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A Manual of Expected Milestones in Childhood and Occupation-Based Interventions

Laura J. Rabenberg
University of North Dakota

Chere L. Vosberg
University of North Dakota

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A MANUAL OF EXPECTED MILESTONES IN CHILDHOOD
AND OCCUPATION-BASED INTERVENTIONS

by

Laura J. Rabenberg & Chere L. Vosberg

Advisor: Michael Atkinson, PhD, Associate Professor of Occupational Therapy,
Associate Professor of Anatomy & Cell Biology

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This Scholarly Project Paper, submitted by Laura J. Rabenberg and Chere L. Vosberg in partial fulfillment of the requirement for the Degree of Master's of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.


Faculty Advisor

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ABSTRACT

The purpose of this scholarly project was to develop a manual for parents of children ages birth to five years. The manual includes significant milestones and provides age-appropriate activities which can be used to facilitate development.

A literature review was conducted to identify how play is used to achieve developmental milestones. Resources included journal articles and textbooks from the disciplines of occupational therapy, psychology, education, and medicine.

A manual for parents was created and consists of a discussion on the importance of play in development, expected milestones, occupation-based interventions, and resources regarding child development. This manual is intended for distribution to parents at a group educational seminar lead by an occupational therapist. The components of this manual are guided by the Ecology of Human Performance Model.

Child development can be optimized through the use of play activities to develop physical, social, emotional, and cognitive skills. Experiences in early childhood can hinder or enhance developmental achievement later in life. The parent-manual product of this project will provide developmentally-appropriate occupation-based activities which can be incorporated into daily routines for children ages birth to five years.

CHAPTER 1

INTRODUCTION

There is an increased need for the promotion of optimal child development according to the World Health Organization. Nearly one in five children in the world experience mental and/or behavioral problems (World Health Organization, 2001). A lack of healthy well rounded development early in life not only affects the individual as a child, but it also translates over into adulthood as well (Public Health Agency of Canada, 2002). Current research suggests that experiences and environment are key concepts to take into consideration when addressing this issue. In order to promote healthy, well-rounded development from birth or perhaps facilitate a correction in delayed development, a child should be exposed to opportunities and environments that facilitate physical, cognitive, social, and emotional development from birth (Ginsburg, 2007).

From birth up to age five, children are in the primary care of their parents. Beyond this period of development, children are attending school, participating in extracurricular activities, and interacting with other children on a regular basis, thus being exposed to more experiences and supportive environments. The first years of life are vital to subsequent development and success in future endeavors. In preparation for kindergarten and preschool, intervention and activities should revolve around the child as a whole rather than address merely cognitive abilities alone (Zill & West, 2001). Success in school will require adequate development from physical, social, and emotional realms

as well (Vandivere, Pitzer, Halle, & Hair, 2004). Unfortunately, experiences and environments oftentimes are limited in the early stages of a child's life. With the right resources, parents will be able to provide experiences and environments that will facilitate optimal development physically, cognitively, socially, and emotionally.

The proposed intervention is a resource that parents can use in the comfort of their own home. It will provide parents with a guide to development for their children through the age of five. Parents will be provided with developmental milestones and age appropriate activities that can be used to facilitate development not only physically, but also cognitively, socially, and emotionally. The parent manual provides a host of activities involving common household items that can be used during playtime. Parents will not be expected to buy additional items or extravagant toys. Healthy, well rounded development can be achieved without high cost expenses.

The content and design of the parent manual is compatible with the Ecology of human performance framework. There are four main constructs outlined in the Ecology of Human Performance framework: person, task, context, and performance (Dunn, Brown, & Youngstrom, 2003). This project addresses how these four constructs are interconnected in facilitating child development. Each child is a unique individual with different skills and abilities that affect performance outcome. This model proposes that the availability of tasks within the context combined with personal variables leads to supported or inhibited task performance. The product of this project increases the availability of tasks that are compatible with the child's current skills and abilities. (Dunn, Brown, & Youngstrom, 2003).

According to the Ecology of Human Performance framework, the temporal and environmental contexts continuously influence occupational behavior (Dunn, Brown, & Youngstrom, 2003). This product addresses aspects of the temporal context such as chronological age, developmental stage, and health status. By providing an environment that supports engagement in developmentally appropriate activities based on the child's temporal context, the chance for successful task performance in occupations increases. This product is designed to be implemented in a natural environment which is more beneficial than a contrived environment. A natural environment allows the child to perform in a comfortable and familiar setting which is optimal healthy development. (Dunn, Brown, & Youngstrom, 2003).

With this framework, there is no assumption that a disability is present (Dunn, Brown, & Youngstrom, 2003). This product can be used by parents of a child with or without a disability. The parent manual focuses on providing a match between the child, the activity, and the environment in order to create increased opportunities for growth and development.

Although the product is designed by the occupational therapy discipline, it can be used by parents and other professionals concerned with child development. The intended use of this product is in agreement with the Ecology of Human Performance framework in the sense that the product can be used by multiple disciplines, not solely occupational therapy (Dunn, Brown, & Youngstrom, 2003). Professionals that may see benefit from the use of this product include occupational therapists, physical therapists, speech language pathologists, day care providers, nurses, or primary care physicians.

The following chapters will explore the use of play in child development. A literature review has been conducted to explain the role that play holds in physical, cognitive, social, and emotional development. It investigates the impact that experiences and environment play in development. Subsequent chapters describe the research and methodology used to create the product as well as provide information regarding the purpose of the product. A copy of the parent manual is provided along with limitations, conclusions, and recommendations for future use.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

According to the World Health Organization (2001) “newborns, children and adolescents make up nearly 40% of the world’s population” (p. 1). Within this demographic, it is estimated that 10-20% have one or more mental or behavioral problems, indicating a need for increased attention to children’s health and development (World Health Organization, 2001). Current research supports the use of play in maximizing child development. “Young children learn the most important things not by being told but by constructing knowledge for themselves in interactions with the physical world and with other children---and the way they do this is by playing” (Jones & Reynolds, 1992, p. 1). The following literature review examines how learning occurs in the child’s brain, the definition of play, how learning occurs through play, benefits of play, types of play, barriers to play, the role of occupational therapy in promoting development through play, how to use play effectively, play as a predictor of future development, and how the environment affects child development.

Learning at the Cellular Level

The brain plays an important role in child development; as learning occurs, neuronal connections throughout the brain are reshaped to store and process information

in response to stimuli (Koizumi, 2004). These connections influence all areas of learning, from recognizing shapes to regulating complex social interactions (National Center for Infants, Toddlers and Families, 2000). Neuronal connections are made between neurons at specialized points of connection called synapses. Neurons, or nerve cells, and glial cells make up our nervous system (Bear, Connors, & Paradiso, 2001).

Nerve cells are responsible for the vast interconnections needed for functions of the brain we normally think of, such as learning, memory, motor functions, etc. (Bear, Connors, & Paradiso, 2001). The roles played by glial cells are still being studied, but it is known that they provide “insulation” for the long neuronal processes that form the neuronal connections used for signaling (Bear, Connors, & Paradiso, 2001). The billions of signals occurring within the brain are transferred from one neuron to another at junctions called synapses (Bear, Connors, & Paradiso, 2001). An overabundance of synapses is created during early childhood, and “development proceeds by keeping the synapses that are used and pruning away those that aren’t” (National Center for Infants, Toddlers and Families, 2000, p. 3).

