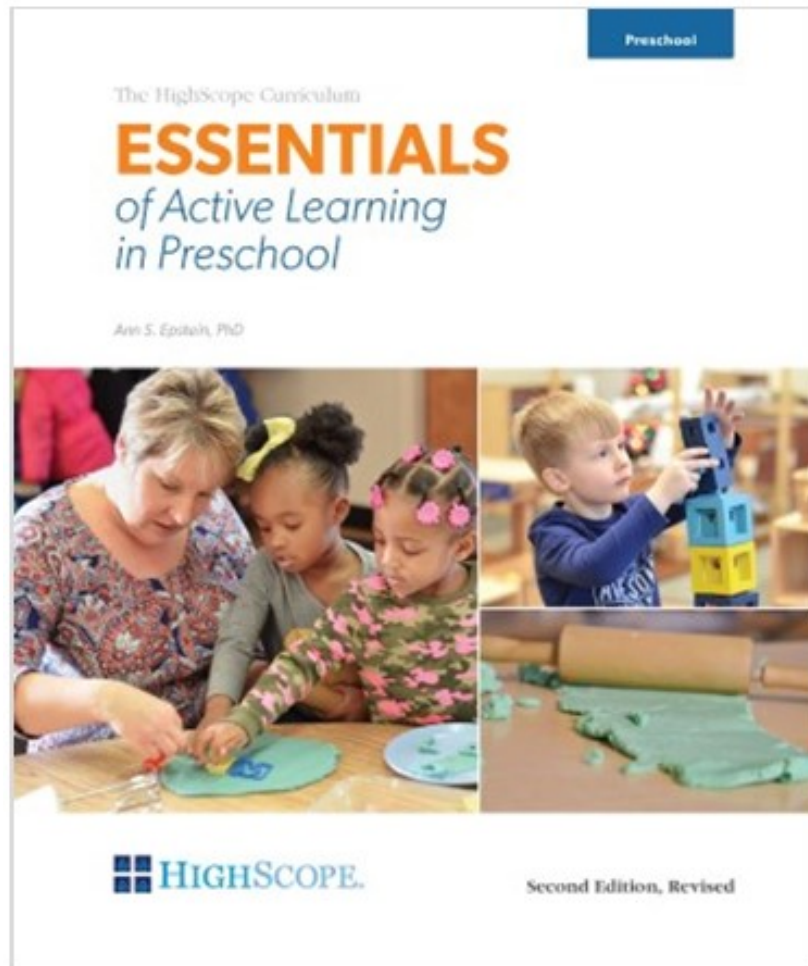


Essentials of Active Learning in Preschool



Product code: P1464

Essentials is a must-have guide to everything offered by the HighScope Preschool Curriculum. It brings together the wide-ranging scope of research, teaching practices, curriculum content, and professional development that makes up the HighScope approach and presents it in a user-friendly, thought-provoking way. Whether you already use HighScope, plan to adopt the curriculum or just want information on creating successful active learning environments, turn to this book. This revised second edition presents the latest research, practices, and curriculum content. It also includes new information on how to scaffold children's learning throughout the program day.



What Is the HighScope Preschool Curriculum?



Think About It

“It’s easy. Let me show you!”

You have just installed the

Draw-A-Lot program on your computer. A coworker, who has used the program for a year, is eager to show you what it can do. Pulling up a chair beside you, she takes the mouse. “The templates to get you started are in this pull-down menu. I like the second and fifth ones,” she explains. She opens and closes them so quickly you barely get a look. Then she continues, “But it’s easy to design your own. Click this command, then scoot over to this column to pick a color and a line. Jigger the texture icon into place like this, then you can also rotate or flip the image and...” Your chair has gradually been shoved to the side as your colleague sits front and center at the monitor. When she’s finished creating her “Still Life With Draw-A-Lot,” you don’t remember a thing she said. You thank her for the help, close the program, and click open Solitaire.

Early the next day, before anyone else gets to the office, you open Draw-A-Lot, click the “Get Started” tutorial, and go through it step by step. Then you play with the program on your own. At first, your designs and colors are limited. At one point you accidentally delete the entire image, and, another time, you flip it upside down. You laugh at yourself and start over. By the time your coworkers arrive, you’ve finished a simple but colorful poster advertising the agency’s upcoming fundraiser. The colleague from yesterday stops by to admire your work. “I’m glad I was able to help you,” she says.

We’ve all had an experience where someone has told or shown us how to do something. Usually their intent is to be helpful. Often, they know more about the subject than we do. Sometimes, in their eagerness to share, they overload us with information. But while they are active teachers, we are passive learners. As a result, we learn little or nothing. By contrast, when we have the time and materials to experiment independently, we can learn a great deal. As shown above, the best situation is when we have enough guidance to get started — whether it comes from a person or a manual — and then continue to explore on our own. Once we master the basics, we may turn back to the “expert” for advanced pointers or even share some of our own discoveries.

