



This chapter contains an easy-to-read guide that includes the theory and research upon which the HighReach Learning curriculum approach is based. The field of early childhood education is changing, and we are learning at a speed unseen in our field to date. New and current research is continually evaluated and continues to inform the strategies and content that you see reflected in HighReach Learning materials.

The field of early childhood has historically focused on child development while addressing the study of effective curriculum strategies with some reluctance or limited scope. At this time, the study of early childhood practices is growing; this growth positions professionals to be more purposeful in their curriculum development efforts. The following chart reviews key theories and research findings that provide strong evidence for best practices. The information in this chart has been categorized into three core areas of focus as outlined below. The focus areas in the chart were included based on the underlying assumption that when planning curriculum for young children, consideration should be given to all three: child development, the content of the curriculum, and the pedagogy (practices). All three working together are necessary to achieve the intended goals.

- 1. Knowledge of the Child** – Refers to theories and research about developmental characteristics, learning processes, and the context of growth and development.
- 2. Knowledge of the Content** – Refers to the content of teaching in key learning domains impacting school readiness skills, including language, emergent literacy, science, math, social skills, and motor development.
- 3. Knowledge of the Pedagogy** – Refers to the strategies to implement the curriculum, including interactions with materials and people in the environment.



Theoretical Foundations

Knowledge of the Child			
Focus	Theory	Impact on the Curriculum	References
Attachment Theory	The central theme of attachment theory is that mothers who are available and responsive to their infants' needs establish a sense of security. The infant knows that the caregiver is dependable, which creates a secure base for the child to then explore the world (Bowlby, 1969). When infants are able to securely explore their world, they are then able to learn.	The curricula emphasize the importance of promoting a strong bond between school and home, thus ensuring that the relationship between parents and children is supported and nurtured. In addition, the curricula support the idea of primary caregiving in an effort to foster relationships among the parents, the child, and the primary teacher or caregiver.	Bowlby, J. (1969). <i>Attachment and loss: Attachment</i> (Vol. 1). New York: Basic Books.
Attachment Theory	Caregivers can provide crucial support for children by becoming additional attachment figures. Schaffer and Emerson (as cited by Neil-Hall, 2007) found that children are most likely to form attachments when their caregivers are willing to play and interact. The consistent and reliable support and encouragement in the child-care setting should provide a good attachment experience for all children (Ainsworth & Bell, 1969, 1970; Neil-Hall).	The learning experiences are built upon principles of responsive, reciprocal interactions and the availability of the adults to work with children in order to support and achieve kind, positive, and supportive relationships.	Ainsworth, M. D. S., & Bell, S. M. (1969). Some contemporary patterns of mother-infant interaction in the feeding situation. In A. Ambrose (Ed.), <i>Stimulation in early infancy</i> (pp. 133–170). London: Academic Press. Ainsworth, M. D. S., & Bell, S. M. (1970). Attachment, exploration, and separation: Illustrated by the behavior of one-year-olds in a strange situation. <i>Child Development</i> , 41(1), 49–67. Neil-Hall, J. (2007). Attachment: Supporting young children's emotional well-being. <i>Early Years Update</i> . Retrieved June 20, 2008, www.teachingexpertise.com/articles/attachment-supporting-young-childrens-emotional-wellbeing-2358

Theoretical Foundations *continued*

Knowledge of the Child			
Focus	Theory	Impact on the Curriculum	References
Attachment and Temperament	Thomas, Chess, and Birch have identified nine characteristics of temperament that build the personality of all human beings. It is the unique interplay between these characteristics and the people in the environment that shapes the way a child learns to interact in his world (Chess, Thomas, & Birch, 1965; Thomas, Chess, & Birch, 1970).	The curriculum programs are written to prompt teachers to individualize their efforts in order to meet each child's needs. Teacher-child interactions should be adapted to meet the style and patterns of each child.	Chess, S., Thomas, A., & Birch, H. G. (1965). <i>Your child is a person: A psychological approach to childhood without guilt</i> . New York: Viking Press. Thomas, A., Chess, S., & Birch, H. G. (1970). The origin of personality. <i>Scientific American</i> , 102–109. Retrieved June 2, 2008, from http://www.acamedia.info/sciences/sciliterature/origin_of_personality.htm
Brain Development and Attachment	Siegel (1999) has studied family interactions with an emphasis on how attachment experiences influence emotions, behavioral regulation, autobiographical memory, and narrative processes. He outlines the development of the mind (and the neurobiological processes involved) as being interpersonal in nature. The ability to form attachments is the first of six core strengths outlined by Perry (2006). These six core strengths are an essential part of healthy emotional development. Attachment has been identified as crucial in the prevention of aggression and antisocial behaviors in school.	Since it is through relationships that learning and development occur, relationships are a basic tenet of this and any good early childhood curriculum.	Siegel, D. J. (1999). <i>The developing mind: How relationship and the brain interact to shape who we are</i> . New York: Guilford Press. Perry, B. D. (April, 2006). Keep the cool in school: Attachment: The first core strength. <i>Early Childhood Today</i> . Retrieved June 2, 2008, from http://teacher.scholastic.com/professional/bruceperry/attachment.htm

