to know the workers in your community
- Convey respect for the roles of adults who work at home
- Highlight the roles that elders play in family life and in society
- Include the pursuit of further education among work options
- Invite family members to share their work experiences, including those that may diverge from traditional gender roles
- Talk about future career goals
- Visit community stores, businesses, and service providers to observe workers in action[3]

Vignette

"You always get to do the money," complains Emma. Beck announces, "No, Tommy, I'm the customer. I was here first." Ella and Maya argue about the pieces of a plastic hamburger: "You can't have it again. It's the only one . . . " These and similar interactions between children have been typical in the area ever since Ms. Berta added the "Restaurant" prop box to it.

Now, Ms. Berta is struggling to figure out how to foster more cooperation among children playing in this dramatic play area. The restaurant theme is very popular, but children's play is currently dominated by arguments over who gets to use which items from the restaurant prop box. Each child seems to be independently trying to hoard the most items from the box.

Ms. Berta shares her dilemma with Ms. Galyna, the school's mentor teacher, who says she can come in for a quick visit during the next day's play time. She follows her visit with some suggestions that help Ms. Berta rethink the area's design for the following week

On Monday, the children entering the area are greeted by a large restaurant sign. A waist-high shelf unit defines the front of the area. On top of it sit two toy cash registers with ample paper bills, plastic coins, receipt pads, and pencils. A clear plastic jar labeled "Tips" sits in between. On a hook, hang clip-on badges: Cook, Cashier, Server, and Customer. There are several of each. The shelves under the front counter hold stacks of paper, drink cups, and trays. The cooking pans and utensils are clearly displayed on the area's stove and sink shelves, as are multiples of food items and dishes in the refrigerator and cupboard. The eating table is set for customers

Ms. Berta begins play time as a restaurant customer, placing her order, asking questions of the employees, and helping the other players imagine what a cook, server, or cashier would do in a restaurant. She refers them to each other with their ideas

and questions, and soon, they are having restaurant conversations with her and with each other “in character.”

Over the next two weeks, the group makes changes and additions to the restaurant. At a class meeting, the group votes to make it a pizza restaurant, and the teacher adds donated pizza rounds that children cover with drawn-on toppings. With Ms. Berta’s help, interested children work in pairs to write and post menus. Several small groups of children remain intensely interested in the theme, and their play in the restaurant area becomes more elaborate and content-rich. With active teacher support and modeling, friends are able to constructively solve conflicts that occur.[4]

Pause to Reflect

1. What are some of your own biases and “blind spots” about people whose racial or cultural backgrounds are very different from yours?
2. In what ways could you partner with the families to support attitudes of acceptance and inclusion?

Supporting Becoming A Preschool Community Member (Civics)

An early childhood program is a wonderful setting for learning how to get along with others and for understanding and respecting differences between people. It is also an important setting for learning about oneself as a responsible member of the group. In an early childhood education setting, young children are enlisted into responsible citizenship for the first time outside of the family, encouraged to think of themselves as sharing responsibility for keeping the room orderly, cooperating with teachers and peers, knowing what to do during group routines (e.g., circle time), cleaning up after group activities, participating in group decisions, supporting and complying with the rules of the learning community, and acting as citizens of the preschool.

Figure 12.4: Knowing expected behavior during a large-group time is important.[5]

Many formal and informal activities in an early childhood education setting contribute to the development of skills for preschool community membership. These include group decision making that may occur during circle time (including voicing opinions, voting on a shared decision, and accepting the judgment of the majority); resolving peer conflict and finding a fair solution; understanding the viewpoints of another with whom one disagrees; respecting differences in culture, race, or ethnicity; sharing stories about acting responsibly or helpfully and the guidance that older children can provide younger children or children with less positive experiences about being a preschool community citizen.

Teachers can support children’s development of the civics foundations with the following:

- Share control of the preschool environment with children
- Create community rules with children’s input and plan opportunities to continue discussing them with small- and large-group meetings
- Promote a sense of connection and community by using terms such as “we” and “our” when speaking with children and adults
- Incorporate class meetings into the daily routine of older preschool children
- Support freedom of thought and speech in individual investigations, as well as in planned group experiences
- Generate community rules and expectations to protect the rights of each individual and to create a community of trust and security
- Engage children in community brainstorming and problem-solving
- Make group decisions when appropriate
- Acknowledge emotions related to group brainstorming and decision-making
- Model the skills and behavior you want children to exhibit

- Use guidance to redirect children to more appropriate actions and behavior by using positive descriptions of what you expect children to do
- Help children remember and meet community-generated rules and expectations by providing both visual and auditory cues and prompts
- Reinforce the positive actions of children by using descriptive language, emphasizing the positive impact of a child's actions on others
- Facilitate problem-solving
- Create an inclusive environment that values and encourages the participation of children from all cultural and linguistic backgrounds as well as children with special needs

Figure 12.5: Puppets allow children to role-play social situations.[6]

- Set the tone for responsible conduct by creating a high-quality learning environment and a thoughtfully scheduled daily routine
- Assign tasks for community care, such as watering plants, feeding program pets, or helping to prepare snacks, to help children practice responsibility
- Discuss the "whys" of fairness and respect
- Teach social skills, such as patience and generosity, by using social stories and role-play experiences
- Intervene and address negative interactions immediately
- Prevent conflicts by limiting program transitions and minimizing waiting time
- Provide children with a calm presence in conflict situations
- Support children's conflict resolution by
- using descriptive language to help children make sense of conflict
- prompting children with open-ended questions and statements
- facilitating, rather than dictating, the solution process
- Create and refer children to problem-solving kits with visual cues
- Use and discuss books that have storylines around relationships, community, and conflict
- Use "persona dolls" or puppets and social stories to promote skill development and perspective taking[7]

Supporting Sense of Time (History)

One of our unique human characteristics is the ability to think of ourselves in relation to past events and to anticipate the future. The ability to see oneself in time enables us to derive lessons from past experiences, understand how we are affected by historical events, and plan for the immediate future (such as preparing a meal) or the long-term (such as obtaining an education). The ability to see oneself in time is also the basis for perceiving one's own growth and development, and the expectation of future changes in one's life.

The preschool years are a period of major advances in young children's understanding of past, present, and future events and how they are interconnected. Yet their ability to understand these interconnections is limited and fragile. Young preschoolers have a strong interest in past events but perceive them as "islands in time" that are not well connected to other past events. As they learn more about past events and with the help of adults, children develop a mental timeline in which these events can be placed and related to one another. This is a process that begins in the preschool years and continues throughout childhood and adolescence.

A thoughtfully designed early childhood program includes many activities that help young children develop a sense of the past and future. The activities may include conversations about a child's memorable experiences, discussions of a group activity that occurred yesterday, stories about historical events, circle-time activities in anticipation of a field trip tomorrow, and picture boards

with the daily schedule, with special events distinguished from what normally happens. Teachers help young children construct their own mental timelines in various ways.

Figure 12.6: Children can share about things meaningful to them (from the past).[9]

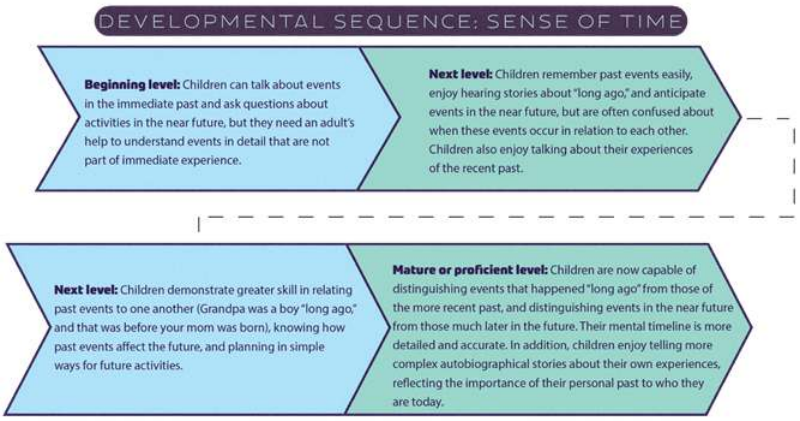

Figure 12.7: Developmental Sequence: Sense of Time.[10]

Teachers can support children's development of the history foundations with the following:

- Use predictable routines to facilitate children's sense of time
- Incorporate time words into conversation, such as before, after, yesterday, first, next, and later
- Create opportunities to talk with children about meaningful experiences and build connections between current and past events, and to anticipate future events
- Extend and expand on children's narrative descriptions with language relating to time
- Share your memories of the children's abilities over time
- Ask questions to increase children's recollections of events
- Document and display children's work at their eye level to encourage recall and reflection
- Sing songs, recite poetry, and read books that involve sequencing
- Promote planning as children engage in child-initiated projects
- Acknowledge birthdays with sensitivity to family preferences
- Provide activities that invite personal reflection
- Make use of children's stories that explore growth and individual change
- Utilize familiar resources, such as parents, grandparents, family members, close friends, and community members, to share their own childhood experiences
- Read children's stories about different places and times to expand children's perspective
- Expose children to the arts
- Observe changes in animals, plants, and the outdoors
- Record significant events on a large calendar to create a program history
- Provide children with hands-on experiences with concrete artifacts and historical objects (e.g., toys, utensils, tools)[11]

Vignettes

At outdoor play time, Mateo hurries over to a large tree limb lying at the edge of the playground. “Look what happened!” he exclaims. “Yeah,” agrees Luis, who had joined him, “the wind did it. It crashed down our big tree, too, right into the street. Some guys are coming to saw it up.” Luis pauses. “My grandma said that tree was really old.” Ms. Sofia, who followed them to the area, joined the conversation. “Your grandma told me about that when she came with you this morning. It’s a big surprise when a tree that was there just yesterday suddenly isn’t there today, especially when it had been growing there for a long time. Things like that can happen fast. What do you think will be different when you get home this afternoon?”

For today’s circle time, Ms. Robin has prepared a two-column chart with the headings: “When I was a baby, I couldn’t . . .” and “Now I can . . .” She reads the first phrase and asks the group to think of things they were not able to do as babies. As children share their ideas, including, “I couldn’t walk; I couldn’t ride a trike, I couldn’t eat apples . . .” she lists them in the first column. When they finish, she reads all the ideas aloud to the group.

Ms. Robin then points to the phrase “Now I can . . .” and again asks for children’s ideas. After they finish sharing, she reads aloud the second list. As she points to each list, she enthusiastically comments to the group, “Look how many things you couldn’t do when you were a baby! Look how many things you can do now! You’ve grown so much!”