The process of pruning happens as the brain maintains synapses that are being used, and eliminates the synaptic connections that serve no purpose, resulting in greater efficiency (National Center for Infants, Toddlers and Families, 2000). Over-pruning, or the destruction of too many synapses, can result when a child is deprived of meaningful, stimulating experiences (National Center for Infants, Toddlers and Families, 2000). If this happens the child will have a difficult time with future learning and development (National Center for Infants, Toddlers and Families, 2000).

If particular neuronal connections between the cerebellum and cerebral cortex are interrupted, learning is underdeveloped (Gordon, 2007). In regard to learning, Gordon (2007) stated that the cerebellum also plays specific and important roles in motor coordination, spatial navigation, and overall cognitive development. Neuronal connections between the cerebrum and cerebellum during new learning are firing and being activated simultaneously (Diamond, 2000). Both areas of the brain are active during new learning of cognitive and motor tasks, according to Diamond (2000), and their level of activation is directly proportionate in nature. If the cerebellar activity decreases, the cerebral cortex activity decreases accordingly and vice versa (Diamond, 2000). If activity between neurons is impaired and underdeveloped, the learning process is inhibited (Koizumi, 2004; Gordon, 2007; & Diamond, 2000).

An area in the prefrontal cortex of the brain contains specialized cells called mirror neurons (Gallese, Fadiga, Fogassi & Rizzolatti, 1996). Mirror neurons are active during performance of an activity, but are also active during the observation of an activity (Gallese et al., 1996). Recent research shows that mirror neurons hold a significant role in imitation, which is imperative to learning (Iacoboni & Mazziotta, 2007; Buccino et al., 2004). By imitating the actions of others, the child is engaging in play behaviors that will eventually become individualized and unique to that child (Humphry, 2002).

Imitation provides opportunity to develop empathy, social cognition, and motor skills (Asendorpf & Baudonniere, 1993; Chartrand & Bargh, 1999). Through imitation, one is able to gain a better understanding of the mental state of another, thus developing empathy and gaining social awareness (Iacoboni & Dapretto, 2006; Meltzoff, 2007).

There is evidence that infants learn to control their emotions through observation of the social interaction between adults (Metlzoff, 2007).

Facilitation of Learning Through Play

Play has been defined as “any spontaneous or organized activity that provides enjoyment, entertainment, amusement or diversion” and is “an attitude or mode of experience that involves intrinsic motivation, emphasis on process rather than product and internal rather than external control; an ‘as-if’ or pretend element; takes place in a safe, unthreatening environment with social sanctions” (Parham & Fazio, 1997, p. 252). The American Occupational Therapy Association has identified play as one of the seven major categories of life activities in which people engage (2002).

“The occupation of play is a vital and necessary component of the developing child” (Way, 1999, p. 71). Play is the natural work of children; it is their primary occupation (Lambert, 2005). Children use play to explore their environment, to learn new skills, and to interact with other children and adults (Lambert, 2005; Way, 1999). Lawlor (2003) uses a combination of human development theories and occupational therapy practice models to explain how play can take place in any situation and in any location. She asserts that all places and situations have the potential to lend themselves to play and learning opportunities for a child (Lawlor, 2003). Through the use of play children are gaining, processing, and learning information that facilitates emotional, social, cognitive, and physical growth (Lawlor, 2003). Each of these areas needs to develop in order to create a systemically healthy mind and body (Lawlor, 2003).

Benefits of Play

Play is considered to be enjoyable for children; but the benefits of play are far greater than enjoyment alone (Thompson, 2004). Learning new concepts and refining skills are often the result of a child's play (Thompson, 2004). Therefore, play is one medium through which children can grow and learn (Thompson, 2004). The importance of play in learning and development will be evident in the following description of four basic domains in which play provides significant benefits: physical, emotional, social, and cognitive.

Physical Benefits

National studies indicate childhood obesity is on the rise. Over two decades from 1980 to 2004, the Centers for Disease Control and Prevention (2007) reported an increase in obesity for children aged 2-5 years from 5% to 13.9%. Childhood obesity has been linked to increased risk of adult obesity. In fact, "25% of obese adults were overweight as children" (Centers for Disease Control and Prevention, 2007, ¶3).

A host of health issues accompany childhood obesity. Children who are overweight have increased risk factors for cardiovascular disease, high blood pressure, high cholesterol, type II diabetes, skin disorders, withdrawal from peers, poor self-esteem, and increased risk for orthopedic problems (Burlingame, 2007; Johnson, 2001). In order to combat weight gain and its associated health concerns, "it is recommended that children and adolescents participate in at least 60 minutes of moderate intensity physical activity most days of the week, preferably daily" (U.S. Department of Health and Human Services, 2005, p. 10).

The primary way in which children get this physical activity is through their daily play (Kagen & Lowenstein, 2004). Children are able to engage in physical activity and enjoy themselves without the pressure to adhere to calorie-counting and grueling workout principles that adults tend to use (Burlingame, 2007). Physical activity aids in normalizing muscle tone, building strength, increasing flexibility, increasing balance, and building bone mass through weight-bearing activities (Burlingame, 2007). As a child engages in physical activity both gross motor (Pin, Eldridge, & Galea, 2007; Salls, Silverman, & Gatty, 2002) and fine motor skills are developed (Tobias & Goldkopf, 1995).

Emotional Benefits

Adults relieve stress through enjoyable and meaningful activities, and similarly children relieve stress through the use of play (Gross & Clemens, 2002). Physical activity through play “releases negative tension through positive action” (Pitzer, 2008, ¶9). Children may use play as a coping mechanism and relaxation technique to counteract internal stress (Gross & Clemens, 2002). Play activities are one way in which children can express their feelings in an appropriate manner (Lambert, 2005).

Along with stress reduction, self-directed play also creates an opportunity to build confidence and self-esteem (Early Childhood Learning Knowledge Center, 2006). The child is given opportunities for success in play, which provide increased confidence in personal abilities (Segal, 2004). Personal satisfaction results from participation in this meaningful activity (Segal, 2004).

Emotional intelligence, defined as “the ability to carry out accurate reasoning about emotions and the ability to use emotion and emotional knowledge to enhance

thought” (Mayer, Roberts, & Barsade, 2008, p. 507), also begins to develop through the early use of play (Singer & Lythcott, 2004). The ability to self-regulate behavior and to appropriately use emotions depending on context is an ability which will be carried throughout life (McArdie, 2001). “For successful co-operative play with other children, the child requires not only mastery of earlier play skills and a degree of emotional self-regulation, but also the capacities to reflect before acting and to sense the perspective of other children” (McArdie, 2001, p. 510). As adolescents and adults, situations will result in “winners versus losers” and the ability to react in an emotionally appropriate way will be increasingly important (Mol Lous, de Wit, Bruyn, & Riksen-Walraven, 2002).

Children diagnosed with depression are less likely to engage in symbolic play, thus hindering emotional development (Mol Lous, de Wit, Bruyn, & Riksen-Walraven, 2002). Mol Lous et al. (2002) suggest that depressed children are unable to deal with the thoughts and emotions that accompany symbolic play. Play is a key way in which children maintain mental and emotional health (Kagan & Lowenstein, 2004).