Theoretical Foundations *continued*

Knowledge of the Child			
Focus	Theory	Impact on the Curriculum	References
Constructing New Thought – Birth to Three	Piaget's constructivist theory of development outlines the stages in which sensorimotor skills are developed as infants and toddlers learn to experience their world. During this period, infants and toddlers are driven to integrate sensory and motor investigations to discover how things work and how they are classified and defined. The ability to understand cause-and-effect relationships is a cognitive milestone of this stage of development (Piaget & Inhelder, 1969).	The learning experiences for children birth to three tie sensory and motor investigations to rich explanations and descriptions of what is happening.	Piaget, J., & Inhelder, B. (1969). <i>The psychology of the child</i> (H. Weaver, Trans.). New York: Basic Books.
Environmental Influences on Development	The Bioecological Systems Theory (Bronfenbrenner, 2004) was used in preparation of the HighReach Learning curricula. This theory states that the child is impacted by multileveled relational aspects. Biology and other societal factors, such as the institutions, community, society, beliefs, values, and the times in which they function, provide the basis for the systems approach Bronfenbrenner (2000, 2004) outlines in his writings. Bronfenbrenner's theory has a significant impact in the creation of HighReach Learning curricula as decisions are made about the relationships that are needed to learn, including a strong focus on family components and various family and community related activities. Experiences are designed to be sensitive to variations in family structure, culture, community, and life situations.	<p>The family components in the HighReach Learning curricula emphasize the importance of teachers working as partners with parents and guardians, who are considered the child's first teachers.</p> <p>There is a strong focus on the role of the community and cultural context and their influence on the relationships that provide the basis for learning.</p>	<p>Bronfenbrenner, U. (2000). Ecological theory. In A. Kazdin (Ed.), <i>Encyclopedia of Psychology</i>. Washington, DC and New York: American Psychological Association and Oxford University Press.</p> <p>Bronfenbrenner, U. (Ed). (2004). <i>Making human beings human: Bioecological perspectives on human development</i>. Thousand Oaks, CA: Sage Publications. p. XIX.</p>

Theoretical Foundations *continued*

Knowledge of the Child			
Focus	Theory	Impact on the Curriculum	References
Environmental Influences on Development	The Multicultural-Multilingual Group Sessions: Development of Functional Communication (Larroudé, 2004) provides guidance for developing culturally relevant family involvement components. Findings in this article highlight the increased need for addressing cultural and linguistic differences among the preschool population. It also provides strategies for building bridges with community members from multicultural backgrounds.	Adaptations for special learners, family communication components, and this guide provide methods to help teachers effectively incorporate diversity and establish a commitment to support children from all backgrounds. The family components and the information in this guide provide methods teachers can use to engage families of all backgrounds to encourage a more active involvement in their child's learning.	Larroudé, B. (2004). Multicultural-multilingual group sessions: Development of functional communication. <i>Topics in Language Disorders</i> , 24(2), 137–140.
Cognition	Constructivist theory of cognitive development (Piaget & Inhelder, 1969; Bruner, 1965, 1966) illuminates understanding of the parameters that limit and may confuse thinking. At the same time, constructivist theory offers insights into how to create a curriculum that will provide opportunities for children to construct their own understanding.	HighReach Learning curricula offer children intriguing opportunities to discover, explore, raise questions, and think of many ways to find answers. Within the curricula, teachers will find suggestions for asking open-ended questions and arranging the environment to promote assisted discovery. The curricula support teachers from a variety of educational backgrounds by providing interesting ways to vary the materials and equipment in learning centers. Concrete experiences and activities promote development of classification, seriation, conservation, and representation. The experiences and activities within the curricula exemplify constructivist ideas by promoting active learning, authentic learning opportunities, and opportunities to experience challenges to old ways of thinking. Experiences build on background knowledge and help children assimilate and accommodate new information.	Piaget, J., & Inhelder, B. (1969). <i>The psychology of the child</i> (H. Weaver, Trans.). New York: Basic Books. Bruner, J. S. (1965). <i>The process of education</i> . Cambridge, MA: Harvard University Press. Bruner, J. S. (1966). <i>Toward a theory of instruction</i> . Cambridge, MA: Harvard University Press.

Theoretical Foundations *continued*

Knowledge of the Child			
Focus	Theory	Impact on the Curriculum	References
Social/ Emotional Development	<p>The psychosocial theory of Erikson (1963) was applied to the curriculum. The psychosocial dimension of the theory is still applicable today, as it highlights the young child's quest for activity that supports a developing sense of initiative, a critical element of later school readiness. (For more information on Erikson's psychosocial theory, see Chapters 4 and 7.)</p> <p>Goleman (1995) attests that we place as much importance on teaching our children the essential skills of Emotional Intelligence as we do on more traditional measures like IQ and GPA. He outlines five key elements of emotional intelligence that are critical to healthy development. The most critical element for a child's success in school is an understanding of how to learn. The key ingredients for this understanding are:</p> <ul style="list-style-type: none"> • Confidence • Curiosity • Intentionality • Self-control • Relatedness • Capacity to communicate • Ability to cooperate 	<p>The application of Erikson's theory can be seen throughout HighReach Learning curricula. Children begin to feel a new sense of empowerment as they are offered choices during center times and are supported in their efforts to plan and carry out their own projects. Debriefing meetings at the end of the day provide children with opportunities to discuss successes and problems with their peers and problem-solve as they plan for the next day. The curricula help children accomplish their plans for work and play. As children investigate a topic, they are encouraged to raise their own questions, suggest activities, and represent their understanding in novel and creative ways. Children approach learning as problem-solvers and investigators.</p> <p>The powerful topics and curiosity upon which the HighReach Learning curricula are based make it a natural vehicle to develop the dispositions of emotional intelligence as outlined by Goleman (1995).</p>	<p>Erikson, E. (1963). <i>Childhood and society</i>. New York: W. W. Norton & Company, Inc.</p> <p>Goleman, D. (1995). <i>Emotional intelligence: Why it can matter more than IQ</i>. New York: Bantam Books.</p>