Nico looks through the familiar homemade, photo-illustrated book titled Teacher Jen’s Broken Ankle that is displayed on the reading area book rack. “My papa fell and broke his arm when he was a little boy,” he tells Ms. Jen. She asks him how it happened, and he tells her the story his papa has told him. Ms. Jen wonders with Nico whether his papa had to wear a cast on his arm while it was healing. Nico says he thinks so because he remembers Papa being supposed to keep his arm dry for a long time. He then asked Ms. Jen to show him the ankle cast she had worn while her leg was healing. She keeps the two halves of her bright pink cast in the “Hospital” prop box that teachers use in the dramatic play area when children’s play signals interest in medical themes.[12]

Pause to Reflect

How might you want to partner with families to make the preschool environment reflective of their diverse family stories?

Supporting Sense of Place (Geography and Ecology)

Each person has a sense of the places to which they belong: home, workplace, school, and other locations that are familiar and meaningful. Young children experience this sense of place strongly because familiar locations are associated with important people who constitute the child’s environment of relationships. Locations are important because of the people they are associated with: home with family members, preschool with teachers and peers. Preschoolers also experience a sense of place because of the sensory experiences associated with each location: the familiar smells, sounds, and sometimes temperatures and tastes combine with familiar scenes to create a sense of belonging for young children.

Developing a sense of place also derives from how young children interact with aspects of that physical location. Preschool children relate to their environments as they work with materials; rearrange tables, chairs, and other furniture; create maps to familiar locations; travel regularly from one setting to another; and work in other ways with their environments. Young children also interact with their environments as they learn to care for them. Young children’s natural interest in living things engages their interest in caring for plants and animals, concern for the effects of pollution and litter on the natural environment, and later, taking an active role in putting away trash and recycling used items.

These interests present many opportunities to the early childhood educator. Young children can be engaged in activities that encourage their understanding of the environments in which they live, whether they involve creating drawings and maps of familiar locations, talking about how to care for the natural world, discussing the different environments in which people live worldwide, or taking a trip to a marshland or a farm.

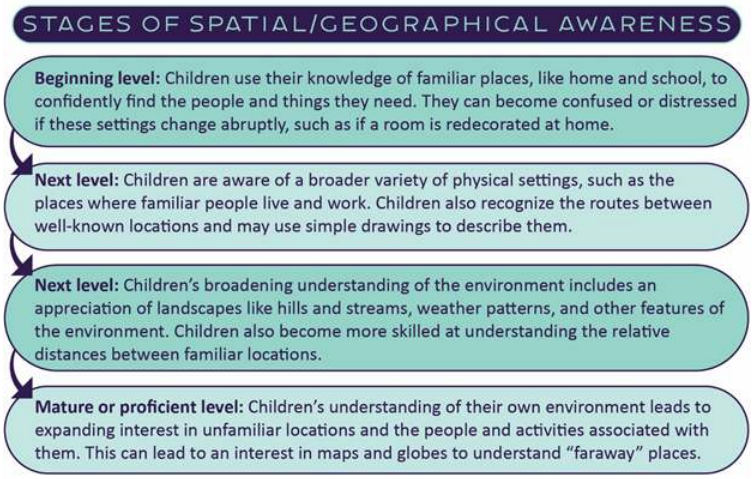

Figure 12.9: Stages of Spatial/Geographical Awareness.[14]

Teachers can support children's development of geography and ecology foundations with the following:

- Supply open-ended materials in the indoor and outdoor early learning environment to promote exploration of spatial relationships
- Set aside time for outdoor explorations each day
- Provide children with sensory experiences, especially those with sand and water
- Describe your own actions as you travel between locations
- Play games about how to get from here to there
- Engage children in conversation about how they travel to and from preschool each day
- Take walks through familiar locations and neighboring areas
- Talk about the here and now, as well as encouraging later reflection
- Locate and explore local landmarks
- Promote children's understanding of weather and its impact on their day-to-day experiences
- Comment on weather patterns and invite children to share their observations
- Read aloud books and engage children in storytelling related to
- navigating familiar locations and daily routines
- investigating the Earth and its attributes
- Integrate living things into the indoor learning environment
- Observe life in its natural setting
- Compare and contrast living and nonliving things
- Model respect and care for the natural world
- Use descriptive language to talk about the Earth and its features
- Teach young children easy ways to conserve the Earth's resources
- Grow a garden in the program's outdoor space
- Eat fresh produce at snack time and obtain food directly from a local gardener, farmers' market, or food vendor when possible
- Engage children in conversations about maps, provide map-making materials, incorporate maps into dramatic play, use maps when planning outings, and make a map of the classroom/building and outdoor space
- Supply the learning environment with a variety of blocks and other open-ended materials to support the symbolic representation of the world that the children see and experience each day
- Play board games that use trails and pathways
- View locations from different physical perspectives
- Prepare a treasure hunt[15]

Figure 12.10: These girls are drawing a map.[16]

Vignettes

Michael sits down with his peers and Mr. Sean at the snack table. “There was a huge dump truck going down my street today,” he tells everyone. Mr. Sean asks him what was in the truck. “Rocks and big sidewalk pieces,” replies Michael. “I know that,” adds Rio. “It’s by my house. Papa says they’re digging up the street for water pipes.” Several other children nod and agree that they know where that is and they have gone by it, too. Mr. Sean tells the children that the construction site they are talking about is just around the corner and down one block from their preschool. “Would you like to take a walk together to watch them work?” he asks. “It sounds like a big and exciting construction project is happening in our neighborhood.”

“I like this place,” shares Maya as she looks around the small reading area. “What do you like about it?” asks Ms. Nicole. “I like the green. It’s like un bosque.” Yes, agrees Ms. Nicole. The green plants do make it seem like a forest.”

This is the castle for the princess and her friends,” explains Grace to Tanya as she describes her unit block structure. “Here’s the bedroom over here, and the tower over there.”

Ms. Julia, sitting in the block area to observe children’s play, responds, “It looks like a very long way from the bedroom to the tower. Do the princess and her friends ever get lost in the castle?” “Well . . . sometimes they do,” replies Grace. “I wonder if we could draw something to help them find their way,” suggests Ms. Julia. “Like a map!” exclaims Tanya to Grace.

Ms. Julia offers to bring the clipboards, equipped with paper and pencils, from the art area. She takes one and begins describing her drawing plan. “First I’m going to draw a square for the bedroom in this corner . . . ” The girls begin by imitating her technique and soon are exchanging ideas with each other as they draw their versions of the castle. When they are finished, Ms. Julia asks questions about the parts of their castle maps and offers to label them. When the maps are finished, labeled, and signed, Ms. Julia asks the girls’ permission to display them on the block area wall.[17]

Pause to Reflect

What are some ways you would be comfortable bringing caring for the natural world into your own classroom? What might be some things to try beyond that?

Supporting Marketplace (Economics)

Young children’s interest in adult roles and occupations extends to the economy. Preschoolers know that adults have jobs and observe that money is used to purchase items and services, but the connections between work, money, and purchasing are unclear to them. However, this does not stop them from enacting these processes in their pretend play and showing great interest in the economic transactions they observe (such as a trip to the bank with a parent).

Moreover, young children are also active consumers, seeking to persuade their families to purchase toys or access activities they desire, sometimes hearing adult concerns about cost or affordability in response. They also learn about economic differences among people and families, such as when a parent is unemployed or when families live in poverty. All of these activities convince them that the economy, while abstract to them, is important.

A carefully designed early childhood education setting provides many opportunities for young children to explore these ideas through play, conversation, and the creation of economic items to buy, sell, or exchange.

Figure 12.11: A cash register is an excellent prompt for exploration of economics.[18]

Teachers can support children's development of the economic foundations with the following:

- Introduce economic concepts (e.g., production, exchange, consumption) through children's books
- Provide open-ended materials to support children's spontaneous investigations of business and the economy
- Offer dramatic play experiences that allow children to explore economic concepts
- Explore alongside children, expanding on their initiative
- Draw attention to trends of consumption in the preschool setting
- Discuss wants and needs with children and allow children to help make economic decisions
- Explore all forms of exchange
- Visit local businesses
- Create an opportunity for children to make and sell their own products; discuss how the money made will be spent[19]

Vignettes

Ms. Jen settles into the reading chair to begin large group story time. She holds a tall empty jar, a small cloth bag, and a book.

"Today I brought something with me to help me tell a story," she begins. Then she holds up the small drawstring bag and shakes it. "Money!" the children call out. "Yes, it is money. My little bag is full of coins: nickels, dimes, and quarters," she says, pulling out one of each. "This book is all about a family who collects coins and saves them in a jar that looks a lot like this one. It's called A Chair for My Mother, and Vera B. Williams is the author. She wrote the words. She is also the illustrator, which means she painted the pictures."

As Ms. Jen reads the book, she stops frequently to discuss what is happening in the story with the children. "The mother in this story works as a server in a restaurant. That's how she earns money to buy the things her family needs." After reading the page describing the "tips" Mother brings home and puts into the jar, Ms. Jen asks the group if anyone they know gets tips at work. After explaining the idea, she pours the coins from her small bag into the tall jar she has brought as a story prop.

When she reads the pages about the family's moving day, when all their relatives and neighbors brought things they needed to replace the ones lost in the fire, Ms. Jen talks about how people don't always buy everything they need. Sometimes people receive gifts and things that others share with them.

As each economic concept is introduced in the book, Ms. Jen pauses to draw attention to it while maintaining the story's flow. At the end, she holds up the jar of coins and asks the group how long they think it took for Josephine's family to collect enough coins to buy the chair. She responds to their comments, listening as they share their related ideas. She tells them the book will be in the reading area tomorrow so they can enjoy it again.[20]

Pause to Reflect

What resources could a preschool teacher use in your neighborhood to introduce children to the community's economic life?

