

**Gearing Up for Kindergarten**  
**Research Summary**  
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**A School Readiness and Parent Involvement Program  
designed to reflect and incorporate significant early  
education research**

- **National Education Goals Panel Five Dimensions of Development for school readiness, 1995**
- **Domains of learning from the National Governor's Association report on early childhood education and learning, 2005**
- **North Dakota Early Learning Guidelines *Ages 3 through 5*, Department of Human Services, 2008**
- **Sprenger's Brain based research, 2008**
- **NAEYC concepts of growth, development and learning, 2009**

The Gearing Up for Kindergarten school readiness program was created to promote parent involvement in education and to prepare children for success in school.

Dr. Marilee Sprenger (2008), noted researcher and educator in the area of brain-based learning, outlined principles that guide a child's developmental learning: (a) every brain is totally unique; (b) emotions guide our learning; (c) stress affects learning; (d) there is a brain-body connection; (e) the brain has multiple memory systems and multiple modalities; (f) the brain seeks meaning and relevance; (g) the brain learns through experience; (h) the brain is social; (i) the brain learns in patterns; and (j) the brain grows through enrichment (Sprenger, 2008, pp. 2-5). Dr. Sprenger's work emphasized the importance of interacting and teaching children from birth to help them learn to make sense of their environment and to maximize growth and development in every child.

The National Association for the Education of Young Children (NAEYC, 2009) listed very similar principles which also include additional realms of development, beyond the brain, for best practices in raising children: (a) development in one area is closely related to development in other areas; (b) skill development begins with basics and progresses to the complex; (c) development does not occur at even steps or intervals and can vary among children; (d) personal experience has an effect on development; (e) development is enhanced when meaning is attached to the learning; (f) play is important for children's growth and development; (g) children need many opportunities to acquire skill and greater proficiency; (h) children

express their knowledge through multiple modalities; and (i) children thrive and develop in a safe environment where they are loved and valued (NAEYC, 2009, pp. 11-16).

The Gearing Up for Kindergarten program supports Dr. Sprenger's work and the NAEYC concepts of development. Parents are a child's first teacher and can greatly enhance a child's growth and development through a nurturing relationship and the use of educational practices.

The Gearing Up for Kindergarten program recognizes different student ability levels with a classroom environment designed for multiple levels of learners. Activities are designed to ignite curiosity and encourage exploration. Students are allowed to progress at their own pace and opportunities are presented each evening to work individually and in groups. The curriculum designers developed lessons with ability levels progressing from simple to complex throughout the course of the program. Student centers also include the opportunity for students to play and express themselves creatively.

In congruency with Sprenger (2008) and the NAEYC (2009), the National Education Goals Panel (NEGP, 1995) identified five dimensions of developmental early learning to support school readiness. The NEGP recognized the well-being of America's young children is a shared responsibility of family, society, and educators and only by working collaboratively across sectors and institutions, will America be able to realize its "readiness" vision identified in Goals 2000. The NEGP supported five dimensions of early childhood development and learning important for school readiness and success. These five dimensions work to affirm the connection between early development and learning, and children's later success in school and in life (NEGP, 1995).

In addition, The National Governors' Association, in its updated 2005 report taken from *The National Education Goals Report, Building a Nation of Learners*, reinforced support for

early childhood education and learning. The report lists multiple areas but focuses on five key domains to help children and parents with school readiness: physical well-being and motor development, social and emotional development, approaches toward learning, language development, and cognition and general knowledge.

### **Physical Well-Being and Motor Development**

Kagan, Moore, and Bredekamp (1995) reported a link to children's health and their performance in school. Low birth weight, as well as improper nutrition, can greatly influence children's learning and development. It is important for children to have opportunities to develop gross motor skills through outdoor physical activity and to have the opportunity for fine motor skills through simple tasks: buttoning a shirt, holding a crayon, or mastering a puzzle.