Theoretical Foundations *continued*

Knowledge of the Child			
Focus	Theory	Impact on the Curriculum	References
Developmental Profiles	Several resources were used to compile developmental profiles of typically developing children. These profiles include physical, social/emotional, language, and cognitive developmental progression (Allen & Marotz, 1994; Brewer, 2006; Snowman & Biehler, 2006).	The profile is contained in Appendix Five.	<p>Allen, K. E., & Marotz, L. (1994). <i>Developmental profiles</i>. Albany, NY: Delmar Publishers, Inc.</p> <p>Brewer, J. (2006). <i>Early childhood education: Preschool through primary grades</i>. Boston: Pearson.</p> <p>Snowman, J., & Biehler, R. (2006). <i>Psychology applied to teaching</i>. Boston: Houghton Mifflin Company.</p>
Brain Development	New brain imaging techniques have provided insight into brain development and the implications for learning. The impact of brain chemicals can interfere with normal brain development when children are stressed or anxious for long periods of time (Begley, 1997). This finding has implications for the social/emotional climate of the classroom (Eliot, 1999; Siegel, 2007). When children are in safe and secure environments, brain development is facilitated (Gartrell, 2007).	The guidance approach incorporated into the HighReach Learning curricula focuses on creating a caring community in which children are both physically and emotionally nurtured. This approach facilitates brain development.	<p>Begley, S. (1997, Spring/Summer). How to build a baby's brain. <i>Newsweek</i>, 129, 28–32.</p> <p>Eliot, L. (1999). <i>What's going on in there? How the brain and mind develop in the first five years of life</i>. New York: Bantam Books.</p> <p>Siegel, D. J. (2007). <i>The mindful brain</i>. New York: W. W. Norton & Company, Inc.</p> <p>Gartrell, D. (2007). <i>Guidance approach to the encouraging classroom</i>. Clifton Park, NY: Delmar Publishers, Inc.</p>

Theoretical Foundations *continued*

Knowledge of the Content			
Focus	Theory	Impact on the Curriculum	References
Structure of Knowledge	Children learn through discovery learning – the process of inquiry based on scientific thinking. Through discovery learning, children apply new understandings to previously learned materials (Bruner, 1965; 1966).	As curriculum topics are created, our curriculum development team identifies the major generalizations, related concepts, and supporting facts of the content to be investigated in order to organize the content for meaningful learning. Experiences and related objectives are written with the goal of children learning the concepts and generalizations (or “big ideas”). Teachers are provided with a concept web for each topic of study (Bear, Invernizzi, Templeton, & Johnson, 2000).	<p>Bruner, J. S. (1965). <i>The process of education</i>. Cambridge, MA: Harvard University Press.</p> <p>Bruner, J. S. (1966). <i>Toward a theory of instruction</i>. Cambridge, MA: Harvard University Press.</p> <p>Bear, D. R., Invernizzi, M., Templeton, S., & Johnson, F. (2000). <i>Words their way: Word study for phonics, vocabulary, and spelling instruction</i>. Upper Saddle River, NJ: Merrill.</p>

Theoretical Foundations *continued*

Knowledge of Pedagogy			
Focus	Theory	Impact on the Curriculum	References
Scaffolding	The teacher supports learning as the child gains competence, then reduces the support as the child is able to do more and more on her own (Vygotsky, 1986).	Scaffolding is built into many of the experiences in the HighReach Learning curricula, which also offer additional ideas for how to scaffold. For example, when reading back dictated print, teachers are encouraged to use a pointer or use their pointer finger to show the left to right flow of print.	Vygotsky, L. (1986). <i>Thought and language</i> (Rev. ed.). Cambridge, MA: MIT Press.
Language	“Private speech” (verbalizing thoughts to oneself) becomes internalized as thought. We use language to scaffold ourselves during difficult tasks. Language is determined by culture and the things that are important to that culture (Vygotsky, 1986).	While children are afforded large blocks of time during which they can choose activities in learning centers, there are other times when learning is more teacher-guided, such as when children come together for songs, stories, literacy, and selected topic-related experiences. During these times, teachers model thinking, use new vocabulary, and engage children in discussions of concepts.	Vygotsky, L. (1986). <i>Thought and language</i> (Rev. ed.). Cambridge, MA: MIT Press.
Partnering with Families	The National School Readiness Indicators Initiative (2005) highlighted the importance of family context and home environment.	This guide provides assistance to teachers in supporting families and working as partners with families. Chapter 6 is dedicated to understanding the levels of involvement, reasons families may not be involved, and ways to improve the level of family involvement. Each curriculum topic contains home-school connection pieces that are filled with ideas for extending classroom learning into the home.	National School Readiness Indicators Initiative. (2005). <i>Getting ready: Findings from the national school readiness indicators initiative</i> . Providence, RI: Author.

Theoretical Foundations *continued*

Knowledge of Pedagogy			
Focus	Theory	Impact on the Curriculum	References
Developmentally Appropriate Practice	According to the NAEYC (2008), developmentally appropriate practices must be appropriate for the general age range of the group of children, must be flexible for individual children, and must take into consideration family and community characteristics.	NAEYC guidelines have been applied to the HighReach Learning curricula through modifications to activities, extensions to experiences, and family components contained within each topic and within this guide.	National Association for the Education of Young Children. (2008). <i>Developmentally appropriate practices in early childhood programs serving children from birth through age 8</i> [Draft]. Washington, DC: Author.
Developmentally Appropriate Practice	Guidelines for developmentally appropriate practice as identified by the NAEYC (2006) were used in decisions related to pedagogy and developmentally appropriate experiences and activities. The same document offers support for use of both teacher-guided and child-initiated experiences.	In line with NAEYC guidelines, HighReach Learning curriculum developers realize that the programs must be written with consideration for pedagogical techniques that may vary depending on the children and the content being taught. For example, assisted discovery may be an appropriate strategy when children are learning about friction, but direct instruction is a more appropriate strategy when children are learning to cross a street safely.	National Association for the Education of Young Children. (2006). <i>Moving from either/or to both/and thinking in early childhood practice</i> . Retrieved May 8, 2007, from http://www.naeyc.org .