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11.5: Engaging Families

Engaging Families

Teachers can make the following suggestions to families to facilitate their support of history and social science:

- Encourage families to tell stories and sing songs to their child about their home culture.
- Remind families that they are the child's most influential models.
- Support families to help their child develop strong, warm relationships with adults and children among their family and friends.
- Suggest ways that family members can talk with their child about their daily work.
- Suggest that adults find household projects to work on with their child.
- Remind adults to notice and recognize when their child is cooperative and responsible.
- Encourage adults to talk with their child about respect and fairness.
- Work with adult family members as they establish some simple, age-appropriate rules to be followed at home and help children understand that there is a reason for each rule.
- Share ways to establish some dependable family rituals and routines.
- Remind families to discuss family plans and events with children before they occur.
- Share with family adults the importance of recounting past shared events with their children. Suggest that they use storytelling to help children remember the sequence and details of everyday and special experiences.
- Suggest families find a special place for items documenting children's growth.
- Encourage adult family members to tell children stories about their family's history.
- Suggest that they look for maps in places where their family goes.
- Suggest taking different routes when going to familiar places.
- Encourage families to talk about nature (i.e., weather, seasons, plants, animals, and so on) with their child.
- Encourage families to talk about ways to help the earth (e.g., reducing waste, conserving natural resources, and composting).
- Suggest that adult family members share elements of the natural world with their child that they especially enjoy.
- Encourage families to talk with their child about the connection between cost and decisions to buy items and services.
- Assure families that it is fine to have conversations about "wants" and "needs."
- Suggest that families show their children some alternative ways to acquire things the family needs or wants, and ways to help meet the needs of others.
- Encourage families to begin sharing their values about money with preschool children.
- As early care and education professionals, prepare to actively support families facing personal economic crises. Educate yourselves about available community services and, when possible, help families access them.[21]

Figure 12.12: This three-year-old boy is helping with the dishes.[22]

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- 12.4: Introducing to the Foundations by Jennifer Paris, Kristin Beeve, & Clint Springer has no license indicated.

11.6: Conclusion

The knowledge and skills in history and social science that preschoolers acquire in an early education setting provide a foundation for their understanding of themselves and the world in which they live. Adults benefit from the perspective of history (of society, families, and one's personal past). People are connected deeply to the physical settings and natural ecologies in which they live. People learn about themselves and others by comparison with people who differ in culture, language, ethnicity, traditions, and abilities. Human lives are shaped by the economy and its influence on people's roles as workers, consumers, and investors. Citizens participate with others in the political process and in building their communities. As preschoolers learn about these topics through instruction, enactment, and play, they are introduced to issues that will remain important to them for years to come.[1]

References

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CHAPTER OVERVIEW

12: Physical Development

Learning Objectives

By the end of the chapter, you should be able to: Explain the importance of planning to support children's physical development

- Describe the foundations in physical development that high-quality programming supports children in reaching
- Recognize sequences of physical development
- Advocate for active play
- Identify ways for educators to support physical development
- Summarize ways to engage families in the curriculum for physical development

12.1: Introduction

Young children learn best by doing. Active physical play supports preschool children's brain development and is a primary means of exploring and discovering their world. Physical activities enhance all aspects of development, including cognitive, emotional, social, and physical.

- Cognitive growth occurs when children problem-solve how to negotiate an obstacle course or how to build a fort.
- Emotional development is supported when children's confidence and willingness to try new activities increase.
- Social development is supported through interaction with other children and the development of friendships through active play.
- Being active also has clear benefits for children's health and fitness.

The preschool years are a prime time for children's physical development. Preschool programs have a key role in maximizing children's developmental potential during this important time by providing well-designed, regular, and frequent opportunities for physical play. Although many young children's physical activities are exploratory and self-directed, children greatly benefit from adult encouragement and guidance when learning new physical skills. Teachers tap into children's intrinsic motivation for movement by designing meaningful, culturally appropriate, and accessible play activities in which all children feel challenged yet successful.

Figure 13.1: These children learn to navigate obstacles by practicing it on this play structure.[1]

Teachers play an important role in the area of physical development. Children benefit immensely when teachers engage in physical activities alongside children and share in the fun of physical movement. Just as important, preschool programs collaborate with family and community members to promote children's physical development. Family support and participation foster children's active lifestyle habits. Promoting active lifestyles during the preschool years will benefit children throughout their lives.[2]

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12.2: Guiding Principles of Supporting Children's Physical Development

Teachers play a critical role in supporting children's physical development because physical skills must be explicitly and deliberately taught. Physical play, both indoors and outdoors, is not merely "free time"; it requires thoughtful planning and intentional interactions. The following guidelines will help teachers support children's physical development.

Developmentally appropriate movement programs accommodate a variety of individual differences among children.

Children often learn best through maximum active participation. Therefore, it is important to strive daily to minimize sitting, waiting, and watching so that children enjoy meaningful participation in physical activities. Maximum purposeful participation at some level is a challenging but attainable goal.

The physical safety of children's play environments should be of paramount importance at all times (children should be able to take reasonable risks).

Family members working as partners with teachers are key to enriching the physical development of children.

Inclusion of children with special needs is beneficial to all and promotes greater understanding of and respect for diversity.

Children are multisensory learners with unique learning styles.

To maximize teaching effectiveness, movement skill learning should first focus on improving body coordination and increasing awareness of body movements. The product, or quantitative aspect of movements (e.g., how far they jumped or how fast they ran), should not be the initial focus of learning.

Children generally learn new movement skills more easily when they can focus on one specific aspect of the skill at a time.

Children benefit from ample opportunities to practice new physical skills.

Children benefit from integrated learning activities across the curriculum.

Frequency, intensity, type, and duration are the four key parameters for designing active physical play to enhance children's fitness and health. These parameters may be thought of as the FITT principles (Frequency, Intensity, Type, Time [duration]).

- "Frequency" refers to the regularity of engaging in physical activity; frequent, short periods of physical activity each day are preferred (children should not be sedentary for more than 60 minutes at a time, except when sleeping).
- "Intensity" refers to whether activities are sedentary, mild, moderate, or vigorous; moderate to vigorous activities are preferred.
- "Type" deals with the specific kind of physical activity engaged in; for young children, these activities usually take the form of active games, child-initiated play, rhythms, and dance.
- "Time" (duration) refers to the amount of time the child spends engaged in physical activity; it is recommended that the child accumulate at least 60 minutes and up to several hours of moderate to vigorous physical activity per day.

Physical skills are more easily learned when clear instructions and appropriate feedback are provided in children's home language using familiar communication methods.

Allow children to take risks. Risk-taking allows children to challenge themselves and to assess their own skills and abilities.[1]

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12.3: Environmental Factors in Supporting Children's Physical Development

The following recommendations apply to establishing the preschool environment as related to the three physical development strands: fundamental movement skills, perceptual-motor skills, movement concepts, and active physical play.

- Teachers promote optimal physical development by providing children with positive encouragement and quality instruction (both indirect and direct). They "set the stage" and "create the climate" for movement skill learning.
- The immediate physical environment is a powerful influence on children's physical development. The physical environment, play materials, and play themes can all be skillfully designed to promote active play. Both indoor and outdoor play environments should encourage fun and enjoyable learning.
- Indoor and outdoor play environments should include appropriate equipment that promotes gross and fine motor development.
- Learning is most meaningful when the environment and materials reflect and accommodate children's individual interests, backgrounds, and present abilities. Embrace the richness of diversity by learning about children's culture, language, customs, music, physical activities, and focus on the unique gifts each child brings to the learning environment.
- Take time to build safety into both the indoor and outdoor play environments.
- A safe environment reduces the need for adults to say no. It is important to establish clear expectations. Limits should be set rather than rules (rules eliminate reasonable risk) to ensure personal safety. Be particularly cognizant when working with children who have disabilities that impact their impulse control and judgment. Also, differences in cultural expectations for girls and those for boys, and language differences, may impact the critical need for building safety into children's regular play environments.
- Playground equipment, such as climbing, hanging, and sliding structures, should be checked regularly for safety hazards.
- Movement experiences should include exploring, discovering, and appreciating the natural environment. Nature provides rich, diverse sensory experiences—sounds, smells, textures, and sights—that benefit young children's sensorimotor development.
- Thoughtfully designed movement experiences, guided by adults, support children's physical development. Most children need more than just free play to acquire movement skills. Children benefit from teacher-guided, structured physical activities, particularly when learning new movement skills. Structured but flexible play activities emphasize active participation, exploration, and self-discovery are ideal for practicing new, challenging physical skills.[1]

Figure 13.2: These children are allowed to go up the slide, and their teacher has added a rope to help them.[2]

Additional strategies that will help children's physical development:

- Provide opportunities that include diverse cultural themes.
- Challenge children's abilities by asking questions.
- Encourage persistence during challenging tasks.
- Modify activities to increase participation by children with disabilities and special needs.
- Observe and analyze children's skills to facilitate planning for learning opportunities.
- Learn about children's prior experiences and personal interests.
- Promote and be aware of the progressive development of skills.
- Plan meaningful, purposeful, and connected activities and games.
- Create culturally diverse scenarios for skills.
- Create meaningful scenarios that allow for the integration of skills with other curriculum concepts.

- Use both unstructured and structured strategies, as well as multisensory experiences, in your teaching.
- Create developmental activities that provide a sense of success.
- Provide opportunities for repeated practice in a safe environment.
- Provide plenty of encouragement.
- Create activities that provide automatic feedback and a sense of accomplishment.
- Provide clear, specific feedback to facilitate children's problem-solving process.

Provide a variety of tools and media to promote participation.[3]

Pause to Reflect

How can family culture, language, and diversity be incorporated into fundamental movement activities? How can ideas and materials from children's different cultures be included in fine motor activities and games?

Research Highlight: Must Young Children Sit Still in Order to Learn?

Researchers have stated that high activity levels, impulsivity, and short attention span for sedentary activities are characteristics of typically developing preschool-age children. Children naturally need to move to learn. Being physically active boosts children's attention span and capitalizes on multisensory learning so that children are more likely to retain academic concepts such as colors, shapes, and the alphabet. Movement-based learning experiences may be particularly important for children with special needs. Research has shown that for children with autism spectrum disorder and attention deficit hyperactivity disorder, being seated on a movable surface (e.g., a therapy ball) resulted in increased ability to stay on task and remain seated during classroom learning activities. However, children seated on a static surface, such as a bench, chair, or floor, could not remain on task. Experts have suggested that adults' efforts to entice young children to sit still, pay attention, and be quiet during learning activities often contradict children's natural needs for physical movement.[4]

Sources:

J. A. Blackman, "Attention-Deficit/Hyperactivity Disorder in Preschoolers. Does It Exist and Should We Treat It?" *Pediatric Clinics of North America* 46, no. 5 (1999): 1011–25.

T. Hunter, "Some Thoughts About Sitting Still," *Young Children* 55, no. 3 (2000): 50.

T. Schilling, and others, "Promoting Language Development Through Movement," *Teaching Elementary Physical Education* 17, no. 6 (2006): 39–42.

D. L. Schilling and I. S. Schwartz, "Alternative Seating for Young Children with Autism Spectrum Disorder: Effects on Classroom Behavior," *Journal of Autism and Developmental Disorders* 43, no. 4 (2004): 423–32.