### **Social and Emotional Development**

The second domain presented by Kagan et al. (1995) reported children's earliest family social experiences are the basis for building relationships with friends and teachers. Stable home relationships aid children in developing a sense of self and well-being that will guide them as they enter school and become an integral part of the school community.

### **Approaches Toward Learning**

Kagan et al. (1995) cited children as unique, and their approach to life varies greatly. It is important to allow children to explore and learn in a safe and accepting environment that encourages exploration and discovery. Experiences should help children discover aptitude for certain activities along with likes and dislikes. Children, when given the opportunity to explore, examine things of curiosity, discover independence, and begin to develop a sense of self and self-confidence. Through the growing and learning process, children begin to develop an understanding of who they are and a sense of belonging.

## **Language Development**

Kagan et al. (1995) emphasized the importance of language development in helping children make stronger connections with their world. As language develops, it helps children connect with others and provides tools for relating and expressing thoughts, feelings, wants, and needs. Language development is also an important link to early literacy and is foundational to the reading experience.

## **Cognition and General Knowledge**

The fifth domain cited by Kagan et al. (1995) represents a full palette of incoming information and how children process new information to make meaning and to apply the information to their lives. Children are continuously learning and adding new information; as that process moves forward they begin make connections, understand relationships, and develop problem-solving skills. General knowledge acquisition presents itself in the practical realm of self-care and ability to dress and toilet, adapt to routine and to change, and to begin contributing through basic chores and family interactions.

These five domains are intrinsically interrelated and dependent upon each other. Development in one area will affect development in others. Inherent in this perspective is the belief that there is no single or uniform “standard” of readiness. Development varies from child to child, thus no child will demonstrate all necessary skills in every area. The goal is for children to develop competencies across all five domains with the understanding that no one dimension is more important than another (High/Scope Educational Research Foundation, 2006).

North Dakota’s *Early Learning Guidelines* and development indicators complemented the research of Sprenger; the NAEYC’s early learning guidelines, and the NGA research to reinforce the NEGP dimensions of early learning and goals for school readiness. North Dakota’s

development indicators are age specific and progressed from birth to age five. The clear standards provide a framework for specific developmental activities and markers of proficiency to give parents and childcare providers an understanding of developmentally appropriate expectations for the early years of growth and development (North Dakota Department of Human Services, 2008a; 2008b).

*North Dakota Early Learning Guidelines: Ages 3 Through 5* (North Dakota Department of Human Services, 2008a) provided a general framework of developmental mastery for children as they enter kindergarten. All domains are important, but it is equally important to note children develop at their own pace and that “no domain is more important than another” (North Dakota Department of Human Services, 2008a, p. 6).

There are eight domains for ages 3 through 5: (a) Health and Physical Development, (b) Social and Emotional Development, (c) Approaches to Learning, (d) Expressive Arts and Creative Thinking, (e) Language and Literacy, (f) Mathematics and Logical Thinking, (g) Science and Problem Solving, and (h) Social Studies (North Dakota Department of Human Services, 2008a).

The *health and physical development* domain listed by the North Dakota Department of Human Services (2008a), for ages 3 to 5, described greater expectations for children’s stamina: their ability to complete a task and interact with balls, puzzles, or other objects connected with movement. Children should experience a greater skill level with writing, kicking a ball and other skills as muscles develop and grow stronger.

The North Dakota Department of Human Services (2008a) expected children at this stage to begin to learn how to dress themselves, tie shoes, master zippers, and do other tasks once

foreign to them. This domain also included an understanding of hunger and fullness and knowledge of the body parts and their roles.

Preschool children are naturally active; they have a built-in drive for motor activity. They tend to explore their environment by checking out all the corners of the room or playground, working to achieve physical closeness, and seeking out communication with others. These activities and actions are all essential for proper cognitive, emotional, and physical development. “When we allow children to run, play, and explore in a safe environment, they will naturally get the motor activity they need” (Poole, 2000, p. 41).