Social Benefits

Socialization is a key component to healthy development in children (Bernheimer & Weisner, 2007). Through the use of play, children are given the opportunity to acquire the skills necessary to communicate and interact with others effectively (Kagen & Lowenstein, 2004). It is the social experience of doing something *with someone else* that is an integral part of play (Lawlor, 2003).

Play provides opportunities for children to learn social skills in a variety of ways (Kagen & Lowenstein, 2004; Lawlor, 2003; Munier, Myers, & Pierce, 2008; Pierce, 1997). For instance, children do not have to be directly interacting with other children to

be learning and developing new social skills. If a child is playing on the playground as an individual, the child is still learning to share, compromise, respect boundaries, take turns, and possibly having conversations with other children while waiting in line for a piece of equipment.

While engaging in play with other adults or children, a child uses nonverbal social skills (Pierce, 1997). Gestures and body language are used and interpreted, providing early opportunities to use and decipher the nonverbal components of social language (Pierce, 1997). Children learn to express their needs, share information, resolve conflicts, and initiate interactions with others through play (Pierce, 1997).

Children begin to build relationships through play (Munier, Myers, & Pierce, 2008). They learn to collaborate, follow social norms, establish rapport, and respond appropriately to the reactions and requests of others (Reed, 2007). Reciprocal interaction is encouraged as children explore and engage in their environment (Pierce, 1997).

Cognitive Benefits

The brain is used to “act on, explore, manipulate, sort, and describe the phenomena they are investigating” (Zollinger-Henderson & Atencio, 2007, p. 250) through play activities. Children’s physical, social, and emotional growth and development are concurrent with development of the brain (Bear, Connors, & Paradiso, 2001). “Through play, children develop their capacities in creativity, problem solving, logic, social knowledge, communication, self-regulation, cognitive processing and social development” (Zollinger-Henderson & Atencio, 2007, p. 250).

Cognitive development begins very early in life; one-month old infants are able to transfer learning between sensory systems (Case-Smith, 2005). For example, if an infant

has felt an object in his mouth during play time, he can recognize that object with his eyes (Mandler, 1990). As cognition increases, children develop increased self-regulation (Reed, 2007). Language development occurs as children expand vocabularies and learn how to structure language into meaningful sentences and ideas (Ginsburg, 2007). As language skills develop, the child is able to form ideas and share these ideas with others (Early Childhood Learning Knowledge Center, 2006).

Categories of Play

Varying types of play can be used to facilitate emotional, social, cognitive, and physical growth (Ginsburg, 2007). While any type of play may be beneficial, it is important to provide children with a balance of varied play opportunities (Ginsburg, 2007). For instance, children that engage primarily in solitary play activities may be missing out on social components achieved during group play (Jones & Reynolds, 1992). Through a balance of free, organized, and symbolic play children are able to develop a larger scope of abilities (Ginsburg, 2007; Reed, 2007).

Free Play Versus Organized Play

When play is organized there is a goal or a desired outcome that is expected to come from the play session (Ginsburg, 2007). For example, an adult giving a child instruction on what type of structure they should build with blocks would be considered organized play. This type of play helps children learn to follow instructions and control behavioral impulses (Olson, 1993). If an adult hands a child blocks with no instructions, the child is free to direct play on his own. This is an example of free play in which the child gets to independently decide how he uses the objects in his play session. Free play

encourages decision making, creativity, discovering personal interest areas, and leadership (Ginsburg, 2007).

The structure of the play environment largely determines the type of play in which children will engage (Pierce, 2000; Turnbull & Jenvey, 2006). Objects in the space, as well as the physical space itself, will direct a child in his or her play (Pierce, 2000). One form of play, whether free or organized in nature, can be encouraged over the other by changing the objects available in the play environment (Jones & Reynolds, 1992).

Symbolic Play

Symbolic play, also known as sociodramatic or pretend play, equips children with fundamental abstract reasoning skills (Reed, 2007). During symbolic play, children use their imagination to create scenarios and convert objects into other imaginary objects; symbolic play is a product of the child's imagination (Reed, 2007). "This type of play generally appears at 18 months, peaks at 4-5 years old and then declines" and has been identified as a critical component for a successful program that is developmentally appropriate (Santrock, 2006, p. 283). Symbolic play offers children a chance to express their thoughts, feelings, and knowledge through creative play scenarios (Fazio, 2008).

In symbolic play, adults take on less of a leadership role and transition into more of a facilitator (Reed, 2007). The child is responsible for taking control of the direction of play (Reed, 2007). The adult's focus is to provide dramatic play equipment and an environment conducive to pretend play for the child (Jones & Reynolds, 1992).

Symbolic play enhances cognitive development, including problem solving and planning (Jones & Reynolds, 1992; Segal, 2004). During this type of play, the child must

plan out what will happen next and anticipate how the story line is going to play out (Jones & Reynolds, 1992; Segal, 2004). Children also have to generalize pre-existing concepts to create a new simulated environment (Reed, 2007).

Self-regulation of emotions is learned through symbolic play (Thompson, 2004). Children engaging in this type of play must control their impulses and display appropriate behavior for the scenario they have created (Thompson, 2004). For reciprocal symbolic play, the child needs to recognize and react appropriately to the emotions and behaviors of others (Thompson, 2004). Children also begin to follow rules and social norms through the imitation of adult behaviors (Reed, 2007).

Children must explain the imaginary concepts of pretend play through verbal expression (Jones & Reynolds, 1992). Increased communication skills and a more elaborate vocabulary result from time spent in symbolic play (Jones & Reynolds, 1992). Even if the child is engaging in symbolic play alone, they often participate in self-talk which results in increased communication skills and vocabulary (Reed, 2007). Children begin to “link objects, actions, and language together in combinations and narrative sequences” which results in increased literacy (Early Childhood Learning Knowledge Center, 2006, p. 1).

Balance of Play

While all types of play address components of cognitive, social, emotional, and physical development, certain categories of play are designed to facilitate specific skills (Kagan & Lowenstein, 2004). Free play elicits decision-making (Ginsburg, 2007) while organized play emphasizes the importance of following directions using socially-accepted behavior (Olson, 1993). It is important that children engage in all types of play, thus

promoting a well-rounded development (Ginsburg, 2007). Parents should attempt to provide a balance in the types of play activities that are presented to their children (Ginsburg, 2007). Furthermore, it is the job of the educator (parent, teacher, or therapist) to “create environments that are conducive to quality experiences, exploration, and play” (Zollinger-Henderson & Atencio, 2007).

Barriers in Play

The importance of play has been outlined in detail according to current literature in previous sections of this literature review. If it has been established that play is essential in children's development, why don't all children have adequate play experiences? Three barriers that result in a loss of the quantity or quality of children's play are outlined below.

Media

Commercially-made toys are readily available for adults to purchase. Children crave the latest action superhero figurine or the latest doll that is popular on the market. These toys have made a significant impact on how children play with objects and with each other (Vickerius & Sandberg, 2006). McArdie (2001) has documented increasingly commercialized activity in children's play. The focus on what toys a child has and increased television viewing limits the use of play as a creative learning opportunity, and therefore hinders the essential development of social and cognitive skills (McArdie, 2001). It is necessary for all children to “have ample unscheduled independent nonscreen time to be creative, to reflect, and to decompress” (Ginsburg, 2007, p.187).