D. L. Schilling and others, "Classroom Seating for Children with Attention Deficit

Hyperactivity Disorder: Therapy Ball Versus Chairs," *American Journal of Occupational Therapy* 57, no. 5 (2003): 534–41. 12. T. Hunter, "Some Thoughts About Sitting Still," *Young Children* 55, no. 3 (2000): 50.

References

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12.4: Introducing the Foundations

The preschool learning foundations for physical development are organized in terms of three broad categories or strands:

- Fundamental Movement Skills
- Perceptual–Motor Skills and Movement Concepts
- Active Physical Play[1]

Refer to the Physical Health and Development content area in the Kansas Early Learning Standards for specific indicators of how children of various ages meet the benchmarks and standards. The structure of the KELS for the area of physical health and development is as follows:

- Gross Motor Skills
- Fine Motor Skills
- Physical Fitness
- Nutrition and Health Eating
- Self-Care
- Safety (Kansas State Department of Education, 2024)

The first strand is fundamental movement skills. Most preschool children can acquire reasonable levels of competence in a wide range of movement activities, including balance, locomotor skills, and manipulative skills (both gross motor and fine motor), when given opportunities for instruction and practice in an enriched environment. The second strand is perceptual-motor skills and movement concepts. This strand focuses on developing body, spatial, and directional awareness. These skills are essential for interacting with others and for exploring the environment. The third strand is active physical play. Active physical play promotes children's health and physical fitness by increasing their active participation, cardiovascular endurance, muscular strength, endurance, and flexibility.[2]

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12.5: Supporting Fundamental Movement Skills

Fundamental movement skills are the foundations for building more complex movement skills. Early childhood is a crucial and unique time for developing coordination of the basic movement skills. During this period, daily movement experiences significantly influence children's patterns of movement and their future as happy, active movers. Children who develop these fundamental movement skills tend to become confident movers and have the building blocks for an active way of life.

Fundamental movement skills emerge following a developmental sequence from simple to more complex body actions. Initially, when children attempt a movement pattern, they move a few body parts (e.g., when throwing, they move only one arm while the rest of their body remains still). As their movement skills develop, children begin incorporating other body parts (e.g., throwing with one arm while stepping with one foot). Research-based developmental sequences represent common pathways of development and can guide instruction and learning. However, each child's development is unique and affected by many factors (e.g., genetics, culture, special needs, socioeconomic status, environment, and practice). Teachers should expect variations in individual development.

Fundamental movement skills develop through meaningful interactions with the environment, people, and objects; through both structured (e.g., teacher-guided) and unstructured (e.g., child-initiated play) practice of movement skills; through the integration of fundamental motor skills into the preschool curriculum; and through the integration of fundamental movement skills into the daily home life of children. Children's movement activities should be designed with consideration of the multiple cultures and diversity of the participants. In addition, teachers need to be sensitive to children with disabilities and special needs and modify the tasks, context, or environment, including appropriate assistive devices and instructional strategies, to facilitate the development of fundamental skills for all children.

Fundamental movement skills include:

Balance

Figure 13.3: This young boy is practicing his balance.[1]

Balance is fundamental to all body movements. All movements involve balance elements, and each movement has different balance requirements.

Teachers can support children's developing balance with the following:

- Design spaces and activities to develop balance following a developmental progression.
- Incorporate balance activities into the children's world (such as acting out balancing challenges).
- Provide opportunities for activities that include both active movements and still body positions.
- Post pictures of balance positions and balance activities (they can be of culturally representative athletes, dancers, or performers, including those with disabilities).
- Design the environment so children can combine balance skills with fundamental movement skills and movement concepts.
- Use visual aids, foot and handprints, and objects on the floor to promote balancing skills.

Locomotor Skills

Locomotor skills are the movement skills that children use to move effectively and efficiently through space. These skills allow children to travel, explore, and discover their environments. Preschool children use locomotor skills to move from one area to another in their daily activities.

Figure 13.4: Running is a locomotor skill that is being refined during early childhood.[2]

Teachers can support children's developing locomotor skills with the following:

- Observe and analyze children's locomotor skills to facilitate planning for learning opportunities.
- Promote progressive development of leg strength.
- Promote and be aware of the progressive development of coordination of locomotor skills.
- Encourage the practice of locomotor movements in both indoor and outdoor environments.
- Use vivid visual information and visual aids that communicate to children in simple ways how to move.
- Use music, songs, rhymes, and stories to provide rhythmic patterns.
- Plan meaningful, purposeful, and connected locomotor activities and games.
- Create picture cards representing different ways to move related to children's cultural background.
- Allow children to take risks in their physical play.

Manipulative Skills

Skills that allow children to use their arms, hands, legs, and feet to project an object away from the body (e.g., throwing a beanbag) or to receive and absorb the force of an object coming to the body (e.g., catching a balloon). Fundamental motor skills involving large muscle groups are called gross motor skills (e.g., kicking), and those involving small muscle groups are called fine motor skills (e.g., cutting).

Figure 13.5: Practicing cutting with scissors is a fine motor manipulative skill.[3]

Figure 13.6: Throwing this bean bag is a gross motor manipulative skill.[4]

Fine motor manipulative skills are usually those in which children manipulate objects with their hands. Fine motor manipulative skills include cutting, painting, and buttoning.

Gross motor manipulative skills include tossing, rolling, throwing, catching, striking, kicking, bouncing, and punting with objects.

Teachers can support developing manipulative skills with the following:

- Observe developmental sequences of fundamental manipulative skills.
- Vary the focus of the manipulative skills (provide opportunities for both arms and legs to move).
- Provide a variety of equipment to accommodate individual differences in body size, skill level, and the development of children's physical and sensory systems.
- Create manipulative activities that provide automatic feedback and a sense of accomplishment.[5]

Vignette

Children constructed birds and balls out of paper while playing indoors. They colored the papers using markers of different colors. Children also decorated their creations with colorful feathers and cut out shapes from magazines. They attached these decorations to their birds and balls with glue. When the decorations were dry, the teacher invited them to play with their birds and balls outside. The teacher, Ms. Gupta, had previously designed the outdoor play area by placing colorful plastic hoops, cones, and shapes on the floor, and pictures of the community buildings were attached. She also drew a line two steps away from the pretend buildings.

Outside, she said to the children, "Let's make the birds fly toward those buildings and see where they land." The children became excited and began using the throwing action to fly their birds. Some children were much closer to the line, and others stood farther away. While throwing, they began adjusting their proximity to the line. Ms. Gupta said, "How can you move your bodies to make your bird fly up in the sky?" Jamila said, "I know, throw like this [moving her arm up and down]." Lesley said, "We need to step and send the bird up." Ms. Gupta paused and observed them throwing for a while. One child's bird was going down fast, and she said, "Xuyen, do you want your bird to go up?" Xuyen replied, "Yes." Ms. Gupta asked, "How can we do that?" Xuyen shrugged her shoulders as though to say, "I do not know."

Ms. Gupta then suggested, "How about if you throw it toward the sky?" Xuyen moved her arm up over her head in the throwing action, and her bird flew a little longer. She noticed and smiled, then ran to get it and tried again. Ms. Gupta smiled and said, "You moved your arm up this time. That is the way to make your bird go up: keep moving your arm up each time." Another child was picking up his bird, and Ms. Gupta said, "Yeng, on what building did your bird land?" Yeng said, "The store." and kept running back to try again. Ms. Gupta said to another child, "Mary, did your bird land in the hospital?" Mary replied, "No, that is the park." Mary was right. Ms. Gupta continued asking different children about the buildings.[6]

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12.6: Supporting Perceptual-Motor Skills and Movement Concepts

Perceptual-motor skills and movement concepts are essential to all facets of young children's lives. Perceptual-motor coordination is receiving, interpreting, and using information from the body's senses. Perceptual-motor development requires children to integrate sensory and motor abilities to carry out physical activities. All voluntary movement involves an element of perception, and perceptual-motor coordination plays a vital role in children's development of movement skills.

Movement concepts are the cognitive component of movement. Preschool children gain essential knowledge about how the body can move in an almost endless variety of ways. For example, they learn to move at different speeds and with different degrees of force, in various pathways, around different types of obstacles, and in relation to other people. They also acquire new vocabulary (e.g., *zigzag*, *under*, or *behind*) that describes their movement experiences. Movement concepts enable children to problem-solve how the body should move during certain activities and situations. Movement concepts provide critical foundations for learning how to move in novel situations (e.g., when playing a new sport). To become proficient movers, children need to acquire both the movement skills and the movement concepts underlying those skills.

Children enter preschool with various experiences and abilities in perceptual-motor coordination and understanding of movement concepts. Their growth in these skills and concepts leads to increased success and confidence when exploring, performing personal care, and playing cooperatively with others. These skills and concepts are also key building blocks for future learning in areas such as reading, writing, and mathematics.

Perceptual-motor skills and understanding movement concepts include body, spatial, and directional awareness.[1]

Body Awareness

Children's knowledge of their bodies becomes more accurate and specific. They develop a clear understanding of how body parts interrelate (e.g., the shoulder connects to the arm, which connects to the hand). Children are also learning to identify, describe, and differentiate an increasing number of body parts. Furthermore, they can demonstrate different ways to move specific body parts (e.g., the shoulder can move up and down, out to the side, or in a circular motion). Body awareness is necessary for coordinating physical movements when new skills are being learned, such as hopping or throwing. Accurate knowledge about body parts also enhances children's ability to care for their own bodies, such as during toileting, bathing, and dressing.

Figure 13.7: Caption: These children are acting out the song "Head, shoulders, knees, and toes." Some children have more developed body awareness.[2]

Teachers can support children's developing body awareness with the following:

- Use multisensory teaching strategies to reinforce children's learning.
- Use body parts vocabulary in the child's home language.
- Use alternative communication methods, as appropriate, to teach body parts vocabulary.
- Use body parts vocabulary in the natural context of daily activities and child-initiated play.
- Introduce body parts vocabulary during structured group games.
- Engage children in singing and movement activities to teach body parts.
- Encourage children to identify and describe body parts in books or in pictures of themselves and family members.
- Provide opportunities for dress-up play.
- Provide opportunities for children to see external representations of their bodies.
- Provide constructional play for children to build or put together body parts.

- Ask children to describe their drawings of people.

Spatial Awareness

Children's understanding of their location and the location of objects and people around them. Preschool children are learning to judge how much space their bodies and other objects take up and whether something is "close" or "far." They also develop vocabulary for describing the position of two objects relative to one another, such as whether a ball is "in front of" or "behind" them. Children gain awareness of their body dimensions and position by physically exploring their world and maneuvering around different obstacles (both people and objects) during play.