The Gearing Up for Kindergarten program addresses the health and physical domain through fine motor activities during center time. Students write their name, assemble puzzles, build with blocks, glue and cut out materials. In addition gross motor muscles are engaged as children use body movement in group activity time. Children bend, reach, flex, jump, and skip in activities. Students also learn how to dress themselves for weather and in the process tie shoes, zip zippers, and pull on mittens.

Physical health and wellbeing is addressed as children wash hands before snack, have lessons on basic tooth brushing and hygiene and parents learn the importance of exercise and proper nutrition.

The *social and emotional development* domain cited by the North Dakota Department of Human Services (2008a) supported the development of children’s self-concept through healthy relationships and interactions with parents and caregivers. Children become connected through important daily activities: playing, sharing, and through learning to express themselves appropriately.

The social and emotional domains are addressed through activities that foster self-concept, self-regulation, self-reliance and resiliency, social competence, and healthy interaction with peers and adults.

The North Dakota Department of Human Services (2008a) referred to *approaches to learning* as a child's temperament and tendencies in learning styles. This domain accounts for variety of personality types, variances in learning styles, and patterns and norms in cultures. This domain places an emphasis on the implementation of multiple avenues of learning and instruction.

Students experience a sense of safety in the Gearing Up for Kindergarten classroom as they make independent choices for play and activity, are encouraged to explore the classroom centers and experiences, maintain attention and focus in class, employ new thinking strategies as they participate in new activities, are given the opportunity to problem solve and learn coping skills in group experiences.

The North Dakota Department of Human Services (2008a) defined the *expressive arts and creative thinking* area of development to encompass an important added dimension of life that enhances the quality of children's learning and their environment. This area of growth can include dancing, music, and exposure to drama and the visual arts.

The expressive arts domain abounds in the Gearing Up for Kindergarten classroom. There students experience movement and music, opportunities to paint, draw and create using multiple elements. Students experience technology and education through the use of online websites and games. The play center allows children to create stories through costumes and props available in classrooms.



The *language and literacy* area of development is continued from the birth to 3 framework by the North Dakota Department of Human Services (2008a). Healthy children continue to learn more and better ways of expressing themselves; demonstrate a greater understanding and use of language, both expressive and receptive; and acquire pre-reading literacy skills.

The Gearing Up for Kindergarten program addresses the language development of children through instruction and practice in listening and comprehension, speaking and communicating, phonological awareness, and emergent reading and writing practices.

The North Dakota Department of Human Services (2008a) noted that, as children develop and grow, they will demonstrate progress and growth in language and literacy skills as demonstrated through communicating with words and writing, creating ideas, learning to listen to stories, retelling a story, asking questions for clarification, and listening to and identifying sounds. Familiarity with books and their purpose is also a major characteristic of language and literacy development.

Strategies that have been shown to be effective at promoting children's early literacy development include reading aloud to children, fostering children's understanding of print concepts; arranging the environment for children have an opportunity to interact with books and other print materials; providing opportunities for children to experiment with writing; familiarizing children with letters of the alphabet and their corresponding sounds; and involving children in activities that promote phonological skill and development (Green, S.D., Peterson, R., & Lewis, J.R., 2006, para. 8-9).

Green, Peterson, & Lewis (2006) substantiate reading teachers' beliefs; reading to children is the most important aspect in helping them learn to read. Parents who read to children

expose them to a multitude of learning with one simple activity. Stories help children to understand print has meaning, letters make sounds, and letters together make words. Through the reading experience, children enjoy closeness with the reader and absorb vital information that connects with learning to read.

The Gearing Up for Kindergarten program has both a parent and child literacy component in each lesson. Pre reading skills are threaded throughout lessons and children are exposed to a variety of literature, opportunities to use letters and words through music, rhyme, and take home books.

The *mathematics and logical thinking* domain of development focused on the area of children's logic development and a continually growing sense of mathematical knowledge, which included number sense, the ability to see patterns, measurement, and accounting (North Dakota Department of Human Services, 2008a). A child's sense of mathematical thinking begins as early as six months of age (Fielding, 2009).