In the latter relationship, both the teacher and learner play an active role. And because the learner participates in the process, the lessons learned are meaningful and lasting. This shared approach to education is what HighScope is all about. In this chapter we will explore the active learning approach HighScope uses in its curriculum.

Components of the HighScope Curriculum

The HighScope Preschool Curriculum is a complete system of early childhood education, based on child development theory, research, and proven instructional practices. The curriculum has a set of *teaching practices* for adults, *curriculum content* in all areas with key developmental indicators

Chapter Learning Objectives

By the end of this chapter, you will be able to

- ❖ Define the ingredients of active participatory learning and use them to analyze children's educational experiences.
- ❖ Explain why active learning is effective for all age groups.
- ❖ Discuss how the content of the HighScope Preschool Curriculum addresses all areas of school readiness.
- ❖ Explain the important and diverse roles teachers play in early learning.
- ❖ Describe how assessment and professional development fit within the HighScope Curriculum.

(KDIs) for children, *assessment tools* to measure teaching behaviors and children's progress, and *professional development* (also called training) to help adults use the curriculum. We will discuss each of these items further in this chapter.

The HighScope Philosophy

In the HighScope Preschool Curriculum, fully described in *The HighScope Preschool Curriculum* (Epstein & Hohmann, 2012) and the eight accompanying KDI volumes (Epstein, 2012a–h), young children build or *construct* their knowledge of the world. Learning is not a matter of adults giving information to children, but rather a process of *shared control* in which children make discoveries through direct experience with people, objects, events, and ideas. Using this curriculum, preschoolers also make plans and follow through on their interests and intentions as they build their knowledge and skills.

HighScope teachers are as active and involved as the children. They thoughtfully provide materials, plan activities, and talk with (not at) children in ways that both support and challenge what children are observing and thinking. Activities are



The HighScope approach emphasizes active participatory learning, where teachers and students are partners in shaping the learning experience.

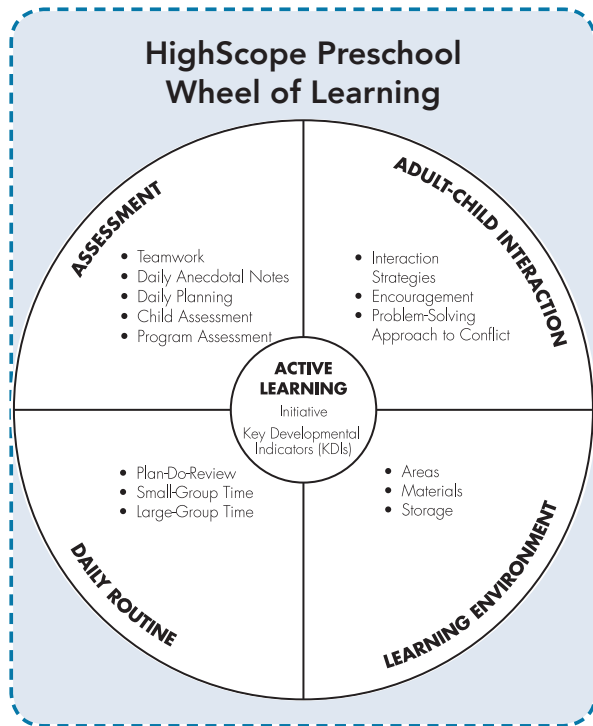
both child initiated — built on children's natural curiosity — and developmentally appropriate (i.e., matched to children's current and emerging abilities). HighScope calls this approach **active participatory learning**, a process in which teachers and students are partners in shaping the learning experience.

This educational approach, in which children and adults share responsibility for learning, builds essential school-readiness skills. In addition to addressing traditional academic subjects, the HighScope Curriculum promotes independence, curiosity, decision making, cooperation, persistence, creativity, and problem solving in young children.

The principles that guide the HighScope Curriculum are illustrated in the “Wheel of Learning” on page 9. *Active learning* is at the center to highlight the importance of children's initiative and HighScope's comprehensive attention to educational content in its KDIs. The four quadrants represent teachers' responsibilities as they work with children: engaging in supportive *adult-child interactions*, creating a challenging *learning environment*, establishing a consistent *daily routine*, and doing ongoing *assessment* to make plans and meet children's educational needs. After reading

Terms Used in This Chapter

- active participatory learning • materials • manipulation • choice • child language and thought • adult scaffolding
- curriculum content • key developmental indicators (KDIs) • plan-do-review process • comprehensive assessment tools
- professional development



this book, you will have a complete picture of how these parts of the HighScope Curriculum fit together in a unified whole.