Theoretical Foundations *continued*

Knowledge of Pedagogy			
Focus	Theory	Impact on the Curriculum	References
Creating a Learning Community	Wenger's (1998) work focuses on social learning systems. He highlights the connection between knowledge, community, learning, and identity. The basic idea is that human knowing is fundamentally a social act. This simple observation has profound implications for the way we think of and attempt to support learning.	<p>This guide emphasizes the importance of the teacher serving as a positive, prosocial role model. Teachers model positive behavior, attitudes, approaches to learning, values, literacy skills, problem-solving attitudes, and more. The curricula offer teachers suggestions for how to work with children in positive, encouraging, and supportive ways while modeling desired behaviors.</p> <p>By nature of the investigative approach to the curriculum, children can work cooperatively with peers, learning groups are easily formed, and the class community grows as children explore many dimensions of an idea together.</p>	Wenger, E. (1998). <i>Communities of practice: Learning, meaning, and identity</i> . New York: Cambridge University Press.
Guidance	Guidance replaces the punitive, discipline orientation with an enabling and encouraging strategy for helping children gain self-discipline (Gartrell, 2007).	Chapter 7 explains the guidance approach and offers the teacher support in implementing this methodology by providing examples and identifying specific strategies that may be used to guide behavior.	Gartrell, D. (2007). <i>Guidance approach to the encouraging classroom</i> . Clifton Park, NY: Delmar Publishers, Inc.

Research Foundations

Knowledge of the Child			
Focus	Research	Impact on the Curriculum	References
<p>Early Childhood Program Efficacy</p>	<p>A national longitudinal study released by Early Head Start found that programs that focused on parents and children birth to three had positive impacts (Early Head Start Research and Evaluation Project, 2006). Parent practices and program services were shown to enhance language and cognitive outcomes of high-risk children.</p> <p>Three features of early home literacy environments influenced early language and cognitive development:</p> <ul style="list-style-type: none"> • Language-learning practice (shared book reading, storytelling, etc.) • Sensitive and responsive parenting • Availability of books and other learning materials. 	<p>These three features are highlighted in the curricula as high-quality literature is used in the classroom and sent home. The curricula also include an embedded value and intentionally focus on building these skills through interactions with both teachers and parents in order to achieve optimal success for all children.</p>	<p>Early Head Start. (2006). <i>Research to practice: Supporting language and cognitive development in Early Head Start: Early Head Start Research and Evaluation Project</i>. Washington, DC: Administration for Children and Families. Retrieved August 18, 2008, from http://www.acf.hhs.gov/programs/opre/ehs/ehs_resrch/reports/lang_literacy/lang_research.html</p>

Research Foundations *continued*

Knowledge of the Child			
Focus	Research	Impact on the Curriculum	References
Attachment	<p>Grossmann and Grossmann (2007) found that during the first six years of a child's life, "parental sensitivity during joint play . . . contributed significantly to the child's later quality of partnership representation." Parental sensitivity was described as "parental behaviour that respects and supports the toddler's need to explore autonomously and become competent, . . . promote[s] cooperation, help[s] the child learn to solve problems independently, pose[s] appropriate challenges, and provide[s] guidance and support for learning strategies" (p. 3). As Sroufe, Egeland, Carlson, and Collins (as cited by Mangione, 2006) further state "responsiveness and sensitivity of care in infancy . . . [is] a major predictor of adaptation from the early infancy period on" (p. 7).</p>	<p>A responsive approach to developing relationships and teaching is utilized throughout the curricula and is seen as the fundamental underpinning of the approach. An effective curriculum program must create a circle of responsiveness and engage parents and teachers to develop competency, problem solving, and cooperation. HighReach Learning curricula meet these goals through the family components as well as through engaging, responsive strategies that highlight joint attention in learning through play in the classroom.</p>	<p>Grossmann, K., & Grossmann, K. E. (2007). The impact of attachment to mother and father at an early age on children's psychosocial development through young adulthood. In <i>Encyclopedia on Early Childhood Development</i> (Rev. ed., pp 1–8). Montreal, Quebec: Centre of Excellence for Early Childhood. Retrieved June 2, 2008, from http://child-encyclopedia.com/pages/PDF/GrossmannANGxp_rev.pdf</p> <p>Mangione, P. L. (2006). Doing what's best for babies: PITC's responsive approach to care. Session presented at the Program for Infants/Toddler Care Graduate Conference, San Francisco, CA.</p>

Research Foundations *continued*

Knowledge of the Child			
Focus	Research	Impact on the Curriculum	References
Language	<p>Various studies by Kuhl (2003) show that early in development the infant brain is mapping the patterns of language – by six months, individual vowels and consonants, by nine months, the patterns of words. The infant brain unconsciously calculates information. However, not only does research prove that the brains of infants code and remember the patterns they hear, it also shows that learning is enhanced in a social setting. Kuhl (2007) hypothesizes that “social interaction is essential for natural learning” (p. 110).</p> <p>Language and reading require young children to sort out the sounds correctly. Studies show that the ability to distinguish speech sounds early predicts children’s later language and reading abilities. The better young children are at distinguishing the building blocks of speech, the better they are years later at reading and other more complex language skills (Gopnik, Meltzoff, & Kuhl, 2000; Kuhl, 2003, 2007).</p>	Learning experiences focus on developing phonological sensitivity and rich language interaction in the context of warm relationships.	<p>Gopnik, A., Meltzoff, A., & Kuhl, P. (2000). <i>The scientist in the crib: What early learning tells us about the mind</i>. New York: Harper-Collins.</p> <p>Kuhl, P. K. (2003, May). <i>Born to learn: Language, reading, and the brain of the child</i>. Paper presented at the Colorado Early Learning Summit, Denver, Colorado. Retrieved June 2, 2008, from http://raisingreaders.org/resource/d/4213/position_born_to_learn.pdf</p> <p>Kuhl, P. K. (2007). Is speech learning 'gated' by the social brain? <i>Developmental Science</i> 10(1), 110–120.</p>