According to Vickerius & Sandberg (2006), when children spend increased time playing with commercialized characters and toys, referred to as “media play,” they are

less likely to engage in free play activities. A decreased amount of imagination is necessary for play today, due to the use of these commercial toys which have social definitions of how they should be used or played with (Vickerius & Sandberg, 2006). Television and computer games are passive toys which require limited imagination (McArdie, 2001). Blocks and dolls are "true toys" requiring the full use of a child's imagination (Ginsburg, 2007).

Decreased Play Opportunities

Parents are scheduling their children in more extracurricular activities at younger ages (Broughton, 2006). Although these programs are beneficial to development, it is important to avoid overwhelming children with too many scheduled activities (Broughton, 2006). "Overscheduling may lead to less emotionally competent, well buffered children" (Ginsburg, 2007, p. 184). Too many activities may leave a young child feeling stressed and pressured to meet unrealistic expectations (Ginsburg, 2007). Play is often an opportunity for children to be successful "without feeling pressured to excel in each area" (Ginsburg, 2007, p. 188).

Play provides an opportunity for children to learn and explore independently without feeling the need to perform to the expectations of others (Ginsburg, 2007). "Some of the best interactions occur during downtime-just talking, preparing meals together, working on a hobby or art project, playing sports together, or being fully immersed in child-centered play" (Ginsburg, 2007, p. 186). Play time may be set aside; but it is possible to incorporate play into everyday activities for parents who are overscheduled themselves (Jones & Reynolds, 1992). Having a child play on the kitchen

floor with a cupboard full of containers incorporates elements of play as opposed to holding the child while cooking dinner.

Restrictions on play have been occurring across the nation. Many schools and child care programs are cutting back on recess and free play (Strong National Museum of Play, 2007; Swinth & Tanta, 2008). Along with time constraints, children are being discouraged from playing competitive games such as dodge ball and tag (USA Today, 2006). These games are said to lower self-esteem and/or create feelings of rejection in children who are less athletic than others (USA Today, 2006). However, games such as these can create an opportunity for children to resolve conflict, problem solve, regulate emotions, and build relationships with others (McArdie, 2001; Zollinger-Henderson & Atencio, 2007). Without ample opportunity and time allotted for children to play, proper growth and development are hindered (Oliver, 2004).

Parent Goals

The general health and well-being of a child is an interest of parents, which is evident in the number of parent education resources commercially available through the internet, parenting magazines, and professional journals. Parents want the best toys and activities for their children, but often make the mistake of always being the director of play (Ginsburg, 2007; Jones & Reynolds, 1992). While the parent-child bond is important, play should be child-centered (Ginsburg, 2007). “If play always and exclusively serves adult educational goals, it is no longer play from the child’s perspective; it becomes work albeit playing organized” (Early Childhood Learning Knowledge Center, 2006, p. 4).

In order to gain the maximal benefits, children need to be the creative force behind play (Jones & Reynolds, 1992). Adult-directed play requires less imagination and creativity on the child's part which hinders emotional and cognitive development (Jones & Reynolds, 1992). It is important that adult-driven play not stifle the creativity of the child, but encourage the use of the child's individual assets (Ginsburg, 2007).

Play and Occupational Therapy Intervention

When a child is suspected of having developmental delays, parents are often referred to an occupational therapist. The therapist determines possible factors influencing developmental deficits and proceeds with relevant interventions based on “normal growth and development, anatomy, physiology, and life tasks” (Hinojosa & Kramer, 1993, p. 7). Occupational therapists have been trained in the use of play as a means and play as an outcome in therapy (Parham, 2008). As an outcome, the child is learning to engage in a meaningful occupation. As a means, the child is using play in the promotion of performance skills and patterns essential to development (Knox & Malloux, 1997; Munier, Myers, & Pierce, 2008).

Parents often measure a child's growth in terms of the ability to complete everyday occupational tasks (Bernheimer & Weisner, 2007). A parent is concerned with how a child can perform daily activities such as feeding himself, getting dressed, and playing on a playground with other children. In this way, therapists strive to provide occupational change in children by teaching them specific skills and strategies that promote occupational performance (Case-Smith, 2005).

In the early years of life, a child uses play and exploration in order to achieve developmental milestones linked to self-care, motor skills, communication, and cognitive

abilities (Lane & Mistrett, 2008). According to Perham (2008), play encourages “competence, achievement, and acquisition of occupational roles” (p. 44). A child who has used play to master the skills of occupational behavior will be able to generalize newly acquired skills into other contexts, forming healthy habits and roles in daily life (Bryze, 2008). It is critical that suggested interventions be able to fit into the normal family routine with ease in order for the intervention to be successful (Bernheimer & Weisner, 2007).

When practitioners can describe observable behaviors associated with a child’s play stage to the family, a clearer understanding of the child’s development emerges. The family is focused on what the child can do and what interests him or her at a certain stage, emphasizing developmental play sequence. When families understand ‘what comes next’ they can feel more secure in their own ability to gradually apply new strategies and take note of ongoing changes in play behaviors. (Lane & Mistrett, 2008, p. 417)

As children age and develop their performance in occupations also changes (Lawlor, 2003). If skills are not developed within an appropriate time frame, it may inhibit the development of subsequent skills (Bryze, 2008).

Play in intervention is liable to increase participation, improve motivation, and increase learning due to its personal meaning and pleasure to the child (Lawlor, 2003; Perham, 1997). Case-Smith (2000) researched interventions used to facilitate fine motor skills in preschool children. The author found that the only significant predictor of outcome in therapy was the use of play in intervention (Case-Smith, 2000). Participants receiving play in intervention had a significantly better outcome in skill level at the end of eight months of therapy (Case-Smith, 2000).

Predicting Future Development

A significant decrease in physical play levels may be more problematic than short-term weight gain effects (Goran, Reynolds, & Lindquist, 1999; Knox, 2005; Taanila, Murray, Jokelainen, Isohanni, & Rantakallio, 2005). A lack of muscular strength due to inactivity during key periods of bone and muscular growth inhibits normal skeletal development (Goran, Reynolds, & Lindquist, 1999). Play deprivation may also result in self-stimulation, sensory problems, decreased social skills, and overall delays in developmental skills (Knox, 2005).

Murray et al. (2006) found that there was “a significant linear relationship between age of learning to stand and adult categorization” (p. 25). This longitudinal study completed in Finland found that early development of gross motor skills was a predictor of higher executive functioning in adults between the ages of 33-35. The authors proposed “that faster maturation of basic neural circuits involved in infant motor function may lead to a consequent more favorable development of the more complex cortical-subcortical circuits involved in higher cognitive processes later in life” (Murray et al., 2006, p. 27).

Taanila, Murray, Jokelainen, Isohanni, & Rantakallio (2005) also investigated developmental milestones. She conducted research regarding the achievement of developmental milestones within the first year of life and found there is a correlation between achieving developmental milestones and intellectual capacity. Participants in the study who developed faster in infancy achieved better educational outcomes in adolescence and adulthood.

Prevention Programming

A set of guidelines to be used in implementing community-based prevention programs was established by Borkowski, Smith, and Akai (2007). These community-based programs are designed to facilitate appropriate development in children through increased opportunities for healthy growth. Borkowski et al. (2007) outlined three major categories which are necessary for an effective prevention program: treatment characteristics (theoretically based, comprehensive programming, varied methods of teaching, fosters positive relationships), procedural characteristics (right amount of treatment, appropriately timed intervention, well-trained staff, socioculturally relevant), and design characteristics (demonstrated effectiveness, meaningful outcomes).