Active Participatory Learning

The National Education Goals Panel (NEGP; Kagan, Moore, & Bredekamp, 1995) says school readiness is enhanced when children are provided with play-oriented, exploratory activities that allow them to interact, make choices, and participate at their own developmental level. This vision is central to HighScope's ideal of active participatory learning, which has five ingredients:

1. Materials — Programs offer abundant supplies of diverse, age-appropriate materials. Materials appeal to all the senses and are open ended, that is, they lend themselves to being used in a variety of ways and help expand children's experiences and stimulate their thought.

2. Manipulation — Children handle, examine, combine, and transform materials and ideas. They make discoveries through direct hands-on and "minds-on" contact with these resources.

3. Choice — Children choose materials and play partners, change and build on their play ideas, and plan activities according to their interests and needs.

4. Child language and thought — Children describe what they are doing and understanding. They communicate verbally and nonverbally as they think about their actions and modify their thinking to take new learning into account.

5. Adult scaffolding — *Scaffolding* means adults support and gently extend children's current level of thinking and understanding. In this way, adults help children gain knowledge and develop creative problem-solving skills.

See "Applying the Five Ingredients of Active Participatory Learning" on page 10 for an example of how these ingredients helped a child learn how to write.

HighScope Curriculum Content

A comprehensive curriculum model, the HighScope Curriculum addresses all the content areas of children's learning and development. The **curriculum content** is organized into eight major divisions that are easily aligned and consistent with national and state early learning standards (Gronlund, 2006; National Association for the Education of Young Children & National Association of Early Childhood Specialists in State Departments of Education, 2002), the Common Core Standards (2012), and the Head Start Child Development and Early Learning Framework (Office of Head Start, 2012). HighScope's content areas are Approaches to Learning; Social and Emotional Development; Physical Development and Health; Language, Literacy, and Communication; Mathematics; Creative Arts; Science and Technology; and Social Studies. The NEGP (Kagan et al., 1995) emphasizes the interdependence of these areas and the need to address them all at every age and grade level.

HighScope teachers provide experiences that nurture all of these areas of learning in every child. They recognize that development varies widely across children — and within children — across areas. Therefore, adults scaffold early learning by supporting children at their current level and gently extending their knowledge and thinking as they progress along a developmental trajectory.

▲ Key Developmental Indicators

Within the eight preschool content areas, HighScope identifies 58 **key developmental indicators (KDIs)**. (See "HighScope Preschool Cur-

Applying the Five Ingredients of Active Participatory Learning

Below is an example of how the ingredients of active participatory learning helped Erin learn to write. Her teacher recorded the following anecdote (in *italics*), which happened at work time.

Materials. The classroom has a wide range of writing materials.

At work time in the art area, Erin brought a box of markers, a stack of plain white paper, and several sheets of yellow construction paper to the table.

Manipulation. Children use writing materials in many ways, including making real letters and letterlike forms. They use, or pretend to use, writing in the same ways as adults.

Erin used a black marker to make lines, circles, and Xs on plain white paper. She wrote them in rows, like lines of print. Then she said, "I want to make invitations for my birthday party."

Choice. Children are free to use materials however they want during child-initiated parts of the day (such as plan-do-review) and also during adult-initiated activities (such as small- and large-group time). The teacher asked how Erin was going to carry out her plan to make invitations.

I asked Erin, "How will you make the invitations?" Erin replied, "I'm going to use the yellow paper and a red marker." She selected these materials from the array she had set in front of her.

Child language and thought. As children work,

teachers talk naturally to them about what they are doing. Adults expand children's vocabulary without dominating the conversation.

Erin folded the paper in half and drew a pink flower with blue and green leaves on top. She said, "I have to decorate the cards first." I commented, "You're making a decoration on the outside before you write the invitation on the inside." Erin replied, "It's like the card my grandma gave me for Halloween. It has pictures and words."

Adult scaffolding. Preschoolers learn to write letters and words in many different ways, for example, by tracing, copying, or writing letters as an adult spells out a word. Erin's teacher allowed her to use a combination of strategies, based on what Erin was ready for.

Erin said she needed help to write the words birthday party. I asked, "Do you want me to tell you the letters or write them for you to copy?" She asked me to write them. I wrote the word birthday, and Erin copied the letters on her invitation. Then she said, "Just tell me the letters for party because I can write them." I said them one at a time, and Erin wrote them down. Then she said, "I can spell my name all by myself" and wrote ERIN.

riculum Content" on p. 12. For infant and toddler KDIs, see Post, Hohmann, & Epstein, 2011.) The KDIs are the building blocks of thinking and reasoning at each stage of a child's development and pave the way for school and adult success. They include both *knowledge* and the application of this knowledge in *thinking* (Marzano & Kendall, 2007). For example, preschoolers need to know color names (knowledge) to sort objects (thinking) by color.