Research Foundations *continued*

Knowledge of the Child			
Focus	Research	Impact on the Curriculum	References
Language	Language development provides a common denominator for all other learning. A study by Hart and Risley (1995) shows that the amount and kind of language that children hear in the first years of life greatly impacts their abilities to succeed in school. Children born to "talky" parents do well and outperform those born to parents who are more taciturn or engage in only directive, or "business" language.	The HighReach Learning curriculum approach maintains a strong focus on engaging in one-on-one dialogue with children in the classroom and at home.	Hart, T., & Risley, B. (1995). <i>Meaningful differences in the everyday experience of young American children</i> . Baltimore, MD: Brooks Publishing.
Language and Emergent Literacy	According to a review of scientific evidence, the following skills were shown to be strongly or moderately tied to later reading success (National Early Literacy Panel, 2007b; Strickland, 2008): <ul style="list-style-type: none"> • Alphabet knowledge • Concepts about print • Phonological awareness • Oral language • Writing name/writing • RAN (Rapid Automatic Naming/Lexical Access) 	These basic elements are infused in the curricula using an intentional, developmentally appropriate progression throughout. Foundational skills are the focus for birth through age five.	National Early Literacy Panel. (2007b, March). <i>Synthesizing the scientific research on development of early literacy in young children</i> . Washington, DC: Author. Retrieved on June 2, 2008, from www.nifl.gov/nifl/NELP_2007.pdf Strickland, D. S. (2008, May). <i>When DAP meets GAP: Promoting peaceful coexistence between developmentally appropriate practice and the achievement gap</i> . Session presented at the 53rd Annual Reading Research Conference and Annual Convention, Atlanta, GA.

Research Foundations *continued*

Knowledge of the Child			
Focus	Research	Impact on the Curriculum	References
Brain Research	<p>Based on peer-reviewed studies, Eliot (1999) reported that in order to sit still and attend, we need inhibitory control. This is an ability that develops later than preschool age. Even elementary age children cannot sit for extended periods of time. Eliot also reports that voluntary physical exercise increases brain connections.</p> <p>In a summary of research on the brain and movement, Jensen (2000) believes physiological brain changes are brought about by movement. Thus, learning is enhanced by movement.</p>	<p>Use of learning centers and investigative activities in HighReach Learning curricula is developmentally appropriate because these kinds of activities do not require children to sit still and learn passively. The curricula recommend schedules that include plenty of regular time for outdoor physical play.</p> <p>HighReach Learning uses the information shown through this research to weave movement experiences throughout the curricula. For example, children may dance syllables, clap rhythms, sway together simulating a human wave, and act out story plots using their bodies to interpret and comprehend.</p>	<p>Eliot, L. (1999). <i>What's going on in there? How the brain and mind develop in the first five years of life</i>. New York: Bantam Books.</p> <p>Jensen, E. (2000). Moving with the brain in mind. <i>Educational Leadership</i>, 58(3), 34–37.</p>
Brain Research	<p>Bergen and Coscia (2001) believe that the early childhood years are sensitive periods for language, that quality of interactions in early care is important, and that active learning with many opportunities to practice and gain mastery should be part of every young child's life. They also emphasize the value of providing wide, rich experiences for the development of the whole child. The authors highlight the importance of taking advantage of the close link in the brain between the cognitive and emotional selves.</p>	<p>HighReach Learning offers richly varied curriculum programs that include suggestions for incorporating experiences with language, math, and science; creative, visual, and dramatic arts; shared story reading; active play and exploration; music and movement; sand and water play; and opportunities to build with blocks and solve puzzles.</p>	<p>Bergen, D., & Coscia, J. (2001). <i>Brain research and childhood education: Implications for educators</i>. Olney, MD: Association for Childhood Education International.</p>

Research Foundations *continued*

Knowledge of the Child			
Focus	Research	Impact on the Curriculum	References
Brain Research	Neuro-plasticity is the ability of neural circuits in the brain to undergo changes in function or organization due to previous activity. Factors that promote neuro-plasticity are aerobic exercise, novelty, and focused attention. If the child's brain stem determines the environment is unsafe, receptivity shuts down. Therefore, in order to learn, we must feel safe (Siegel, 2007).	HighReach Learning incorporates new and interesting topics and activities into all curriculum products. Many of the activities involve movement. The guidance approach in the curricula creates a safe classroom environment both physically and emotionally.	Siegel, D. J. (2007). <i>The mindful brain</i> . New York: W. W. Norton & Company, Inc.
Social/ Emotional Development	Adult/child interaction styles are correlated with children's behavior. Darling (1999) reviewed the related literature, confirming that the authoritative style, which uses a guidance approach, correlates with positive child behavior outcomes, such as social competence and independence. (See Chapter 7 for more information on teaching styles.)	Chapter 7 explains the guidance approach and encourages teachers to use this methodology with young children to promote the development of self-discipline.	Darling, N. (1999). <i>Parenting style and its correlates</i> . Champaign, IL: Clearinghouse on Elementary and Early Childhood Education. (ERIC Document Reproduction Service No. ED 427896)
Play	Bergen (2001) summarized primary research related to the value of play and concluded that play is vital to development, particularly for language, planning, negotiation, goal seeking, and problem solving. Bergen emphasized the value of social skills training through play for children with disabilities.	HighReach Learning curricula incorporate large blocks of time for exploratory play and investigations.	Bergen, D. (2001). <i>Pretend play and young children's development</i> . Champaign, IL: Clearinghouse on Elementary and Early Childhood Education. (ERIC Document and Reproduction Service No. 458045)