The North Dakota Department of Human Services (2008a) guidelines created for child development noted that, as children develop, they begin demonstrate greater understanding of math concepts. Children's development in math begins with counting and then recognizing that one of something has meaning. Continued development and growth of math concepts also includes time sense, recognition of coins as something that have value, understanding colors and shapes, and increasing problem-solving ability.

Young children often have a spontaneous and explicit interest in mathematical ideas.

Naturalistic observation has shown, for example, that in their ordinary environments, young children spontaneously count, even up to relatively large numbers, like 100, and may want to know what is the 'largest number.' Also, mathematical ideas permeate

children's play: in the block area, for example, young children spend a good deal of time determining which tower is higher than another, creating and extending interesting patterns with blocks, exploring shapes, creating symmetries, and the like (North Dakota Department of Human Services, 2008a, p. 39).

The Gearing Up for Kindergarten program has a math component in every lesson. Children are exposed to math concepts number sense, patterns, counting, gathering and interpreting information, and reasoning with numbers (If I have two apples and take one away, how many are left?) and one to one correspondence.

The Gearing Up for Kindergarten program explores basic science concepts with experiments and observations throughout each class. Children are invited to ask questions and be curious, "Why do you think that happened when we did . . . ?" Children investigate using their curiosity and create applications and connections to their world.

The *social studies* domain of development (North Dakota Department of Human Services, 2008a) supported children's growth in understanding the various environments to which they are exposed: daycare, home, church, other family, and neighborhood. Through interaction with different people and environments, children learn appropriate social skills and accepted behaviors. Established cultural norms become a part of who they are and provide children with a sense of place and belonging.

The Gearing Up for Kindergarten program prepares children for the kindergarten experience through providing a classroom community and the discussion of family, connection, and belonging. Each student has a place of value in the classroom and staff work to ensure all students experience opportunities to share and provide input in class discussions. Students learn

they are a part of community, beyond family and that there are rules, for the good of everyone, which are followed.

### **Linking Early Childhood Development and School Readiness Expectations**

The early years are an important period during which children acquire the basic skills that serve as the foundation for later learning (Fielding et al., 2004; NAEYC, 2009; Sprenger, 2008). Moreover, these years are the time when parents' beliefs about their children's abilities are shaped and when children's own academic self-concepts begin to form. When parents value learning and education, they set the stage for their children to value learning, too (Epstein, 1987a). Young children who are active learners in their early years will more likely enter kindergarten ready to continue the learning process and experience greater success in school (Fielding et al., 2004; NAEYC, 2009; NGA, 2005). Research demonstrates that parents who have an understanding of children's development and school readiness are more likely to intentionally prepare their child for school. When parents have a sense of efficacy and know specific things to prepare their child for school; their children are more likely to begin kindergarten at an appropriate level of readiness and development.

Play is the umbrella under which the best early learning takes place and is a vital part of early childhood education and development. When children explore, experiment, and interact through play, they learn how the world works and begin to develop a sense of their place in the world (NAEYC, 2009). Part of that development is caring and knowledgeable adults who are guiding and ensuring appropriate learning experiences through play and other modalities of discovery (NGA, 2005). Sprenger (2008) and Weiss et al. (2006) reinforced the importance of parent participation in child-centered activities, specifically play. Play is also important for children's social and emotional development. Children who play at home and whose parents

understand the importance of play in development are more likely to demonstrate prosocial and independent behavior in the classroom. In addition, parent participation with their children in activities such as arts and crafts is associated with children's literacy development.

The Gearing Up for Kindergarten program, uses developmentally appropriate practice for parents and teachers to intentionally meet individual children at their particular stage of development and provide challenging, achievable goals to promote the development and learning that support school readiness. Parents who are involved in their child's development and school readiness at an early age will also more likely be involved and supportive as their child progresses through the school years. The Gearing Up for Kindergarten program is an important bridge between home and a child's entrance into kindergarten.

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