HighScope chose the term *key developmental indicators* for several reasons. The word *key* refers to the fact that these are the most important and meaningful concepts and abilities in early education. Young learners need to master such a wide

range of knowledge and skills that the list can seem endless in scope and detail. To avoid losing sight of the forest for the trees, the KDIs capture the major components that lay the foundation for further learning.

The second part of the term, *developmental*, emphasizes that learning is gradual and cumulative. Learning follows a sequence, generally moving from simple to more complex knowledge and skills. Moreover, *developmental* stresses that it is inappropriate, not to mention futile, to expect preschoolers to behave and learn like kindergarten or first-grade students. At each level, the curriculum must be consistent with what we know about human development at that age.

Finally, we chose *indicators* to emphasize that educators need evidence that children are developing the knowledge, skills, and understanding considered important for school and life readiness. To plan appropriately for students and to evaluate program effectiveness, we need observable indicators of our impact on children. Further, by defining these child outcomes in measurable terms, we can develop assessment tools that are consistent with the curriculum. In other words, the assessment system *indicates* whether the program is meeting its goals.

The continuity across content areas and KDIs allows for the fact that development occurs along a continuum and children of different ages and abilities cannot be pigeonholed into a single age-based category. This book focuses on the 58 KDIs that make up the HighScope Curriculum content for preschoolers (children aged three to five). However, children in this age-range may exhibit behaviors characteristic of older toddlers or early elementary students. Hence, the KDIs were developed with the entire early childhood spectrum, ages 0–8, in mind. Furthermore, children with special needs can fall at different points along the continuum, without regard to age, so a flexible system helps practitioners understand and plan for their development.

For children to learn the content contained in the KDIs, it is not enough for adults to simply pass along information. Children must experience the world firsthand. Adults can then scaffold (support and gently extend) children’s thinking and understanding as they progress to each new level of insight and knowledge. Adults do this by being intentional in their teaching, that is, by understanding how young children develop and being knowledgeable about the content areas that are important in early learning (Epstein, 2007). Moreover, teachers understand that true learning takes time and repeated exposure. It is not a one-shot affair.

The HighScope KDIs are based on current child development research and decades of classroom practice. The KDIs are also written to be universal. Teachers and caregivers from different cultures in the United States and countries all over the world report that they see children engaging in these developmentally important experiences. Research confirms these commonalities among children of all backgrounds. For example, children



Children engage with the KDIs — the building blocks of thinking and reasoning at each stage of development — as they interact with people, materials, events, and ideas.

everywhere sort objects into containers and take things apart and put them together. The exact materials used may vary from culture to culture, but the activity and the resulting learning about the nature of things is essentially the same.

Teachers use the KDIs to guide all aspects of their program. They set up the classroom, plan the day, observe children and extend their thinking, and measure children’s progress based on the general principles of active learning and the specific content in the indicators. These HighScope teaching practices are described in the next section of this chapter. Part 3 of this book presents an in-depth look at the KDIs in all areas of children’s learning and explains the thoughtful and practical strategies HighScope teachers use to promote them.

HighScope Teaching Practices

HighScope teachers arrange and label classroom interest areas and stock diverse materials to give children a broad range of experience and help them begin to understand how the world can be organized. To promote initiative and independence, teachers make sure the materials are easy for children to get and put away on their own.

HighScope Preschool Curriculum Content Key Developmental Indicators

A. Approaches to Learning

1. **Initiative:** Children demonstrate initiative as they explore their world.
2. **Planning:** Children make plans and follow through on their intentions.
3. **Engagement:** Children focus on activities that interest them.
4. **Problem solving:** Children solve problems encountered in play.
5. **Use of resources:** Children gather information and formulate ideas about their world.
6. **Reflection:** Children reflect on their experiences.

B. Social and Emotional Development

7. **Self-identity:** Children have a positive self-identity.
8. **Sense of competence:** Children feel they are competent.
9. **Emotions:** Children recognize, label, and regulate their feelings.
10. **Empathy:** Children demonstrate empathy toward others.
11. **Community:** Children participate in the community of the classroom.
12. **Building relationships:** Children build relationships with other children and adults.
13. **Cooperative play:** Children engage in cooperative play.
14. **Moral development:** Children develop an internal sense of right and wrong.
15. **Conflict resolution:** Children resolve social conflicts.

C. Physical Development and Health

16. **Gross-motor skills:** Children demonstrate strength, flexibility, balance, and timing in using their large muscles.
17. **Fine-motor skills:** Children demonstrate dexterity and hand-eye coordination in using their small muscles.
18. **Body awareness:** Children know about their bodies and how to navigate them in space.
19. **Personal care:** Children carry out personal care routines on their own.
20. **Healthy behavior:** Children engage in healthy practices.