Borkowski, Smith, and Akai (2007) stress the importance of a theoretically-based prevention program for maximum effectiveness. “Because theory offers contextual structure and helps us understand relationships between concepts, it can lead rather naturally to intervention goals” (Borkowski et al., 2007, p. 21). The program must be comprehensive in nature; meaning that the topics covered and skills learned need to be applicable in an array of settings (Borkowski et al., 2007; Edwards & Sarwark, 2005). Skills must be generalized to multiple contexts -such as home, school, or day care- in order to be meaningful and should be socioculturally relevant in order to be meaningful to target populations (Edwards & Sarwark, 2005). For instance, a child who will use chopsticks to eat would not benefit from practice using a spoon or fork during lunchtime.

Early childhood play groups are one form of community-based prevention programming that promotes child development through play (Moyse, 2005). Age appropriate activities that involve both adult and child are used during play group (Jones

& Reynolds, 1992; Moyse, 2005). Along with facilitating play with the child, the group promotes a parent-child bond which is necessary for healthy development (Moyse, 2005). Moyse (2005) states that children involved in play groups early in life “will be in a better developmental position to learn when entering school at the age of three or four” (p. 32).

Experience & Environment

A combination of children’s experiences and genetics are thought to influence growth and development (National Center for Infants, Toddlers and Families, 2000). Humphry & Wakeford (2006) stress the importance of a child’s environment in order to “envision children as embedded in complex societal and social situations that lead to development of their occupations” (p. 263). A recent review of evidence suggests that experiences play a key role in the developing brain, more specifically the expression of genes (National Center for Infants, Toddlers and Families, 2000, p. 2).

The body’s response to stress can be affected by parental care, suggesting that environmental factors alter the way in which genes are expressed (Meaney & Szyf, 2005). Szyf, Weaver, Champagne, Diorio, & Meaney (2005) suggest that while genes are very stable, gene expression can be altered through behavioral training and environmental experiences. The alteration of gene expression due to environmental experiences is longitudinal in its effects; the stress response of an individual is subject to changes resulting from modifications in gene expression and therefore its effects will persist throughout life (Eaves & Silberg, 2003; Meaney & Szyf, 2005; Szyf et al., 2005).

The environment in which play takes place has a direct correlation to developmental progress (Fjortoft, 2001; Jones & Reynolds, 1992). The author found that balance, coordination, and creativity increased in children who were allowed to play in a

natural setting with a variety of free play opportunities. Fjortoft (2001) attributed gains in motor skills to children's opportunities to seek out and master motor challenges in various stimulating environments.

A review by the National Center for Infants, Toddlers and Families (2000) indicates that people, objects, and experiences are influential in brain development; thus, "different experiences can cause the brain to develop in different ways" (p. 2). Consequently, exclusion of these experiences inhibits opportunities for mastery and results in a failure of neurons to form the necessary connections for learning (National Center for Infants, Toddlers and Families, 2000; Schaaf & Burke, 1997).

Summary

Child development can be optimized through the use of play activities to develop physical, social, emotional, and cognitive skills. Experiences in early childhood can hinder or enhance developmental achievement later in life. The parent-manual product of this project will provide developmentally-appropriate occupation-based activities which can be incorporated into daily routines. It is expected that with the proposed activities and play objects, children will be more apt to reach expected developmental milestones within the appropriate timeframe.

CHAPTER III

METHODOLOGY

In order to create a comprehensive knowledge base, information was obtained from a number of disciplines. Current literature in the forms of scholarly journal articles and textbooks was gathered in the areas of occupational therapy, psychology, education, and medicine. The literature review was conducted to identify how play is used to achieve developmental milestones in physical, cognitive, social, and emotional domains.

The University of North Dakota Harley French Library was used to access several resources. The PubMed database was used to locate research articles regarding cognitive, physical, social, and emotional development in children. This database was also used to locate literature addressing the use of play in promoting child development. Key words searched included: occupational therapy, child development, play, intervention, prevention, and environment.

The University of North Dakota Harley French Library was also searched using the Online Dakota Information Network (ODIN) to locate textbooks located in the library, and those located outside of the library which were available through the interlibrary loan program. Key words searched included: occupational therapy, child development, play, intervention, prevention, and environment.

Textbooks located in the University of North Dakota Occupational Therapy Department were reviewed for information relevant to this scholarly project. This

information added perspective to the use of play in occupational therapy practice. Data from the authors' personal collection of occupational therapy texts were also utilized in understanding the relationship of play and child development.

The collected resources were reviewed and their data categorized into the following areas of the literature review: introduction, learning at the cellular level, facilitation of learning through play, benefits of play, categories of play, barriers in play, play and occupational therapy intervention, predicting future development, experience and environment, and prevention programming. Each of these categories was further broken down into sub-topics to increase the readability and flow of information presented in the literature review.

The literature review provided conclusive information in several areas regarding the beneficial use of play and its role in child development, which have been implemented into the product of this scholarly project: *A Manual of Expected Milestones in Childhood and Occupation-Based Interventions*. The process of learning creates changes in the brain (Koizumi, 2004), and one way in which this happens is during a child's play. Play is a key component of a child's development (Way, 1999) and varying types of play can be used to facilitate optimal emotional, social, cognitive, and physical growth (Ginsburg, 2007).

Occupational therapists are trained to use play to build skills (Parham, 2008) which will be carried over into other contexts to form healthy habits and roles (Bryze, 2008). The benefits of development during childhood are directly correlated to developmental progress later in life, outlining the importance of appropriate development beginning at birth and continuing throughout the child's life (Taanila, Murray,

Jokelainen, Isohanni, & Rantakallio, 2005). The environment in which play takes place has a direct correlation to developmental progress (Jones & Reynolds, 1992; Fjortoft, 2001).

Based on the information gained in the literature review process, play is an appropriate means of enhancing child development. Providing parents with the necessary tools to structure the environment to facilitate play may have long-lasting effects in terms of their child's developmental achievement. The four areas of development (physical, cognitive, social, and emotional) are used in the product and specific activities which promote those specific skills are outlined in each area. The manual provides parents with a basic understanding of child development and the research base acknowledging that play does play a role in optimal and well-rounded development.

Further research was conducted to identify major milestones for children ages birth to five years. This information was compiled from the American Academy of Pediatrics, the University of Maryland, and the Centers for Disease Control and Prevention websites. Activities to facilitate physical, cognitive, social, and emotional growth within each age category were designed by the authors based on the milestone data collected, as detailed above.

The manual was designed using Microsoft Publisher 2007 and all other components of the scholarly project were composed using Microsoft Word 2003 and 2007. All graphics contained in the product of this project were obtained from Microsoft Word 2007 and are considered public domain; these graphics were chosen because of their ability to be used without copyright infringement and their applicability to the content of the product manual.

CHAPTER IV

PRODUCT

The purpose of this product (included in the Appendix section) is to provide parents with a source that can be used to facilitate their child's well-rounded development. Parent resources are often weighted toward one specific area of child development. This product, however, provides a clear and easy to use manual addressing, physical, cognitive, social, and emotional development through the use of play activities. It is important that children endure a balance in the types of activities that they participate in, thus promoting well-rounded development.