Figure 13.8: Jumping "over" the rope is helping this girl develop her spatial awareness.[3]

Table 13.1: Developmental Sequence of Spatial Awareness

Age	Spatial Awareness Ability
Around 3 years of age	Children bump into others who are close by during all types of activities.
Around 4 years of age	Children are able to participate in seated activities without bumping into others.
Around 5 years of age	Children are able to participate in standing activities (primarily staying in place) without bumping into others.
Around 5½ years of age	Children mostly maintain space around themselves without bumping into others, with prompting during a locomotor activity in which children move in the same direction
Around 6 years of age	Children maintain space around themselves without bumping into others during a locomotor or movement activity in which children move in different directions (e.g., chasing games or dancing

Teachers can support children's developing spatial awareness with the following:

- Set up obstacle courses
- Provide opportunities for children to experience moving at different levels of body positioning, ranging from high to low.
- Provide games for children to explore changing the size of their bodies.
- Play games that allow children to move around with objects balanced on different parts of their bodies.
- Provide pushing and pulling games with peers.
- Play games that require two to three children to work together to transport a large, lightweight object.
- Use dancing and musical games to promote spatial awareness and body control development.
- Use positional-concepts vocabulary within the natural context of daily routines.
- Have children participate in cleanup routines by putting away toys.
- Engage children in helper roles by performing "heavy work" activities.
- Narrate or ask questions about children's play using positional-concepts vocabulary in English and the child's home language.
- Engage children in songs and rhymes with body movements or spatial concepts.
- Reinforce spatial concepts when reading or looking at books.

- Use props or play objects to guide children in positioning their bodies.
- Use the child's home language to introduce spatial-concepts vocabulary.
- Provide alternative ways for children with physical disabilities or other special needs to learn spatial concepts.
- Provide additional cues and assistance to ensure safety for children with spatial awareness challenges.
- Allow opportunities for risk-taking.

Directional Awareness

Children's understanding of what it means and how it feels to move up, down, forward, backward, and finally sideways. Most preschool children begin to understand that their bodies have two sides, but cannot yet identify the left or right side of their body. Children are also learning to identify the top, bottom, front, or back of objects, but they do not clearly understand that objects have a left or right side. Preschool children also enjoy following pathways on the floor or creating their own movement pathways, such as straight, curved, or zigzag.

Figure 13.9: You can see children's inability to understand left from right when acting out the "Hokey Pokey."[4]

Table 13.2: Developmental Sequence of Directional Awareness

Age	Directional Awareness Ability
Between ages 2 and 3 years	Children can identify front/back and top/bottom on their own bodies.
Around age 4	Children are aware that their bodies have two distinct sides and are learning to determine which side is left and which is right
By age 6 or 7	Children can accurately identify the left and right sides on their own body parts.
Around age 8	Children become aware that objects also have a left and right side
Ages 10 years and older	Children can give directions to another person, such as "Go down the hall and turn left to get to the school office." They can accurately identify the left and right sides on another person, even if the person is facing a different direction.

Teachers can support children's developing directional awareness with the following:

- Provide opportunities for child-initiated play in areas with open space.
- Provide safe environments in which children can climb up and down.
- Encourage children to move in different directions and in different types of pathways (e.g., straight, curved, or zigzag) during group movement games.
- Design activities for children to practice moving alongside or in a line with other people.
- Play games that require children to coordinate moving with others to manage a physical object or prop.
- Provide opportunities for children to move and use their bodies with force.
- Provide opportunities for children to move and use their bodies lightly.

- Engage children in two-handed play activities.
- Position drawing activities vertically.
- Provide pretend-play activities to reinforce directional concepts.
- Use the child's home language to introduce directional concepts and vocabulary.
- Adapt movement experiences as needed for children with physical disabilities.
- Allow opportunities for risk-taking.[5]

Vignette

Several children in Mr. Clay's class are interested in trains, and during circle time, they read a book about trains. Later that day, a group of children go through the obstacle course outdoors. Spencer asks, "I wonder if a train could go through our tunnel." Ming responds, "Yeah, the train in the book went through mountain tunnels." Mr. Clay suggests, "Well, maybe this obstacle course is a railroad today?" The children all agree excitedly.

Children begin to go through the obstacle pretending to be trains and saying "choo-choo" along the way. After a while, Mr. Clay asks, "Do any of you trains want to carry freight?" "I do!" volunteers Mei enthusiastically. Mr. Clay retrieves a bucket of beanbags, which will be the train's freight. The teacher asks Mei, "Mei the Train, where will you carry your freight?" Mei replies, "here" while pointing to her shoulder. "On your shoulder? Great idea!" responds Mr. Clay. As children continue with the activity, Mr. Clay assists them in coming up with other variations, such as having everyone line up in a row and stay close together as one long train. When Ming gets to the cardboard tunnel, the teacher lifts up the cardboard box to provide clearance for Ming and his wheelchair to fit through the tunnel. Later, the teacher asks, "I wonder if it would be fun for the trains to go in reverse?" "What's reverse?" Spencer asks. Ming responds, "I know! Watch this," and demonstrates wheeling his wheelchair backwards.[6]

Pause to Reflect

Think of other movement activities children enjoy. How could each be modified to include children with differing disabilities and special needs?

References

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12.7: Supporting Activity Physical Play

Active play is essential to young children's optimal physical development and overall health. Physical activity embedded throughout the preschool day promotes children's ability to attend to, learn, and regulate their emotional responses. Active physical play enhances the body's physiological functions (i.e., physical fitness), promotes optimal brain chemistry for self-regulation, and enhances learning readiness. As such, it should be fully integrated into the regular preschool day.

Figure 13.10: This young boy is engaged in unstructured active play.[1]

Figure 13.11: Completing an obstacle course is structured active play.[2]

Active physical play contributes markedly to enhancing children's fundamental movement skills in three principal areas: balance, locomotion, and both gross and fine motor manipulation. Both typically developing children and those with special needs benefit. Furthermore, the perceptual-motor components also discussed earlier are promoted through active physical play. Activities that promote body, spatial, and directional awareness engage the senses as children move through space. To derive the maximum health-related benefits, children should engage in active play on most days of the week, in an environment that promotes enjoyment, safety, and success. These benefits include increases in muscular strength, endurance, joint flexibility, and improved aerobic endurance and body composition. Proper nutrition and adequate hydration also play important roles in young children's active physical play.

Young children can be easily engaged in movement and benefit immensely from an active way of life. The habits of physical activity that children learn in the early years greatly increase the chance that children will continue being physically active throughout childhood and beyond. Most importantly, children must see active play as fun. Your regular participation with children will do much to model the joy of moving. You can take almost any indoor or outdoor physical activity, give it a name, and make it a game. Children are active learners. For most, physical activity is fun. Your enthusiastic participation with children will go a long way to motivate them for continued active play.

Active Physical Play includes:

- Active participation
- Cardiovascular endurance
- Muscular strength, muscular endurance, and flexibility

Active Participation

Young children must be involved in moderate to vigorous physical activity at home and at school almost daily. Moderate to vigorous activity that is enjoyable, developmentally appropriate, and adapted to the needs of each child increases children's physical fitness levels. When the large muscles of the body are fully engaged, young children learn more effectively and also derive important health and physical fitness benefits. Active physical play contributes measurably to all aspects of physical fitness. Physical fitness is defined as a set of physical attributes related to a person's ability to perform activities that require cardiovascular endurance, muscular strength, muscular endurance, and joint flexibility.

Figure 13.12: Parachute play is a favorite of many children and a great way to get them actively participating.[3]

Teachers can support active participation with the following:

- Provide ample opportunities for children to engage daily in active play. It is widely recommended that children accumulate at least 60 minutes and up to several hours of unstructured physical activity on each day of the week.
- Create inviting activity environments in which children can be physically active.
- Help children identify appropriate places for different types of physical activity.
- Create an activity environment that is nurturing and supportive and allows for likely success.
- Encourage children to continue participation by providing opportunities for short but frequent rest periods during vigorous activity.
- Ensure that physical activity is sustained by providing personally meaningful and purposeful opportunities for children.
- Recognize and take into account any environmental constraints.
- Encourage physical exploration through play equipment and materials.
- Respect differences in children's temperament and find creative ways to engage all children in active physical play.

Research Highlight: Does Increasing Children's Physical Activity Really Make a Difference?

A decisive "yes" was the answer to this important question, which was cited in a review of 850 research articles published in the Journal of Pediatrics. The evidence strongly supported that children of school age who engage in relatively high levels of physical activity are less overweight than inactive children, have better cardiovascular endurance, higher levels of muscular strength and endurance, and higher self-concepts. The authors conclude, "Increasing habitual moderate-to-vigorous-intensity physical activity in youth is a health promotion and disease-prevention strategy. Sedentary youngsters should progress toward the recommended level of physical activity gradually."[4]

Sources:

W. B. Strong and others, "Evidence-Based Physical Activity for School-Age Youth," *The Journal of Pediatrics* 146, no. 6 (2005): 732–37.

A. Ignico, C. Richart, and V. Wayda, "The Effects of a Physical Activity Program on Children's Activity Level, Health-Related Fitness, and Health," *Early Childhood Development* 154 (1999): 31–39.

Cardiovascular Endurance

This involves exposing the body to an increased workload that raises the heart rate beyond its normal range of beats per minute and sustains that elevated rate for several minutes.

Figure 13.13: Pedaling a trike with a passenger is a great activity to get the heart pumping.[5]

Teachers can support children's development of cardiovascular endurance with the following:

- Design the physical setting of the play environment to encourage moderate or vigorous physical activity.
- Engage children of all ability levels in activities that promote increased cardiovascular endurance.
- Promote increased cardiovascular endurance through chasing and fleeing activities.
- Promote cardiovascular endurance through the use of riding toys that require sustained pedaling or cranking.
- Use imagery as an effective tool in promoting moderate to vigorous physical activity.
- Provide positive encouragement for participation.
- Promote increased physical activity through story plays.
- Promote cardiovascular endurance through dance and rhythmic activities.

Muscular Strength, Muscular Endurance, and Flexibility

Active children naturally increase their muscular strength, muscular endurance, and joint flexibility.

Muscular strength is the ability to perform one maximum effort, such as lifting a heavy weight over one's head or picking up a heavy object off the ground.

Figure 13.14: Lifting these pumpkins onto the scale shows muscular strength.[6]

Muscular endurance is the ability to perform work repeatedly. (It is not recommended that children prior to puberty engage in maximum strength efforts through high-resistance activities. Instead, it is recommended that children engage in low-resistance activities with multiple repetitions.)