Research Foundations *continued*

Knowledge of the Child			
Focus	Research	Impact on the Curriculum	References
Family Involvement	<p>Family involvement in a child's education has a positive impact on children's educational outcomes (Henderson & Berla, 1994; Feuerstein, 2000; Jones, 2001; Machen, Notar, & Wilson, 2005). High-quality family involvement is a strong predictor of achievement and according to DiNatale (2002), not only benefits children and families, but teachers as well.</p>	<p>The experiences included in the curricula are purposefully developed to provide opportunities for partnerships with parents, particularly through two- and three-way communication. The family components provided with each curriculum topic provide ideas and specific suggestions for family involvement.</p> <p>HighReach Learning curricula promote family involvement, give teachers ideas for promoting family involvement, and provide specific family communication materials with each topic.</p>	<p>Henderson, A. T., & Berla, N. (Eds.). (1994). <i>A new generation of evidence: The family is critical to student achievement</i>. Washington, DC: Center for Law and Education. (ERIC Document Reproduction Service No. 375968)</p> <p>Feuerstein, A. (2000). School characteristics and parent involvement: Influences on participation in children's schools. <i>Journal of Educational Research</i>, 94, 29–41.</p> <p>Jones, R. (2001). Involving parents is a whole new game: Be sure you win! <i>American School Board Journal</i>, 88, 18–22.</p> <p>Machen, S. M., Notar, C. E., & Wilson, J. D. (2005). Parental involvement in the classroom. <i>Journal of Instructional Psychology</i>, 32, 13–17.</p> <p>DiNatale, L. (2002). Developing high quality family involvement programs in early childhood settings. <i>Young Children</i>, 57(5), 90–95.</p>

Research Foundations *continued*

Knowledge of the Child

Focus	Research	Impact on the Curriculum	References
Family Involvement	In designing the HighReach Learning curricula, our developers took into consideration the findings of the Head Start Families Sharing Literature research study (Green & Halsall, 2004). The study highlights the importance of families reading many times during the day, supporting a variety of responses from children, and accessing high-quality children's literature. The findings in this study note that children responded to books by relating them to their own experiences, noticing details in pictures, asking questions, labeling, reading emergently, and enacting stories. All of these types of interaction are factors that contribute to future academic achievement.	The family components in the curricula provide guidance for incorporating family involvement in the children's education. These components are designed to help parents incorporate topic-related language and literacy experiences into their interactions with their children, as well as knowledge of important classroom events and topics of study.	Green, C. R., & Halsall, S. W. (2004). Head Start families sharing literature. <i>Early Childhood Research & Practice, 6</i> (2).



Research Foundations *continued*

Knowledge of the Content			
Focus	Research	Impact on the Curriculum	References
Integrated Curriculum	The FACES report (Department of Health & Human Services, 2006) determined that integrated curricula are often higher quality and possess other desirable characteristics. The authors of the report also, however, indicated that not all promising curricula had been evaluated in the same way as the two most commonly used.	FACES supports the positive benefits of an integrated curriculum. HighReach Learning integrates curriculum content through topics of study in a way that is meaningful and relevant to children.	Department of Health & Human Services. (2006). <i>FACES findings: New research on Head Start outcomes and program quality</i> . Washington, DC: Administration for Children and Families.
Play and Cognition	Preschoolers adapt their speech style to the listeners they are addressing and the roles they are playing. The process of constructing narratives in play makes cognitive demands for recalling and sequencing information, linking references to prior utterances rather than tangible objects, and so disembedding language from the here and now. Thus, play is critical to the development of symbolic representation and the language needed for school success (National Research Council, 2000).	HighReach Learning curricula are built upon a foundation of deep investigation, the construction of background knowledge, and recall through the Know, Want to Know, Learned (K-W-L) strategy. Through this and the integrated concept webbing strategies, teachers are provided with appropriate avenues for rich and stimulating conversations with children. In this way, children experience more complex play scenarios and are engaged in building and developing the concept.	National Research Council. (2000). <i>Eager to learn: Educating our preschoolers</i> . Washington, DC: National Academies Press.

Research Foundations *continued*

Knowledge of the Content			
Focus	Research	Impact on the Curriculum	References
Emergent Literacy	A current study on dialogic reading found it to have positive effects on oral language and potentially positive effects on print knowledge and early reading and writing. Children in this study were engaged individually and in small groups by an adult using CROWD prompts while reading books (Completion, Recall, Open-ended, “Wh” questions, and Distancing). The PEER strategy (P – Prompt the child to say something about the book, E – Evaluate the response, E – Expand the child’s response, R – Repeat the response) was used as a reading technique to further increase children’s familiarity with specific books, building comprehension, oral language, and higher order thinking skills (US Department of Education, 2006; Vukelich & Christie, 2004).	The emergent literacy experiences within the curricula employ the techniques of this study while exposing children to high-quality children’s books that are closely tied to each topic. Emergent literacy is also woven into many other content areas as emphasis is placed on integration throughout all the learning areas.	US Department of Education. (2006, October 12). <i>Dialogic reading</i> . What Works Clearinghouse Intervention Report. Washington, DC: Institute of Education Sciences. (ERIC Document Reproduction Service No. ED493769) Vukelich, C., & Christie, J. (2004). <i>Building a foundation for preschool literacy: effective instruction for children’s reading and writing development</i> . Newark, DE: International Reading Association.
Emergent Literacy	During the preschool years, it is important for children to expand vocabulary in their home language; develop phonological awareness; and begin to understand alphabetic symbols, the meaning of print, and the process of writing (Strickland & Shanahan, 2004).	HighReach Learning curricula are designed to promote emergent literacy skills in each topic. These skills include language development; phonological awareness; and knowledge of the alphabet, print, and invented spelling.	Strickland, D. S., & Shanahan, T. (2004). Laying the groundwork for literacy. <i>Educational Leadership</i> , 61 (2), 74–77.