D. Language, Literacy, and Communication¹

21. **Comprehension:** Children understand language.
22. **Speaking:** Children express themselves using language.
23. **Vocabulary:** Children understand and use a variety of words and phrases.
24. **Phonological awareness:** Children identify distinct sounds in spoken language.
25. **Alphabetic knowledge:** Children identify letter names and their sounds.
26. **Reading:** Children read for pleasure and information.
27. **Concepts about print:** Children demonstrate knowledge about environmental print.
28. **Book knowledge:** Children demonstrate knowledge about books.
29. **Writing:** Children write for many different purposes.
30. **English language learning:** (If applicable) Children use English and their home language(s) (including sign language).

E. Mathematics

31. **Number words and symbols:** Children recognize and use number words and symbols.
32. **Counting:** Children count things.
33. **Part-whole relationships:** Children combine and separate quantities of objects.
34. **Shapes:** Children identify, name, and describe shapes.
35. **Spatial awareness:** Children recognize spatial relationships among people and objects.
36. **Measuring:** Children measure to describe, compare, and order things.
37. **Unit:** Children understand and use the concept of unit.
38. **Patterns:** Children identify, describe, copy, complete, and create patterns.
39. **Data analysis:** Children use information about quantity to draw conclusions, make decisions, and solve problems.

F. Creative Arts

40. **Art:** Children express and represent what they observe, think, imagine, and feel through two- and three-dimensional art.

41. **Music:** Children express and represent what they observe, think, imagine, and feel through music.

42. **Movement:** Children express and represent what they observe, think, imagine, and feel through movement.

43. **Pretend play:** Children express and represent what they observe, think, imagine, and feel through pretend play.

44. **Appreciating the arts:** Children appreciate the creative arts.

G. Science and Technology

45. **Observing:** Children observe the materials and processes in their environment.

46. **Classifying:** Children classify materials, actions, people, and events.

47. **Experimenting:** Children experiment to test their ideas.

48. **Predicting:** Children predict what they expect will happen.

49. **Drawing conclusions:** Children draw conclusions based on their experiences and observations.

50. **Communicating ideas:** Children communicate their ideas about the characteristics of things and how they work.

51. **Natural and physical world:** Children gather knowledge about the natural and physical world.

52. **Tools and technology:** Children explore and use tools and technology.

H. Social Studies

53. **Diversity:** Children understand that people have diverse characteristics, interests, and abilities.

54. **Community roles:** Children recognize that people have different roles and functions in the community.

55. **Decision making:** Children participate in making classroom decisions.

56. **Geography:** Children recognize and interpret features and locations in their environment.

57. **History:** Children understand past, present, and future.

58. **Ecology:** Children understand the importance of taking care of their environment.

¹Language, Literacy, and Communication KDIs 21–29 may be used for the child's home language(s) as well as English. KDI 30 refers specifically to English language learning.

Teachers also make sure materials reflect children's interests and their home culture so the children are both comfortable and excited about learning.

The daily routine provides a balanced variety of experiences. Children engage in both individual and social play, participate in small and large groups, assist with cleanup, socialize during meals, develop self-care skills, and exercise their small and large muscles. Some parts of the routine revolve around children's plans and choices: children are free to choose where to go in the classroom (or outdoor space) and what toys or materials to work with. Other parts of the routine are planned and set in motion by adults. Even in these adult-led activities, however, children contribute their own ideas and choose how to use the materials supplied by the teacher.

The heart of the HighScope daily routine is the **plan-do-review process** in which children make choices about what they will do, carry out their ideas, and reflect on their activities with adults and peers. We call these parts of the day *planning time*, *work time*, and *recall (or review) time*. By participating in the plan-do-review process, children gain confidence as thinkers, problem solvers, and decision makers. They act with intention and reflect on the consequences of their actions. These are abilities that will serve them well in school and throughout their lives.

HighScope Assessment Tools

Effective programs monitor how well teachers teach and how much children learn on an ongoing basis (Gilliam & Leiter, 2003). They use the results to continue what is working and improve what is not (e.g., to provide more teacher training or fill gaps in children's experiences).

HighScope has two **comprehensive assessment tools** — one for programs and one for children — to carry out this review and enhancement process. The Program Quality Assessment (PQA) evaluates whether teachers and agencies implement effective program practices. Observers rate classroom teaching and program operations to identify strengths and areas for improvement. The PQA is available in both preschool and infant-toddler versions. COR Advantage, the latest version of HighScope's Child Observation Record (COR), assesses children's learning in every content area from infancy through kindergarten. Each

day, teachers and caregivers write brief anecdotes that objectively describe children's behavior. They use these notes to evaluate children's development and then plan activities to help individual children and the classroom as a whole progress.

Because both instruments reflect best practices in the classroom and basic child development principles and research, they are suitable for use in all developmentally based programs, not just those using the HighScope Curriculum.

HighScope Professional Development

A curriculum works only if it is used consistently and properly. We know from more than 50 years of research that HighScope offers significant benefits to young children. However, to get those benefits, children must receive the same program that was proven in the research. To guarantee these optimal conditions, HighScope has an extensive training program of **professional development** courses for supervisors, teachers, and caregivers.