The product of this scholarly project is a manual designed for parents which describes child development up to the age of five. The manual includes significant milestones achieved throughout childhood along with age-appropriate activities which can be used to facilitate development. The manual is color coded into nine different age categories. Each category begins with the major milestones of that age. After each milestone page, there are four separate pages, each describing activities and strategies for developing physically, cognitively, socially, and emotionally. Activities described in the manual may be completed individually, in groups, or with caregivers. The activities involve common household items, making the activities cost effective.

The manual also includes an introductory section providing a brief overview for parents on how to use the manual with their children. An explanation of how to find the

child's corrected age is provided, as well as brief literature review on the importance of play in facilitating child development. In addition to the reference list provided in the manual's brief literature review, a listing of helpful resources for parents is provided in the last section of the product manual. The web address and basic features of each website are listed and parents are encouraged to further their own knowledge of child development through continued education by utilizing the suggested resources.

This manual is non-population specific. It is intended for any parent to use in aims of facilitating development in a child. For a child with "normal" development, parents may look at the manual as a guide to age appropriate activities to introduce to their child. For a child with developmental delays or significant impairments, parents may pay less attention to the age aspect of the manual and rely more on the activities to encourage development of skills at the next sequential level. Although the manual is color coded for age appropriateness, the user may pick and choose activities from any age group in order to meet the needs of the child as a unique individual.

The parent manual is compatible with the Ecology of Human Performance Model, as stated in chapter one. In order to facilitate development, emphasis is placed on the temporal or environmental context. Interaction between the person and the context acts as either a support or a barrier to performance (Dunn, Brown, & Youngstrom, 2003). Thus, the parent manual provides a means of support for facilitating child development from the ages of birth to five years.

CHAPTER V

SUMMARY

Project Overview

This scholarly project examined the relationship between play and child development in the areas of physical, cognitive, social, and emotional growth. The impact of the environment on play opportunities as well as healthy development was researched in order to create a beneficial and easily utilized parent manual. This information was gathered in order to support the education of parents in terms of child development, play as a means of development, and the role of the parent in providing environmental challenges to facilitate child development.

Existing literature from occupational therapy, psychology, and educational journals in conjunction with medical research, was used to gain a multidisciplinary and holistic understanding of child development. Based on this review of literature, a manual was created that provides developmental milestones expected between birth and five years of age. This parent-friendly manual also includes suggested age-appropriate activities to aid in facilitating physical, cognitive, social, and emotional growth.

In addition to parental use, the manual can be utilized by professionals who are involved in the processes of child development. Educators, nurses, physical therapists, speech language pathologists, physicians/pediatricians, and occupational therapists can

use the suggested activities in promoting developmental growth. The manual can be used as a means of intervention for both children with and without disabilities.

The scholarly project utilizes the Ecology of Human Performance framework from current theoretical models in the occupational therapy profession. This framework emphasizes the impact of the context and environment on task performance. It does not focus on the presence or absence of disability and is interdisciplinary in its range of professional application.

Limitations

The product (parent manual) created in this scholarly project is applicable for children ages birth to five years, thus it is not appropriate for use with most school-aged children. Future editions of the manual may include expanded coverage by offering suggested activities for children greater than five years of age. It is anticipated that parents will use the manual to educate themselves on how to provide healthy opportunities for play, and will be able to continue to provide these opportunities even after the child has reached the age of five.

The cost for printing and binding of the manual is approximately \$6.02 per manual (Lion Press; 62 manuals per order) which may be too expensive for professionals to offer at no cost to parents who are potential benefactors of this educational resource. A program fee, if offered in conjunction with an educational class session, or a printing fee for the manual itself may be needed. The PDF version of the product can be printed in black and white, and eliminate the binding process, in order to offer a more cost-effective option for those who cannot afford the commercially printed manual.

Access to the intended population may limit the successful use of this parent manual. However, its multidisciplinary design is intended for use and distribution by any health professional, thus increasing access to parents of children ages birth to five years. Printed and electronic formats increase means of distribution to the intended population as well.

The program is not designed to be a large generator of revenue, which may deter organizations from implementing the use of the parent manual. It is possible to break even or generate minimal revenue by charging parents a fee for the manual or for an educational class and manual. Grant funding may be explored to help defray printing costs for distribution for children of families who are unable to afford the manual.

Project Implementation

This project could be implemented in several ways. Ideally an educational class for parents, taught by an occupational therapist, would be used as a means of disseminating the manual to parents and could then be used in facilitating healthy child development at home in the child's natural environment. This class could be based out of a hospital, clinic, public health service, or sponsored by a community organization.

Ideally the manual would be given to parents in conjunction with an educational component, although the manual is also made to be a stand-alone educational resource. Printed copies of the manual could be distributed on a hospital's obstetrics unit or by a pediatrician for use by new parents. Daycare associations and early intervention programs may also benefit from the use of this manual. The manual is available in several formats, including a PDF document, which can be easily shared electronically for downloading and printing.

Future Development

It is recommended that a program plan for implementation be created and utilized in establishing this scholarly project as part of an annual regular educational program. This program plan should address the project's background, budget, marketing strategy, and recommendations for successful implementation. Potential vehicles for implementation include an educational class offered through a family practice clinic, hospital, or an occupational therapy department.

Outcome measurements should be established to evaluate the effectiveness of the manual in promoting parent's sense of knowledge and empowerment regarding their child's development. A parent questionnaire which would be used pre- and post-program should be created to evaluate parents' perceptions and children's development. A satisfaction survey should be utilized to determine the manual's areas of strength and opportunities for improvement; this survey should be completed by parents and by health care professionals in order to maximally improve the product for future use.

A pilot study completed by occupational therapists could be implemented to determine how the use of this manual, in conjunction with therapy, benefits parents and children. A control group (therapy only) and the target group (therapy plus parent manual) could be compared in terms of parent satisfaction with occupational therapy, knowledge of child development, ability to provide an environment that facilitates healthy play activities, and the parents' sense of empowerment to help their child grow and develop. This research study would assess in which ways the parent manual is effective based on user feedback.

Clinical Practice Application

The product of this scholarly project is readily applicable to occupational therapy clinical practice. The manual is parent-friendly and color-coded based on nine age categories from birth to five years. It is comprehensive in providing activities for healthy development in four major areas: physical, cognitive, social, and emotional.

Multidisciplinary research was used to provide background information to increase the product's overall level of research and credibility. The product is available as a printed manual or as a PDF file for personal downloading/printing, making it possible to be distributed through multiple channels.

Conclusions

Play is the medium through which children gain, process, and learn information that leads to the development of physical, cognitive, social, and emotional skills; each area is necessary in creating a systemically healthy mind and body (Lawlor, 2003). Mental and emotional health are maintained by participation in play activities (McArdie, 2001). Play experiences in early childhood can hinder or enhance developmental achievement later in life (Humphry & Wakeford, 2006). In fact, the environment in which play takes place has a direct correlation to developmental progress (Fjortoft, 2001; Jones & Reynolds, 1992). When meaningful and stimulating play experiences are not adequately provided, children's development and subsequent learning are limited (National Center for Infants, Toddlers and Families: Zero to Three Organization, 2000).