Research Foundations *continued*

Knowledge of the Content			
Focus	Research	Impact on the Curriculum	References
Emergent Literacy	<p>Information from the Overview of the Head Start Family and Child Experiences Survey (Department of Health & Human Services, 2006) was utilized in the development of the curricula because it pointed to a potential pitfall. FACES indicated a finding related to Head Start subjects' ability to write letters and identify letters and their sounds. However, the subjects were below national norms in vocabulary, general knowledge, and solving simple mathematical word problems. What the researchers termed "outside" skills were below national norms, even though the "inside" skills, such as alphabet knowledge, were near national norms. This finding was useful because it pointed out the potential for a literacy program to focus too much on separate skills to the point that the goal of reading (making meaning) might suffer.</p>	<p>HighReach Learning curricula encourage authentic reading and writing experiences that rely on meaning, while also teaching specific literacy skills. The emergent literacy concept is intentional and purposeful throughout.</p>	<p>Department of Health & Human Services. (2006). <i>FACES findings: New research on Head Start outcomes and program quality</i>. Washington, DC: Administration for Children and Families.</p>
Mathematics Content	<p>The National Council of Teachers of Mathematics (NCTM, 2006) provided Curriculum Focal Points for Prekindergarten Through Grade 8 Mathematics in an effort to highlight and clarify expectations. This book provides guidance on curriculum focal points as outlined in the column to the right.</p>	<p>Three curriculum focal points for prekindergarteners were identified through the NCTM report and are included in the HighReach Learning Pre-K curricula: number and operations, geometry, and measurement.</p>	<p>National Council of Teachers of Mathematics. (2006). <i>Curriculum focal points for prekindergarten through grade 8 mathematics: A quest for coherence</i>. Reston, VA: Author.</p>

Research Foundations *continued*

Knowledge of the Content			
Focus	Research	Impact on the Curriculum	References
Math and Science	<p>Research has demonstrated a need to develop suitable learning opportunities for preschool children in math and science, opportunities that embed language learning, strengthen conceptual knowledge, and develop meta-cognitive skills. Preschoolers should be encouraged to develop skills in observing, predicting, and measuring, while learning to lengthen their attention spans and regulate their thinking (National Research Council, 2000).</p>	<p>The use of the K-W-L chart in the curricula allows children multiple opportunities to develop higher-order thinking skills by linking their existing knowledge with what they think about and discover. Each learning experiences booklet includes activities focused on developing, practicing, and extending these skills.</p>	<p>National Research Council. (2000). <i>Eager to learn: Educating our preschoolers</i>. Washington, DC: National Academies Press.</p>
Science	<p>One of the major developmental tasks of childhood is to learn about the surrounding world. Research shows that young children actively process their experiences to form mental representations of the way things are. These mental representations also form a crucial foundation for the development of a variety of competencies, including language, social interaction, understanding of social roles, classification, and planning (National Research Council, 2000).</p>	<p>Because HighReach Learning curricula are structured around the development of big ideas that are relevant, meaningful, and apparent to the lives of young children, it purposefully provides opportunities for the building of mental representations. The focus is on topics and concepts that the child can experience in the immediate environment and can then extend and expand to decontextualized learning.</p>	<p>National Research Council. (2000). <i>Eager to learn: Educating our preschoolers</i>. Washington, DC: National Academies Press.</p>

Research Foundations *continued*

Knowledge of Pedagogy			
Focus	Research	Impact on the Curriculum	References
Emergent Literacy	The National Early Literacy Panel Report (2007a) found a moderate to strong relationship between future reading success and the following skills for preschoolers: oral language, concepts about print, alphabet knowledge, writing name/writing, and rapid automatic naming (RAN). Opportunities to develop these skills are woven throughout each curriculum topic.	Many experiences in the curricula engage children in actively playing with the sounds of the language. Children learn through activities such as changing sounds, altering words, dancing to the syllables, dictating and writing messages, making predictions, retelling and dramatizing stories, masking letters to learn alphabet knowledge, segmenting, and simply having fun with print. The curricula offer additional support, background, and explanations for teachers as they implement the National Reading Panel findings indicating the importance of including comprehension, vocabulary, fluency, phonemic awareness, and phonics in emergent literacy programs.	National Early Literacy Panel. (2007a, March 4). <i>Findings from the National Early Literacy Panel: Providing a focus for early language and literacy development</i> . Presented at the 16th annual national conference on family literacy, Orlando, Florida.
Emergent Literacy	A concept web (or map) supports children as they relate new information to existing mental schema. This visual image facilitates the processes of assimilation and accommodation (Bear, Invernizzi, Templeton, & Johnston, 2000; Yopp & Yopp, 2001).	Each of the curriculum topics includes concept webs so that teachers and parents can see the relationships between the concepts of each study in a visual format. Teachers can use the webs in each learning experiences booklet as models for how they might approach creating webs that evolve from the children's knowledge.	Bear, D. R., Invernizzi, M., Templeton, S., & Johnson, F. (2000). <i>Words their way: Word study for phonics, vocabulary, and spelling instruction</i> . Upper Saddle River, NJ: Merrill. Yopp, H. K., & Yopp, R. H. (2001). <i>Literature-based reading activities</i> (3rd ed.) Needham Heights, MA: Allyn & Bacon.