To train adults, HighScope employs the same principles of active participatory learning that it uses with children. People in training do not just read theory and research; they practice using HighScope teaching strategies in the classroom. They reflect on what is and is not working and discuss their experiences with colleagues. HighScope Certified Trainers provide feedback and support as training participants learn about the curriculum and how to use it with children.

By using the suggestions at the end of each chapter in this book ("Try These Ideas Yourself"), you too can actively learn as you read about the HighScope Curriculum. Depending on your situation, practice the curriculum with children in your program, share your thoughts with other students and colleagues, mentor those you supervise, and even try some exercises with family and friends. Most important, apply the information to your personal and professional life and reflect on what you learn in the process. By exploring these ideas, and using them to build your own insights and practices, you will experience the HighScope way of teaching and learning.

The Theory Behind Plan-Do-Review

In addition to active participatory learning, the other hallmark of the HighScope Curriculum is the **plan-do-review** process. Young children in HighScope programs express their intentions (make *plans* involving choices about materials, actions, and people), carry out their ideas (*do* things to achieve their goals), and reflect on the experience (*review* what they did and what they learned). The plan-do-review sequence is rooted in the work of several theorists and its importance in early development is supported by research conducted by HighScope and others.

▲ Making plans

Planning has both cognitive and social-emotional components. Cognitively, to make a plan, a child must have in mind a mental picture of what he or she wants to do. This ability to imagine or form mental images of something that has not yet happened develops along with a child's use of language. Developmental psychologists describe the mental tools children use to plan as *executive control structures* (Case, 1985) or *executive function* (Zelazo & Mueller, 2002), by which they mean the inner blueprints for framing a problem and using existing knowledge and skills to plan, try out, and evaluate a solution.

There is evidence that, over time, as children converse with adults and participate in everyday routines, their ability to talk about a plan develops along the following lines: at first they focus on the *here and now* ("Want block"); next they begin to focus on *now and not now*, with reference to past or future ("At work time, I'm going to play with Max"); then they relate two points in time ("I'm painting. It's wet now, but it's going to dry in a little bit"); and finally, they can coordinate several points in time and the sequence of events across time intervals ("I'll get scissors to cut the string. Then I'm going to tie the strings on the fence for the birds") (Benson, 1997; Weist, 1989).

From the perspective of social-emotional development, children's capacity to plan appears as they struggle with what psychoanalyst Erik Erikson (1950) called *initiative versus guilt*. Preschoolers have many ideas they want to try out. When they are successful in carrying out their intentions, they develop a sense of initiative. If they consistently

meet with failure, or are made to feel bad in their attempts, they may feel guilty about taking the initiative. By encouraging children's initiative, exploration, and independent problem-solving, HighScope teachers give children the social-emotional support they need to become competent and confident planners.

▲ Carrying out plans

When children carry out their plans (the *do* part of plan-do-review), they are being purposeful as well as playful. In fact, what differentiates HighScope work time from the free-choice time found in other preschool programs is the sense of purpose that children bring to their play. Because they carry out plans they make for themselves, preschoolers approach play as a way to accomplish something important to them. Moreover, as adults play and converse with children based on the children's interests, the children's language learning increases (Tomasello & Farrar, 1986).

Many educators and psychologists recognize the value of **purposeful play** in young children's learning. Dewey (1938/1963), whose theories influenced decades of American education, saw playfulness and seriousness as the ideal combination for learning. Dietze and Kashin (2011) say that play is as vital in the early years as nutrition and human nurturing, enhancing a child's sense of wonderment and curiosity, which has lifelong implications for every aspect of social-emotional, cognitive, and physical development.

▲ Reviewing activities

Recall time is when children make sense of their purposeful play. It involves more than simply remembering what they planned or did. Recall is an opportunity for children to reflect on their actions and the lessons they learned while interacting with materials and people. During recall, children actually build, or construct, memory, forming a mental representation of their experience and interpreting it based on their current way of thinking. This process is similar to when adults tell a story about something that happened to them. The narrator selects which parts of the event to build the story around, chooses words to show how he or she reacted to what happened, and often gives a punch line to sum up what he or she gained from the experience.

When children talk with others about their actions, they are also engaging in the storytelling process: “Creating the story also creates the memory structure that will contain the gist of the story for the rest of our lives. Talking is remembering” (Schank, 1990, p. 115). Thus, the memories created when children review their activities helps to bring about permanent changes in their growing understanding of the world.

Further, memory itself involves several different thinking processes. Psychologists give each type of memory a distinct name. *Recall of facts* (What did you do?) engages the semantic memory; *recall of procedures* (How did you do that?) engages the procedural memory; *recall of events* (What did you do first?) engages the episodic memory; and *recall of path* or route (How did you get there?) engages spatial memory. Each type of memory is associated with a different brain structure (Bourtchouladze, 2004; Kagan & Kagan, 2003).