For successful implementation of this project, collaboration with health professionals is critical. The target population, parents of children under five years of age, must express a need for increased education about child development and a desire to

facilitate healthy development in their child(ren). Distribution in printed form or electronic (PDF) form will allow access to the manual to a larger portion of the target population. Professional publication, such as by the American Occupational Therapy Association, may be pursued after a pilot study assessing the effectiveness of the product has been conducted.

The parent-manual created in this scholarly project provides developmentally-appropriate activities which focus on physical, cognitive, social, and emotional areas of growth for children birth to five years. It is expected that the proposed activities and play objects will provide children with increased play experiences. The child then has increased opportunities to develop the skills needed to reach expected developmental milestones.

APPENDIX

What's Next?: A Guide to Playing With Your Child

what's next? a guide to playing with your child



Laura J. Rabenberg, Chere L. Vosberg, & Michael M. Atkinson, Ph.D.

University of North Dakota

what's next? a guide to playing with your child

Laura J. Rabenberg, Chere L. Vosberg, & Michael M. Atkinson, Ph.D.

University of North Dakota

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introduction

This manual is designed for parents, caregivers, or anyone interested in the development of children. The user friendly manual is designed to provide quick and easy access to key components of child development.

The first five years of development are broken up into smaller sub-groups of age. In each age group, there is a list of milestones that is appropriate and achievable. Each list of milestones is followed by suggested activities and tips to facilitate physical, cognitive, social, and emotional growth. The last section of the manual contains additional resources that may be useful to one's learning in the area of child development.

When using the manual, the reader is able to select the appropriate color-coded age bracket and view subsequent pages addressing specific areas of development. Many of the activities in each section are cost free and require little to no preparation. The activities can be incorporated into daily routines and used at the discretion of the adult.

The developmental milestones contained in the manual are a compilation of information obtained from The American Academy of Pediatrics, The University of Maryland, and Centers for Disease Control and Prevention. It is important to keep in mind that not every child develops at the same rate. Each listed age group is describing the *average* age of development. Some children may achieve milestones before or after this age. If there is a concern regarding the development of your child, contact your pediatrician with questions.

OVERVIEW

Child development can be optimized through the use of play activities to develop physical, social, emotional, and cognitive skills. Experiences in early childhood can hinder or enhance developmental achievement later in life. This manual provides developmentally-appropriate occupation-based activities which can be incorporated into daily routines. It is expected that with the proposed activities and play objects, children will be more apt to reach expected developmental milestones within the appropriate timeframe.

before you begin...

- If your baby was born premature:
 - When using this book, use your baby's corrected age, which can be calculated using the table below.

Corrected Age = Chronological Age — # Weeks/Months Premature

Example: Baby Patrick was born 1 month premature. He is now 6 months old. His corrected age is his chronological age (6 months) less the number of months premature (1 month). Baby Patrick's corrected age is 5 months.

child development

Play has been defined as "any spontaneous or organized activity that provides enjoyment, entertainment, amusement or diversion" and is "an attitude or mode of experience that involves intrinsic motivation, emphasis on process rather than product and internal rather than external control; an 'as-if' or pretend element; takes place in a safe, unthreatening environment with social sanctions."¹

Play is one of major categories of life activities in which people engage,² is necessary for child development,³ and is the natural work of children.⁴ Play is the way in which children learn about their environment, learn new skills, and interact with others.⁵ Through the use of play children are gaining, processing, and learning information that facilitates emotional, social, cognitive, and physical growth; each of these areas needs to develop in order to create a systemically healthy mind and body.⁶

As a child learns, the brain creates connections which function to store and process information in response to experiences.⁷ If a child is deprived of meaningful and stimulating experiences, learning and development are impaired.^{8,9,10} Imitation of faces and action of adults is one way in which infants begin to learn and play.^{11,12,13,14,15,16,17,18}

child development

The U.S. Department of Health and Human Services recommends “that children and adolescents participate in at least 60 minutes of moderate intensity physical activity most days of the week, preferably daily.”¹⁹ The primary way in which children get this physical activity is through their daily play.²⁰ Physical benefits of play include weight control and minimizing weight-associated risk factors,^{21,22} developing gross motor skills,^{23,24} and developing fine motor skills.²⁵ Physical activity helps to normalize muscle tone, build strength, increase flexibility, increase balance, and build strong bones.²¹

Play is a key way in which children maintain mental and emotional health.²⁰ Children use play to relieve stress,^{26,27} express their emotions,⁴ increase self-esteem,²⁸ and gain personal satisfaction.²⁹ Children learn how to regulate their own emotions and take into consideration the feelings of others.³⁰

Socialization and building relationships are key components to healthy development in children.^{6,31,32} Play provides opportunities for children to communicate with others,²⁰ use nonverbal communication to aid in expressing needs and in conflict resolution,³³ and follow social norms.³⁴

child development

Cognitive development is directly involved in the acquisition and use of language.^{28,35} Children use play to develop creativity, knowledge, problem solving skills, and logic.³⁶ Children's physical, social, cognitive, and emotional growth and development are concurrent with development of the brain.³⁷

It is important to provide a variety of play activities that address cognitive, social, emotional, and physical skill development.³⁵ The caregiver is responsible for setting up an environment that promotes play, and the child is then able to explore and direct the play session.³⁵ Having a child play on the kitchen floor with a cupboard full of containers incorporates elements of play as opposed to holding the child while cooking dinner. Time spent watching television, using computer games, and playing with commercial toys decreases the level of imagination being used in play.^{30,35,38} Too many scheduled activities also take time away from unscheduled time for free play which may hinder proper growth and development.^{39,40} Children need to be the creative force behind play in order to gain the maximal benefits of play.⁴¹ Adult-directed play requires less imagination and creativity on the child's part which hinders emotional and cognitive development.⁴¹ It is important that adult-driven play not stifle the creativity of the child, but encourage the use of the child's individual assets.³⁵

child development

The health development of physical, social, emotional, and cognitive skills through play has long-term benefits.^{42,43,44,45} Play deprivation can result in sensory problems, decreased social skills, and overall delays in developmental skills.⁴³ There may be a correlation between achieving developmental milestones and intellectual capacity; a recent study found that children who developed faster in infancy achieved better educational outcomes in adolescence and adulthood⁴⁵ and were in a better position to learn upon entering school.⁴⁶

Along with facilitating development in the child, play promotes a parent-child bond which is necessary for healthy development.⁴⁶

Play experiences influence the growth and development of a child.^{10,47} In fact, the environment in which play takes place has a direct correlation to developmental progress.^{41,48} When play experiences are not adequately provided, children's development and subsequent learning are limited.^{10,49}

child development

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"Play is the beginning of knowledge."

~George Dorsey~

American Anthropologist

0-3 months

- Moves head from side to side while lying on stomach
- Turns head to familiar sounds and voices
- Raises head and chest when lying on stomach
- Opens and shuts hands
- Grasps and shakes hand toys
- Reaches/swings at dangling objects with hands
- Visually tracks objects (within 12 inches of self)
- Begins to develop a social smile
- Vocal response (coos) to familiar voices



physical

- TUMMY TIME: Place a rattle or brightly colored toy in front of your baby while he lays on his stomach. Try to capture his attention so that he lifts his head up slightly to see your face and the toy. If your baby fusses about laying on his stomach, let him lay on you (tummy to tummy) to encourage him to lift his head to see your face.
- GRAB & RELEASE: Place rattles, your finger, or other toys into your baby's hand. Provide opportunities for your baby to grab and then let go of objects to begin the process of hand skill development.
- WHERE AM I?: Place your baby in a variety of positions and in new environments. Provide opportunities for your baby to look at objects and to look for you in all directions to help strengthen neck muscles.
- FREE AS A BIRD: Let your baby stretch out and move! Lying on either back or stomach, your baby needs time to kick those legs and reach with those arms! Respond to movement with smiles and praise.