Research Foundations *continued*

Knowledge of Pedagogy			
Focus	Research	Impact on the Curriculum	References
Teaching Strategies	<p>The International Reading Association (2006) recommends playful activities to promote phonemic awareness. Suggestions include “nursery rhymes, riddles, songs, poems, and read-aloud books that manipulate sounds.” The report also points out the importance of children’s enjoyment and comprehension and warns against sole emphasis on isolated skills.</p> <p>In a joint position statement, the NAEYC and the International Reading Association (1998) provide a continuum with examples of children’s development in early reading and writing.</p>	<p>HighReach Learning curricula provide teachers with strategies and activities incorporating rhymes, songs, poems, read-aloud books, and learning experiences that encourage children to play with sounds, in addition to providing ideas for increasing comprehension and skill-building in emergent readers.</p>	<p>International Reading Association. (2006). <i>Phonemic awareness and the teaching of reading: A position statement from the Board of Directors of the International Reading Association</i>. [Brochure]. Newark, DE: Author.</p> <p>National Association for the Education of Young Children & International Reading Association. (1998, May). <i>Learning to read and write: Developmentally appropriate practices for young children</i>. Washington, DC: National Association for the Education of Young Children.</p>
Language	<p>The amount of language the child is exposed to correlates with school performance in language arts. The key to language is the number of words addressed directly to the child, not the language in the background (Hart & Risley, 1995).</p>	<p>The experiences within the curricula are rich in language, daily exchanges, and new vocabulary. Key vocabulary is introduced in meaningful “big idea” topics that are easily adaptable to any learning context.</p>	<p>Hart, B., & Risley, T. R. (1995). <i>Meaningful differences in the experiences of young children</i>. Baltimore, MD: Brookes.</p>

Research Foundations *continued*

Knowledge of Pedagogy			
Focus	Research	Impact on the Curriculum	References
Language, Literacy, and Self-Regulation	In the Comprehensive Language Approach Study done by Dickinson, McCabe, Anastasopoulos, Feinberg, & Poe (2003), it was found that literacy emerges from multiple sources: language, print knowledge, and phonological awareness. Language has direct and indirect short- and long-term effects on literacy, and there are synergistic effects of these sources. A recent extension of their study shows that self-regulation is linked to language and is part of the synergy created in the preschool years (Dickinson, 2007).	Because the development of language, literacy, and self-regulation is synergistic, HighReach Learning curricula propose that experiences are integrated and open-ended to be utilized and encouraged across domains.	Dickinson, D. K., McCabe, A., Anastasopoulos, L., Feinberg, E. S., & Poe, M. D. (2003). The comprehensive language approach to early literacy: The interrelationships among vocabulary, phonological sensitivity, and print knowledge among preschool-aged children. <i>Journal of Educational Psychology</i> , 95(3), 465–481. Dickinson, D. K. (2007, July). <i>Language is key to literacy development: Implications for practice</i> . Poster session presented at the Leading Learning: Early Childhood Leadership Symposium, Denver, CO.
Home Language Support	A study conducted by Chang et al. (2007) looked at the use of the Spanish language in preschool classrooms and its effect on children's social and language development. The study found better social skills and closer teacher-child relationships in classrooms where teachers spoke some Spanish. Teacher ratings of children's peer skills were positively associated with the increased amount of Spanish spoken. Additionally, there was a decrease in the likelihood that children would be victims of bullying or aggression when more Spanish was spoken.	HighReach Learning curricula support the use of Spanish in the classroom.	Chang, F., Crawford, G., Early, D., Bryant, D., Howes, C., Burchinal, M., et al. (2007). Relationship of English-only to young children's social and language skills. <i>FPG Snapshot</i> , 41.

Research Foundations *continued*

Knowledge of Pedagogy

Focus	Research	Impact on the Curriculum	References
Play	<p>A positive correlation has been found to exist between imaginative play and the following (Gowen, 1995):</p> <ul style="list-style-type: none">• Creativity• Sequential memory• Cooperative learning• Receptive vocabulary• Impulse control• Spatial relations knowledge• Perspective-taking	<p>HighReach Learning curricula take advantage of the benefits of play by including opportunities for child-initiated imaginative play during center time and play in more guided settings, such as acting out a story or pantomiming during a game.</p>	<p>Gowen, J. W. (1995). The early development of symbolic play. <i>Young Children</i>, 50(3), 75–84.</p>



Research Foundations *continued*

Knowledge of Pedagogy			
Focus	Research	Impact on the Curriculum	References
Curriculum Delivery Models	<p>A substantial body of research indicates that when children learn through active exploration within a carefully prepared environment, they have long-term learning advantages and depth of understanding (Banks, 2004; Dunn, Beach, & Kontos, 1994; Marcon, 2002; Schweinhart, 1997; Schweinhart & Weikart, 1998). Children also exhibit more positive emotional adjustment, including more prosocial behavior and better conduct (Crosser, 2005).</p>	<p>Rather than drill and practice on isolated skills, HighReach Learning curricula integrate skills and approach skills, such as counting, through real-life experiences. Children learn about print as they are immersed in a print-rich environment where books, various forms of print, and writing are used for communication and for real-life purposes. Children improve language skills, number concepts, and ways of approaching questions and problems at the same time as they learn about their world through active play and exploration.</p>	<p>Crosser, S. (2005). <i>What do we know about early childhood education: Research based practice</i>. Clifton Park, NY: Thomson Delmar Learning.</p> <p>Banks, R. (2004). <i>The early childhood education curriculum debate: Direct instruction vs. child-initiated learning</i>. Champaign, IL: Clearinghouse on Elementary and Early Childhood Education. Retrieved November 18, 2008, from http://ceep.crc.uiuc.edu/poptopics/preschoolcurr.html</p> <p>Marcon, R. A. (2002). Moving up the grades: Relationship between preschool model and later school success. <i>Early Childhood Research and Practice, 4</i>(1), 1–20.</p> <p>Dunn, L., Beach, S. A., & Kontos, S. (1994). Quality of the literacy environment in day care and children's development. <i>Journal of Research in Childhood Education, 9</i>(1), 24–34.</p> <p>Schweinhart, L. J., (1997). <i>Child-initiated learning activities for young children living in poverty</i>. Champaign, IL: Clearinghouse on Elementary and Early Childhood Education. (ERIC Document Reproduction Service No. ED413105)</p> <p>Schweinhart, L. J., & Weikart, D. P. (1998). Why curriculum matters in early childhood education. <i>Educational Leadership, 55</i>(6), 57–60.</p>