Dewey (1938/1963) and psychologist Sara Smilansky (1971) also commented on the importance of planning and reflection in learning and development. Dewey said education should be based on goal-directed activity and that children should actively participate in directing their own learning activities. Smilansky spent a great deal of time observing children’s play and was a consultant to HighScope in the early 1960s. She urged the curriculum developers to add recall to planning and work time so children could reflect on their plans and actions and thereby gain more understanding of what they had learned in the process.



The insights and application of developmental theory in the HighScope Curriculum have been borne out by decades of research showing that active learning develops initiative. Planning and reflection are the curriculum components most positively and significantly associated with child development. The key studies behind these conclusions are described in the next chapter.



Try These Ideas Yourself

1. Observe an infant, a toddler, and a preschooler each encountering something for the first time. How do they approach the object or experience? What does this tell you about differences in their development?
2. Share a new experience with a young child. Compare what you notice and how you react with what the child notices and how the child reacts. What does this tell you about differences in how adults and children think about and understand the world?
3. Remember when you moved into a new place. What essentials did you need first? What details did you add later? Are you someone who leaves things in place once they are set or do you like to rearrange them? Do you see any parallels between how you furnish your living space and how you take in new information? How might your reflections influence your work in the classroom?
4. Observe preschoolers at play in several different settings (e.g., a preschool classroom, an unsupervised playground or park, a family gathering, or a children’s party). In each instance, decide whether or not the children’s play is purposeful, that is, if it is (or is not) carried out with a goal in mind. Describe the differences between purposeful and nonpurposeful play. List the advantages and disadvantages of each type of play.



What Is the Research-Based Evidence in Support of the HighScope Curriculum?



Think About It

Many doctors today warn patients that their weight and cholesterol levels are too high, putting them at risk for heart disease, diabetes, and other health problems. Some doctors recommend a program of diet and exercise. Others also prescribe medication. Because opinions differ on what works best for patients — and because not every patient is the same — medical researchers continue to study the effects of various treatments. New drugs regularly appear on the market.

If you are being treated for these problems, you want to know if what you are doing is working. For example, if you are taking medications that cost a lot of money and have side effects, you may be especially eager to know whether the benefits outweigh the drawbacks. Stepping on the scale answers the question of whether you are losing weight. However, since cholesterol levels can't be seen, your doctor will order a blood test. If the results are good, you and your doctor know the treatment is worthwhile. If the results are not good, or not good enough, the doctor may suggest changes in the medication or how you are taking it, as well as changes in diet or exercise.

Just like doctors and scientists, early childhood educators wonder whether their practices are effective. The push for accountability is an example of people asking whether the investment in preschool makes a difference in the outcomes for children and their families. HighScope has

asked itself this question right from the start, beginning with its first preschool program in 1962. HighScope accepts the need to prove the curriculum works — and that it works with different populations under different program conditions. Moreover, since tests tell only part of the story, HighScope measures outcomes in different ways, including what happens in the “real world” as children engage with people and materials in their daily lives. Finally, since, like diets, effects can show up and then disappear, HighScope wants to make sure the improvements are lasting.

A Commitment to Research

Since its beginnings in the early 1960s, HighScope has conducted research and evaluation on the educational programs it develops. The first objective was to see if the programs were generally effective in achieving their goals. Overwhelmingly, they were. The second was to find out which specific components were — or were not — working, so improvements could be made. This commitment to research has allowed HighScope to maintain its basic, proven curriculum while continually adding features that address the changing educational policies and the needs of today's children.

Evidence for the effectiveness of HighScope's curriculum and training model comes from three major studies carried out by HighScope, which have been confirmed by independent investigations in the United States and abroad. These studies are discussed in the remainder of this chapter.

Chapter Learning Objectives

By the end of this chapter, you will be able to

- ❖ Describe the major research studies conducted by HighScope on its curriculum and training model.
- ❖ Describe research conducted by independent investigators that confirms the findings of the HighScope research.
- ❖ Explain how the components of high-quality preschool programs are derived from research.

▲ Research conducted by HighScope

The HighScope Perry Preschool Study. This study, reported in *Lifetime Effects* (Schweinhart et al., 2005), examines the long-lasting influences of the HighScope Preschool Curriculum on children born into poverty. The study is based on **random assignment** (arrangement of participants under different conditions, based on chance) of 123 children to either a program group (participating in a high-quality preschool program) or a no-program group (not participating in a high-quality preschool program). To date, the research has found that the curriculum had positive effects through age 40 on school achievement and literacy, high school graduation, adult earnings, home ownership, and lifetime arrest rates. A **cost-benefit analysis** (comparison of the costs of a particular investment with the advantages it is likely to offer) shows society saves more than 16 dollars¹ for every dollar invested in a high-quality early childhood program. In his invited comments on these results, Nobel Prize-winning University of Chicago economist James J. Heckman said, “This report substantially bolsters the case for early interventions in disadvantaged populations. More than 35 years after they received an enriched preschool program, the Perry Preschool participants achieve

¹Based on constant 2000 dollars, discounted at 3 percent.