Flexibility is the ability of a joint to move through its full, intended range of motion.

Keep this important concept in mind when planning activities for children. Low-resistance activities that are continually repetitive, such as swimming, riding a tricycle, or pushing one's wheelchair up a gradual incline or around the playground, walking distances, running, and jumping, will promote both muscular endurance and

Teachers can support children's developing muscular strength, muscular endurance, and flexibility with the following:

- Encourage the development of muscular strength and endurance through building activities that involve performing "work" repeatedly.
- Promote cardiovascular endurance through repeated muscular endurance activities.
- Promote muscular endurance and strength in the upper body's muscles through playground equipment that encourages climbing, hanging, and swinging.
- Allow for supervised risk-taking.
- Engage children in the setup of the play space and the return of materials to their original space.
- Promote increased joint flexibility through animal walks, nursery rhymes, and story plays.
- Encourage practice in fundamental movement skills and perceptual-motor activities that contribute to children's physical fitness.[7]

Vignette

When the weather permits, Ms. Jennifer takes her class outdoors to play in the designated play space. She is intrigued by the many types of activities in which her children choose to engage. She is quick to notice that several are in almost perpetual motion, running to and fro with seemingly endless energy and little purpose to their activity. Others tend to gravitate to the

sandbox and other fine motor activities. Still others are hesitant to explore and reluctant to participate in any self-initiated free-play activities.

Knowing the importance of active physical play, Ms. Jennifer develops strategies intended to maximize meaningful participation in a variety of activities that promote active participation by all, such as cardiovascular endurance, muscular strength, muscular endurance, and joint flexibility. These strategies take into account children's personal preferences, likes and dislikes, and sense of success and accomplishment.

Over several months of engaging in active play with children and encouraging them to try new things, she notices a decided change in behavior. The children are now more fully engaged in play activities that are purposeful, meaningful, safe, and fun. [8]

References

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12.8: Engaging Families

Teachers need to develop some patterns for continuous communication with parents and caregivers. Families are an important force in children's lives and in the physical activities children engage in. Some people believe that fundamental movement skills are only used outdoors. Although the outdoor environment offers a series of appealing possibilities, such as open space and the chance to use all-out force, indoor spaces also offer an array of opportunities for continued practice of the fundamental movement skills.

Here are some ideas for engaging families in supporting children's physical development.

- Create a newsletter to be given to families periodically. Photos of their children, pictures, and documents in the family's home language about what their children are learning about fundamental movement skills can be included. This may require translation; however, the connection with the families is worth the effort. Provide some stories and pictures of children in action.
- Suggest activities that will support children's continuous fundamental motor skill development. Be specific about how. For instance, suggest families that when they go to the park, they can ask their child to show a balance position or movement they learned at preschool, demonstrate a favorite way to move fast or slow, or show how he or she plays with balls.
- Ask families about the kind of balance, locomotor, and manipulative activities they did when they were young children. They can write them down or verbally communicate with the teachers and their children. This information can be incorporated into future activities and open a door of communication to discuss physical development in the past and the present.
- Talk about the importance of physical development for boys and girls and how gender issues may affect children. Girls already receive encouragement for manipulative skills, as do boys for locomotor skills. These reflections and conversations can bring opportunities to close this gap and explain to parents the importance of physical activity in today's society.
- Encourage families to ask their children about the movement skills the children are learning at their preschool.

Figure 13.15: Hosting a play event for families is one way to get families involved in their children's physical development.[1]

- Inform families about the importance of having their children wear comfortable clothes and shoes so they can move easily and freely during physical development activities.
- Ask children to show their families the movements they are learning at preschool.
- Have a family "Show and Tell Day" where children show and tell families their favorite fundamental movement skills.
- Ask children to identify the movement skills of the athletes in sports games that family members are watching, and then demonstrate those skills. This can engage family members' interest in their child's fundamental movement skills development.
- Suggest ways for children to help around the home and at the same time practice their fundamental movement skills. Examples include matching and rolling their socks and tossing them quickly into the laundry basket or drawer. Helping to unpack groceries and placing them on shelves provides children with an activity to develop manipulative skills and strengthen their hands. Families can create a safe obstacle course in their homes where children can move under and over furniture using locomotor skills.
- Encourage families to provide time for children to perform independent daily living activities, such as brushing their teeth or getting dressed. Children need time to manipulate objects such as toothpaste caps, zippers on their clothing, and lids of food containers.
- Encourage families to take their children outside to safe, open spaces and play areas where they can use fundamental movement skills.
- Encourage children to use words or signs to identify or describe their body parts when completing personal-care activities such as getting dressed or bathing.

- Provide opportunities for children to interact with adults and help around the home with activities such as putting away their toys, putting away groceries, sorting laundry, or bringing dirty dishes to the kitchen.
- When out in the community, such as at the park or grocery store, communicate with children about objects in the environment. Encourage them to describe where trees, buildings, cars, and other objects are located in relation to one another.
- When looking at books or pictures together, talk about how the characters are positioned and how they move their bodies.
- When children are playing, ask them to describe what they are doing with their bodies.
- Have a “Family Dance Party.”
- Model healthy behavior.
- Take an adventure walk to school.
- Develop a list of “can-do” family rules for active physical play.
- Take part in family rough-and-tumble play that respects the rights and wishes of all.
- Proper clothing for indoor and outdoor family activities is a must.
- Make a FITT activity chart. **F**requency (how often per week), **I**ntensity (how hard one plays), **T**ype (of activity), and **T**ime (length of activity). Have all family members decide what they want to do. Mark off what they do throughout the week and review at the end of the week.[2]

Pause to Reflect

What ways to encourage practicing fundamental movement skills at home would you most want to share with parents? How might you share these ideas with them?

References

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12.9: Conclusion

Until recently, the physical development of young children was often taken for granted. Family members and caregivers tended to assume that children, by being children, got plenty of physical activity as a regular part of their daily routine. Over a decade of research comparing the present, more sedentary generation of children to previous generations clearly reveals an alarming trend toward increased obesity, diabetes, asthma, and other health-impairing conditions.

Fortunately, there is a resurgence of interest in the vital importance of young children's physical development throughout the nation.

Those working with young children have recognized that developing fundamental movement skills, learning perceptual-motor skills and movement concepts, and engaging in active physical play are essential to the total balanced development of children. The development of fundamental movement skills provides a basis for an active way of life. Attaining proficiency in a myriad of fundamental balance, locomotor, and manipulative skills equips children for active participation in physical activities for a lifetime.

Perceptual-motor skills and basic movement concepts are important to the many time and space concepts that children acquire as they prepare for more formal instruction and learning. Body-awareness, spatial awareness, and directional awareness concepts can be taught and learned through both teacher-directed and self-directed play.

However, children need encouragement, instruction, and sufficient opportunities for practice in supportive environments to learn fundamental movement skills, perceptual-motor skills, and movement concepts. Preschool programs and families play a critical role in maximizing children's development in these areas.

Active physical play in preschool is a means by which children (and adults) can engage in physical activities that promote healthy lifestyles and a genuine zest for life. Through active participation in self-directed and adult-facilitated play, children acquire increased cardiovascular endurance, muscular endurance, muscular strength, and flexibility. Young children have not only movement skills and perceptual abilities but also the joy of movement.

Learning to move and moving to learn are too important to be left to chance. Parents and teachers have a precious opportunity to help set the stage for young children to enjoy physical activity for a lifetime.[1]

References

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CHAPTER OVERVIEW

13: Health, Safety, and Nutrition

Learning Objectives

By the end of the chapter, you should be able to: Explain the importance of planning to support children's physical development.

- Describe the foundations in physical development that high-quality programming supports children in reaching
- Recognize sequences of physical development
- Advocate for active play
- Identify ways for educators to support physical development
- Summarize ways to engage families in the curriculum for physical development

13.1: Introduction

A child's well-being is the foundation for all aspects of development and learning. In early childhood settings, educators play a vital role in promoting environments that support children's health, ensure their safety, and foster lifelong habits of good nutrition. This chapter explores the essential components of promoting healthy, safe, and nutrition education for young children.

One way to foster healthy lifestyles is to encourage the development of health-promoting habits during early childhood. Preschool education about health can begin a lifelong process of learning about oneself, relationships to others, and the world. Preschool children’s experiences with their health and ways to improve it at home and in the early childhood setting enhance their desire and ability to make healthy decisions throughout their lives.

Figure 14.1: Positive experiences relating to dental health are valuable. Figure 14.1 by the California Department of Education is used with permission.

The preschool health foundations describe the health knowledge, attitudes, habits, and behaviors that set the groundwork for all preschool children to develop into healthy adults. They explain what children should know about health, and what health habits and practices should be part of their daily routines when provided with high-quality health education in preschool. These skills and behaviors lead young children to health and healthy lifestyle choices. [2]

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13.2: Guiding Principles in Supporting Children's Health, Safety, and Nutrition

An integrated and comprehensive approach is most effective when preschool children are taught about health. Health education does not stand alone in the preschool curriculum. It is integrated with the other domains. Health is comprehensive. Health education involves ideas directly relevant to the child, such as "How do I grow?" Preschool teachers work with children who are naturally curious and eager to learn about their bodies and how each part works. A developmentally appropriate curriculum promotes overall health (e.g., wellness, safety, oral health, nutrition) and integrates topic areas. For example, a discussion about safety rules might include nutrition and sanitation.

Figure 14.2: Children can explore their understanding of health through dramatic play.[1]

Teachers address ideas and concepts that children can grasp at their developmental level and then progressively build on what children already know and understand. This approach applies to all children, including children with various abilities, disabilities, or other special needs (such as delays in language, cognition, or physical ability).

- Health knowledge is individualized.
- Preschool children and their families possess diverse backgrounds and cultural practices.
- Learning about health practices has a language component.
- Children's personal health status (i.e., physical, mental, emotional) affects their ability to learn and develop in all domains.
- The overall theme of health education for preschool is personal health.
- Children learn through their experiences, including play, routines and scripts, modeling, and developing and sustaining relationships at preschool. This learning is supported through adult scaffolding.
- Practicing scripts, or behavioral rules, can foster the development of certain health-promoting behaviors or skills.
- The preschool program provides both indoor and outdoor environments that are safe and appropriate, challenging, and inviting for all children.
- Teachers help children feel secure by assuring them that adults will care for them (e.g., parents, family members, teachers, health care providers, special needs assistants).[2]

References

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13.3: Environmental Factors in Supporting Children's Health, Safety, and Nutrition

Children learn most effectively in a safe, inviting environment where they can freely explore and challenge themselves. Health and safety in the preschool program, indoors and outdoors, includes the environment, supervision, and education. The environment is the first safety component; a safe environment allows children to explore, play, and learn without unnecessary restriction. The environment should be set up and maintained to reduce the risk of injury and disease transmission.