Research has shown that the more teachers provided opportunities for young children to plan and review activities of their own choice, the higher they scored on measures of the skills needed for later school success.

much greater success in social and economic life than their counterparts who are randomly denied treatment.” (Schweinhart et al., 2005, p. 229).

The HighScope Preschool Curriculum Comparison Study. This study, reported in *Lasting Differences* (Schweinhart & Weikart, 1997), also examines the long-term effects of preschool on children from low-income families. It compares 68 preschoolers randomly assigned to one of three different curriculum models. Some attended HighScope, a comprehensive program in which children and teachers share responsibility for the learning experience (Epstein & Hohmann, 2012). A second group went to a program with a traditional nursery school curriculum, where the major focus is on social development and children determine the nature and content of their own learning (Sears & Dowley, 1963). The third group attended a program that used a direct instruction model, in which learning is confined to academic subjects and is directed by adults (Bereiter & Engelmann, 1966). The data, analyzed through age 23, finds

Terms Used in This Chapter

• HighScope Perry Preschool Study • random assignment • cost-benefit analysis • HighScope Preschool Curriculum Comparison Study • HighScope National Training of Trainers Evaluation • inservice training • Head Start Family and Child Experiences Survey (FACES) • child-initiated learning activity • developmentally appropriate • open ended

no significant and lasting group differences on language, literacy, or school achievement. However, adults who attended the direct instruction program as children have had consistently higher rates of criminal activity compared to the other two groups.

The HighScope National Training of Trainers Evaluation. This study, reported in *Training for Quality* (Epstein, 1993), surveyed 203 HighScope trainers, interviewed and observed 366 teachers in HighScope and non-HighScope early childhood settings, and assessed 200 preschool children in HighScope and comparison classrooms. It found positive results demonstrating the effectiveness of systematic **inservice training** at all levels — for supervisors, teachers, and children. HighScope training resulted in significantly better supervisory and teaching practices than other training programs.

Children in HighScope programs, compared to those in non-HighScope programs, were rated significantly higher on measures of development. Most notably, the findings showcased the importance of the plan-do-review process. The more teachers provided opportunities for children to *plan and review activities of their own choice* — a hallmark of the HighScope Curriculum — the higher children scored on measures of the academic and social skills needed for school success.

▲ Research performed by independent investigators

Independent studies confirm that preschool children attending well-run HighScope programs do better than those in other program settings. Studies in the United Kingdom (Sylva, 1992) and the Netherlands (Veen, Roeleveld, & Leseman, 2000) found that when children plan, carry out, and review their own learning activities, they play with more purpose and perform better on measures of language and intellectual development. The **Head Start Family and Child Experiences Survey (FACES)** (Zill, Resnick, Kim, O'Donnell, & Sorongon, 2003), conducted with 2,800 Head Start children around the country, found those in HighScope programs improved significantly more from fall to spring on measures of literacy and social development than did children attending classrooms using the Creative Curriculum® or other curriculum models.

Lessons Learned From Research

The sidebar on page 5 lists the seven elements of high-quality preschool programs. Based on research conducted by HighScope and other investigators, we can elaborate these components as follows (Schweinhart, 2004):

Child development curriculum. Of all the ingredients in a high-quality program, an educational model that recognizes the value of child-initiated active learning is the most important. Research that has tested child development theory, and verified it in practice, identifies these principles:

- **“Child-initiated learning activity** acknowledges both the developmental limits of young children and their potential for learning” (Schweinhart, 2004, p. 18). In a balanced approach, young children are neither pushed to do things more suitable for older children, nor seen as uninterested in or incapable of engaging with meaningful content.
- “The best early childhood learning activities are child initiated, **developmentally appropriate**, and **open ended**” (p. 19). This means activities build on children’s natural curiosity, are matched to children’s current and emerging abilities, and allow for exploration and variation rather than having to be performed a single “right way.”
- “Open communication between teacher and child and among children broadens children’s perspectives as they learn to share ideas” (p. 19). Research on teaching and child-rearing shows the benefits of shared control over either authoritarian or permissive extremes. A democratic style allows children to see things from different perspectives, which is an important social as well as cognitive skill.

Low enrollment limits. Studies have found that the fewer children per adult, the better the adult-child interaction. In addition to favorable staff-child ratios, the total group size should be limited based on standards recommended by the National Association for the Education of Young Children for the ages of the children served (Copple & Bredekamp, 2009).

Staff trained in early childhood development. Adults who provide care and education