Proper supervision of children is essential, and the required adult-to-child ratios must be met at all times, including periods when children play outdoors, are transported, and go on field trips. The most effective supervision includes active involvement with children's learning: teachers move around the room with children, attend to children and their interactions, make eye contact, encourage children verbally, and model appropriate voice and actions.

Education is multifaceted. Teachers promote children's learning through discussion, modeling, and daily routines through active participation. An accessible and supportive environment with appropriate facilities and items allows children to practice and demonstrate progress in learning.

The following recommendations apply to establishing the preschool environment that supports children's health, safety, and nutrition.

- Establish a physical learning environment designed for children's initiative.
- Provide safe, inviting learning environments and appropriate supervision of children.
- Maintain a clean, healthy, and sanitary environment. Incorporate cleaning and sanitizing into the daily routine.
- Have supplies available and accessible to promote routine health practices.
- Provide stimulating and developmentally appropriate materials in interest areas for children's use during play.
- Provide furnishing and utensils appropriate for children's size and abilities.
- Be creative and include a gardening space, either indoors or outdoors, where children can plant seeds, tend the garden, and watch the plants grow.[1]

Figure 14.3: A classroom garden is an excellent way to involve children and provide good nutrition.[2]

Pause to Reflect

What practices should teachers engage in, and how can the environment be designed to support the health, safety, and nutrition of all children (including those from diverse backgrounds and those with special needs or disabilities)?

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13.4: Introducing the Foundations

The preschool learning foundations for safety, health, and nutrition are organized into three broad categories, or strands:

- Health Habits
- Safety
- Nutrition

Refer to the Physical Health and Development content area in the Kansas Early Learning Standards for specific indicators of how children of various ages meet the benchmarks and standards. The structure of the KELS for the area of physical health and development is as follows:

- Gross Motor Skills
- Fine Motor Skills
- Physical Fitness
- Nutrition and Health Eating
- Self-Care
- Safety (Kansas State Department of Education, 2024)

These describe the health knowledge, skills, and behaviors that preschool children typically develop in a quality preschool environment. Through supportive communication and participation in everyday routines and activities, children begin to develop behaviors such as making food choices, engaging in physical activity, and maintaining personal safety and oral health. These skills and behaviors set young children on the path toward health and healthy lifestyle choices. The specific foundations are included later in the chapter as each strand is explored.

They represent a vision of young children's developmental process, not an expectation. Each child enters preschool with a genetic background, developmental characteristics, an individual level of knowledge and skills, and understanding of everyday routines. The differences are based not only on the child's age, but also on the child's developmental level, prior experiences, and special needs. It is the responsibility of adults to help each child to develop the knowledge, skills, and behavior that promote healthy development.[1]

Supporting Health Habits

Teachers can help children establish positive health habits. This learning is progressive, and preschool teaching often focuses on scripts and routines for prevention of disease and injury. Later, as children grow and develop knowledge and skills, they begin to believe and understand that they are responsible for their own health.

Figure 14.4: Learning to brush your teeth well is an important lifelong skill to protect dental health.[2]

Health Habits includes basic hygiene, oral health, wellness knowledge, and sun safety.

Teacher-guided activities on health habits may be used to introduce or focus attention on a specific topic or concept. However, learning is primarily achieved through children's daily routines (e.g., washing hands at certain times, brushing teeth after meals) and verbal or nonverbal scripts that illustrate the desired lifelong behavior (e.g., using a tissue when blowing the nose, coughing into the elbow). Children demonstrate knowledge of body parts, disease prevention, and wellness as they practice routines and develop descriptive scripts (e.g., "We wash our hands, fingers, and wrists"; "I'm going to brush my teeth and tongue"); they begin to understand more difficult concepts through scaffolding.

Teachers can support children's development of the health habits foundations with the following:

- Teach children how to wash their hands.
- Practice toothbrushing skills.
- Model basic hygiene and disease prevention actions throughout the day (including using tissues to blow their nose, sneezing and coughing into their elbows, using napkins, brushing their teeth, using utensils to serve food, etc.).
- Remind children about health practices throughout the day. Include strategically placed visual reminders throughout the environment.
- Incorporate handwashing, toothbrushing, sun safety, and other health practices in the daily routine.
- Use visual aids to demonstrate invisible germs.
- Reinforce learning with stories and music.
- Observe individual children attentively. Learn what experiences, knowledge, skills, and abilities each child has to determine where they are at in the learning process.
- Build communication and vocabulary skills. Use children's home languages. Tell them stories and have them draw stories about health routines (such as visiting the dentist). Introduce words that apply to different safety topics (such as 'protect').
- Encourage pretend play, especially to work through their fears. Provide special-interest areas (doctor's office, dentist's office, eye doctor's office, etc.) with props for role-playing.
- Provide hats and look at how each might protect children from the sun. Encourage children to dramatize protecting baby dolls from the sun.
- Encourage children to explore and accept differences. Children recognize physical differences and the different health practices, meal setups, food choices, and safety considerations.
- Use correct terminology for body parts in both English and children's home languages.

Figure 14.5: Proper handwashing is one of the most effective ways of staying healthy.[3]

- Familiarize children with health helpers (lab technicians, nutritionists, dentists, eye doctors) and include others that may be utilized by their families (chiropractors, acupuncturists, midwives, etc.).
- Consider offering health screenings for children to help them become familiar with health helpers.
- Integrate health promotion and sun safety with other topics and domains.
- Provide visual representations of health helpers (ensure that you show both males and females, various ethnicities, and various ages of people).
- Enhance children's knowledge and understanding through problem-solving (which health helper would provide assistance in different situations).
- Model and share information each day about practices (such as applying first aid for an injury) that support health.
- Integrate sun safety with emergency preparedness and safety.
- Encourage decision-making. Have children protect themselves from the sun.
- Promote sun safety everywhere, every day, all year long for each and every child.
- Ensure that children have access to appropriate sun safety items.[4]

Vignettes

The children are playing indoors when Miss Marie reminds them that it is time to prepare for lunch. She begins to sing a handwashing song as children leave their interest areas. Some of the children begin singing as they wash their hands. The song follows the familiar “Row, Row, Row Your Boat” tune, and the children enjoy singing it in both English and Spanish.

English:

Wash, wash, wash my hands

Make them nice and clean

Rub the bottoms and the tops

And fingers in between

Spanish:

Lava, Lava, Lava mis manos

Lavalas muy limpias

Lavalas de arriba y abajo y

Entre mis dedos de las manos

The children have learned that if they sing the song two times while washing their hands, then their hands should be clean! Miss Marie sings along with the children as she observes the handwashing process. She helps Tonya, who has a hearing impairment, by clapping along with the song; Tonya can look in the mirror above the sink to see when the song (clapping) ends. The younger children sometimes need help in dispensing the soap and turning the water on and off; the older children enjoy helping the younger ones and like to model their handwashing skills.

Mr. Jeff is putting sunscreen on four preschoolers. “Mr. Jeff, why do we have to put this sticky stuff on every day?” asks Mary. As he removes his gloves and puts away the sunscreen bottle, he explains, “The sun is good for us. It gives us light and warmth. But too much sun is not good for your skin. We put on the sunscreen to protect our skin from too much sun.” Javier says, “I don’t burn. I don’t need this.” Mr. Jeff replies, “Everyone needs to be sun-safe.” Mr. Jeff encourages the children to run, jump, and try new activities as they play outdoors.[5]

Pause to Reflect

What do you remember from your own childhood about learning how to take care of your health (handwashing, tooth brushing, first aid, sun safety, etc.)? What roles did the adults in your life play in those experiences?

Supporting Safety

Preschool children deserve to live and play in safe environments. It is the adult’s responsibility to keep children safe; children should not be expected to actively protect themselves. Preschool safety education helps children develop safety awareness and the realization that they can control some aspects of their safety through certain actions.

The earlier children learn about safety, the more naturally they will develop the attitudes and respect that lead to lifelong patterns of safe behavior. Safety education involves teaching safe actions while helping children understand the possible consequences of unsafe behavior.

Figure 14.6: Children can be taught safety rules that give them an active role in keeping themselves safe.[6]

This section on safety addresses children's ability to follow safety rules, emergency routines, and transportation and pedestrian safety rules.

Safety

Teachers can support children's development of the safety foundations with the following:

- Incorporate safety activities into the daily routine.
- Involve children in creating rules. Limit the number of rules and keep them simple.
- Provide coaching and gentle reminders to help children follow safety rules. Use visuals with pictures and simple words in English and home languages.
- Promote independence while developing other skills.
- Provide time for children to practice individual skills (rather than just telling them about them).
- Introduce concepts and behaviors in simple steps. Build upon previous learning.
- Role-play safety helpers. Recognize that levels of trust in emergency and safety workers will vary from child to child, based on their experiences and the environments they live in.
- Take field trips and bring in safety helpers (police officers, firefighters, crossing guards, paramedics, and others).
- Define emergency, and have children practice problem-solving with different emergency situations.
- Introduce safety signs. Help children learn to recognize important symbols (and their corresponding printed words).
- Incorporate music with safety songs. Children can learn to state their name and address with the help of a simple song.[7]

Figure 14:7: Explaining to children why it's important to be buckled in helps them understand safety.[8]

Vignette

Ms. Linda is preparing her preschoolers for the first fire drill of the year. She has read several books about fire safety to the children. The class enjoyed a visit from Deloria's mother, who is a firefighter. The children are excited about their first fire drill, but they are not sure what to expect. Ms. Linda plays a tape of the school fire alarm and explains that the real warning alarm will be very loud. The fire alarm means everyone must leave the building.

"Now we are going to practice listening and preparing to leave the classroom," says Ms. Linda. "It will be like playing Follow the Leader, and I will be the leader." The children are eager to try this new experience, and it is difficult for them to listen

quietly. Several of the children are learning English so Ms. Linda uses words in the other languages of the children, as well as English, to focus their attention and explain the steps. Prior to this practice, Ms. Linda presented a list of key words and phrases to parents who speak languages other than English and obtained the relevant translations. She combines words and hand signals to direct the children. Ms. Linda explains that she will assist Juan, who is in a wheelchair, during the fire drill.

Ms. Linda demonstrates what to do when the alarm sounds (e.g., stand up, stay quiet) before the children practice. They practice this routine each day that week so they will be ready for the actual drill on Friday.[9]

Pause to Reflect

Some children find learning about safety to be frightening. What should you keep in mind to help children deal with their fears surrounding staying safe?

Supporting Nutrition

Lifelong eating habits are shaped during a child's early years. Teachers of young children have a special opportunity to help children establish a healthy relationship with food and lay the foundation for sound eating habits. Nutrition education and activities help set children on the path to a healthy lifestyle. Providing nutritionally balanced meals and snacks and integrating nutrition education and healthy eating habits in the home and early childhood environment can help prevent health risks such as childhood obesity.

Nutrition education is integrated with the other domains of learning. Through food and cooking activities, children also develop skills in math, science, art, language and literacy, social science, health and self-care, and social skills. Nutrition education for preschoolers fosters children's awareness of different types of foods and promotes exploration and inquiry of food choices. Lifelong food habits are developed during early childhood. Through nutrition education in preschool, teachers encourage children to include a wide variety of foods that provide adequate nutrients in their daily diet.

Figure 14.8: Providing nutrient-dense foods, such as fruit and milk, for children is important.[11]

Nutrition includes knowledge, choices, and self-regulation of eating. Through knowledge, children become aware of different foods and tastes, some familiar and others new. As they explore various foods and food preparations, they develop likes and dislikes and begin making choices based on their preferences. Both nutrition choices and self-regulation of eating—that is, eating when hungry, chewing food thoroughly, eating slowly, and stopping when full— involve decision-making skills.

Nutrition

Teachers can support children's development of the nutrition foundations with the following:

- Introduce many different foods. This can be done through books, meals, snacks, and cooking activities. Include familiar and novel foods and foods from the various cultural backgrounds of the children and their families.
- Recognize and accommodate differences in eating habits and food choices. Provide explanations for differences (e.g., eating from communal dishes, feeding tubes, avoiding certain foods, etc.) by having a family member or specialist come in to explain.
- Provide opportunities and encouragement in food exploration. Encourage children to explore with all five senses.
- Integrate nutrition with the other areas of learning through cooking activities.
- Show children where food is produced. Expand nutrition education through field trips to gardens, farms, orchards, local produce markets, kitchens, restaurants, grocery stores, etc., and bring in visiting experts (e.g., farmers, food co-op members, community

gardeners).

- Start a garden where the children can actively work. Allow them to plant, water, and care for the garden.
- Help children experience gardening as they raise herbs, fruits, or vegetables.
- Establish special-interest areas for children to engage in dramatic play (e.g., grocery stores, restaurants, picnics).
- Encourage role playing by providing props, including place mats, tablecloths, table-setting items, pretend food items, cooking utensils, menus, and other items that represent the children's families.
- Integrate nutrition education with basic hygiene education (e.g., washing hands before and after preparing food) and other learning areas (e.g., singing songs and discussions).
- Model and coach children's behaviors. Each what the children are being served.
- Encourage children to share information about family meals. Explore cultural diversity and how children's families eat at home.

Figure 14.9: Healthy food, served family style, sets the stage for great nutrition.[12]

- Serve snacks and meals family style. Adults and children eat together, share the same food, and talk informally.
- Encourage tasting all foods, but don't compel them to taste or eat certain foods.
- Serve foods prepared in many ways (e.g., raw, grilled, steamed, cut into shapes, shredded).
- Combine new foods with familiar ones.
- Be aware of individual food restrictions and help children make appropriate choices.
- Offer a variety of nutritious, appetizing foods in small portions.
- Encourage children to chew their food well and eat slowly.
- Teach children to recognize hunger cues. Encourage children to decide how much to eat and to stop when they feel full.
- Discuss how the body uses food.
- Reinforce learning throughout the day (not just at meal and snack times).[13]

Vignettes

Ms. Tsikudo has invited Ava's mother, Zhiying, to tell the class about Taiwan. Zhiying was born and grew up in Taiwan. Zhiying has brought many family photos, as well as photos of Taiwan's beautiful scenery. After showing the photos and taking questions from the children, she shares with the children a large durian and a few star fruits, fruits that people in Taiwan like to eat. Ms. Tsikudo helps carry the durian on a plate and moves around the class, asking children to touch it. "How does the skin feel?" "Bumpy!" Children reply with excitement. Meanwhile, Zhiying has sliced the star fruit and is starting to pass them around. "What do the pieces look like?" she asks. "Stars!" the children reply. Ms. Tsikudo picks up one slice of star fruit, puts it into her mouth, and says "I have never had star fruit before. Yum! I like the taste of this fruit. Who wants to try?" Some children raise their hands to try the fruit.

"I don't like that." Every day at lunch for the past three weeks, Amy said the same thing. She would eat the meat and fruit but would not taste any vegetables or bread. Mr. Rios asked Mrs. Gardner, Amy's grandmother, "What does Amy like to eat at home?" Mrs. Gardner replied, "She has never eaten very much at one time, and now all she wants is mashed potatoes. She looks healthy, but I'm worried about her."

Mr. Rios continued to observe Amy's eating habits and encouraged her to try other foods. As the children served their plates, he asked them about the different colors and smells. Using small serving utensils, he encouraged each child to take a small amount. If a child said he did not want it, Mr. Rios assured him that he did not have to eat it but gently encouraged him to put a tiny bit on his plate.

As Mr. Rios planned learning activities for the following weeks, he included a cooking activity along with snack time two days each week. He involved children's families by asking them to send ideas or simple recipes for favorite snack foods. Through these activities, the children were introduced to different foods, some new and some familiar, and various methods of food preparation (e.g., cooked versus raw, single food versus combined foods).[14]

Research Highlight

Fear of new foods is common in children. It may take many tries before a child tastes a new food, and up to 20 exposures before he decides he likes or truly dislikes it. Food jags (when a child will eat only one food item meal after meal) are also common. Food jags rarely last long enough to cause harm. Children's eating habits are a way for them to feel independent. They reflect typical development in children.

Some children have disabilities or other issues that affect their food choices. Children with autism often have very limited food preferences; some may have sensory issues and avoid specific textures or foods. Other children may not like it when different types of foods touch each other on the plate or may wish to eat foods in a particular order. Be aware of differences in children's preferences and eating habits, and consult with the child's family and specialist to ensure that needs are met.[15]

Sources:

Medline Plus, Food Jags, 2007. http:// www.nlm.nih.gov/medlineplus/ency/ article/002425.htm (accessed March 3, 2010).

E. Satter, *The Picky Eater.* https:// ellynsatter.com/showArticle.jsp?id=265&section=278 (accessed March 3, 2010).

American Academy of Pediatrics, *Feeding Kids Right Isn't Always Easy: Tips for Pre-venting Food Hassles,* 2008. www. healthychildren.org/English/healthy-living/nutrition/pages/Hassle-Free-Meal- Time.aspx (accessed May 11, 2010).

University of Maryland Medical Center, *Food Jags – Overview,* 2007. www.umm.edu/ency/article/002425.htm (accessed March 3, 2010).

Pause to Reflect

How are your own eating habits and nutritional practices? Why is it important for you to reflect on this?

References

Kansas State Department of Education. (2024). *Kansas early learning standards.*

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13.5: Engaging Families

Engaging Families

Teachers can use the following strategies to help families to develop their children's health habits:

- Provide families with concise, accurate information about ways to promote and develop good health habits in children. The information should be presented in English and the families' home languages.
- Share written and visual safety messages with families through newsletters, brochures, bulletin boards, web pages, and take-home activities in English and home languages. Emphasize safety issues related to your program and community.
- Provide individualized and general health information to all families. Provide safety information, especially for those at higher risk in specific communities (e.g., water safety, gun safety, or lead poisoning). Share information through daily contact, workshops, and parent meetings. Ensure workshops and meetings are offered at various times and provide child care.
- During family conferences, find out what messages family members would like reinforced at school. Safety rules and supervision may differ at home.
- Post emergency plans on family bulletin boards and provide families with a written copy of the program's emergency plans.
- Encourage families to plan and practice emergency drills for fires, earthquakes, floods, violent encounters, or other emergencies that might occur in their homes and communities.
- As you introduce health routines (e.g., handwashing and toothbrushing), invite family members to participate and model.
- Encourage families to contribute ideas or materials to interest areas that reflect diverse health habits at home.
- Invite family members to help children learn about people who can help in emergencies (firefighters, paramedics, construction workers, electricians, meteorologists, cleaning businesses, etc.)
- Be sensitive and respectful of different values or beliefs and varying levels of access to health products and services.
- Gather information on available and accessible health, safety, and nutrition resources in the community, including those for children with special needs, and provide this information to all families, translated into their home languages.
- Provide families with weekly or monthly menus in their home languages.
- Recognize that families have the most information about their children's food preferences, serving styles, and restrictions on eating habits.
- Offer workshops and information on nutritious and economical meals based on the families' cultural, ethnic, and personal food preferences.
- Encourage families to use available community resources for meal planning.
- Provide lists of foods or simple recipes for various nutrient-dense foods, low in fat, sodium, and sugar, and that look and taste great. Include foods that reflect cultural preferences and are available locally.
- Encourage families to involve children in food preparation.
- Invite families to share their favorite family recipes.
- Invite families to visit the classroom, sit with children during mealtimes, and participate in nutrition-related activities.
- Include families in planning the menu and meal-service routines.
- Provide all families with information on nutrition, child growth and development, nutrition risk factors, and community resources.
- Encourage families to ask questions and provide information about their children's eating habits or nutritional concerns.[16]

Figure 14.10: Information can be shared with parents formally, like in this workshop, or more informally.[17]

Pause to Reflect

Hygiene and nutrition are heavily influenced by culture. What do educators need to remember when working with families whose culture relates to these things might be very different from their own?

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13.6: Conclusion

The early years of children's lives are crucial to the development of behaviors that contribute to good health, and early childhood teachers can significantly enhance opportunities for young children to learn about health by providing appropriate experiences. Many adult chronic diseases and conditions, such as obesity, diabetes, and heart disease, are related to lifestyle choices about nutrition and fitness and often begin in childhood.

Figure 14.11: Staying active is another way to promote health and wellness.[1]

A respectful and integrated approach that meshes home and preschool environments and involves responsible adults can help children initiate a lifelong process of learning about themselves, their relationships to others, and the world around them. Health education is an essential part of the curriculum for young children. The topic of health is incorporated into daily routines and the environment; it is also the focus of planned learning activities. Early child-hood educators have the challenge of modeling a healthy lifestyle for the children they teach—one that will benefit both themselves and the children.[2]

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