Cognitive

- TALK THE TALK: Talk to your baby even though the content of your speech might not be understood yet. Provide praise and speak in a calm tone. Babies can respond differently to varying tones of voice.
- MOBILE MANIA: Create a homemade mobile that can be dangled above your baby. Be sure to include bright colors and items at varying heights. Make sure that your baby cannot reach these items if they might be a choking hazard!
- COFFEE TALK: If you're reading the morning paper, read it out loud to your baby! Babies will listen to the rhythm of your voice and learn to recognize your voice in comparison to the voices of others. Books or magazines with bright colors will be the most interesting and stimulating for your baby.



social

- SILLY FACES: Make eye contact with your baby and make faces such as sticking out your tongue, smiling, or blowing up your cheeks. Watch for your baby to smile in response or imitate your faces.



- PASS THE BABY: Introduce your baby to others in your circle of family and friends. Let your baby get used to other voices and being held by other people. Watch for the social smile at others whom your baby is fond of!
- MIRROR TALK: Hold your baby so he is facing a mirror. Talk to your baby and encourage babble or sounds. Point to body parts in the mirror and name them. Let your baby explore his own image as you move his arm or leg.

emotional

- CRY RESPONSE: Being attentive to your baby's needs will provide a sense of comfort and security. Speaking in a soothing manner and gentle rocking movements may increase feelings of comfort.
- CREATING ROUTINES: Help your baby to develop trust and security by creating routines for daily activities like feeding and diaper changing. Your baby will develop emotional trust in your caregiving skills.
- SECURITY BLANKET: Your baby will feel reassured by having one special object that can be used during stressful situations. This object might be a blanket or favorite toy, and will help your baby to begin to develop emotional attachment.
- THE SOOTHING SUCK: Allow your baby to suck on fingers or pacifier as desired. This sucking behavior is soothing and allows your baby to control overwhelming emotions and situations. It is a form of self-regulation of emotional experiences.

*"Play fosters belonging and
encourages cooperation."*

~Stuart Brown, M.D.~

Contemporary American Psychiatrist

4-6 months

- Supports upper body with arms when lying on stomach
- Able to bear almost all weight when supported in a standing position
- Able to roll from back to stomach
- Able to pick up objects
- Starts to imitate sounds and actions
- Becomes interested in mirror images
- Explores world with hands and mouth
- Begins to respond to sounds by making babbling sounds
- Responds to own name
- Turns head toward direction of sound
- Responds to soothing and comforting tone of voice when upset
- Responds to affection and begins to show affection toward primary caregivers

physical

- **JUMP IN:** Support your baby in a standing position and allow him to bear weight through his legs. Make up a game or song so that you can incorporate language into this activity. Your baby can be an astronaut “jumping” to the moon or a grasshopper “jumping” on the lawn. Vary this activity by having your baby standing and jumping on your lap, on a soft surface such as carpet, or on a harder surface such as tile.
- **ROCK & ROLL:** Place your baby in a variety of positions on the floor in an open space. Different textured mats or floor coverings will provide new sensory experiences. Place a favorite toy just out of your baby’s reach or position yourself just out of your baby’s reach. Encourage your baby to reach and roll toward the object he wants!
- **PULL UPS PLUS:** While your baby is lying on his back on the floor grasp his hands. Gently and slowly pull him up into a sitting position. Slowly let him back down to lie on his back. This helps your baby to develop muscles in his neck that will be needed to hold his head up. Be careful not to jerk or let his head snap back and forth.

Cognitive

- SOCK GAME: Place a brightly colored sock on your baby's foot. As the baby notices and reaches for the sock, help him out! You can help your baby to pull the sock off and then put it back on. This helps your baby to become aware of his own body and cause/effect relationships.
- SOUND OFF: Provide rattles and other toys that make a variety of noises. As your baby moves the toy, he learns that its movement will result in a sound.



- SINK OR SWIM: During bath time, alternate items in the tub that either sink or float. Place an object in the water and verbally announce whether it sinks or floats! Encourage your baby to grasp an object and put it in the water too!

social

- **WATCH ME:** As your baby begins to develop imitation skills, encourage him to repeat what he sees! Pick up and set down a block several times before giving your baby a chance to try. Shake a rattle for a few seconds, make a certain face, or clap your hands a few times—watch and see if your baby can imitate your actions.
- **INTERMINGLE WITH A JINGLE:** Play interactive social games such as “This Little Piggy.” There is social interaction between adult and infant as you tickle his toes. Any rhyme or song with an interactive component will promote eye contact and interaction.
- **BATH TIME FUN:** Gently splash and pour water from brightly colored containers during bath time. Repeat one action a few times and see if your baby will imitate your movement. Provide lots of eye contact, smiles, and facial expressions as you play!

emotional

- SURPRISE!: Your baby is able to experience emotional responses to surprising situations. Games like “peek-a-boo” or blowing bubbles encourage your baby to respond positively to surprises.
- MAD HATTER: Collect a variety of hats from around the house such as a baseball cap, a funny hat, or earmuffs. Put on a hat and approach your baby while talking to him. After a few moments, take off the hat and show your baby that there is a familiar face under the strange hat! This will help your baby to be more comfortable with unfamiliar situations or people.
- CRY ME A RIVER: Begin to identify the different cries your baby uses—each may express the need for something different. By responding to your baby’s needs (which he expresses through crying) you are fostering trust. Be careful not to respond every time your baby fusses as he is learning to calm himself down with soothing techniques at this age.

*"You discover more about a person
in an hour of play
than in a year of conversation."*

~Plato~

Greek Philosopher

7-9 months

- Interest in social play
- Finds partially hidden object
- Explores with hands and mouth
- Responds to own name
- Increased babble in response to voices
- Rolls both ways
- Able to support self in sitting with arms, then without
- Able to reach using only one hand
- Transfers object from hand to hand
- Uses hands to rake objects
- Begins to learn the crawling process (scooting)
- Pulls self to standing position
- Object constancy (understand that objects still exist even though they are not seen)
- Understands the meaning of "NO "

physical

- TEXTURE CRAWL: At this point in time your child is beginning to crawl and be mobile. Provide different textures for your child to experience on his body and describe the feel of the textures as your child is experiencing the new sensation (Ex: scratchy doormat, fluffy pillow)



- BELLY TO BALL: Place your child on a rubber or inflatable ball. Roll your child on his belly in all directions. This will work the core muscles as well as the extensor muscles.
- PLUSH PILE: Make a pile of soft comforting blankets, pillows, cushions, etc. Arrange the area so that there are bumps and obstacles for your child to crawl on, over, and around. This will facilitate mobility in a safe and soft environment.

Cognitive

- THE BIG COVER UP: Let your baby watch as you hide a familiar object behind your back, in your pocket, or under a blanket. Can he find it?
- THE PERFECT FIT: Set a pot and its lid on the floor next to your sitting child. Have your child take the lid off and put it back on in order to promote problem solving skills. To add an extra challenge, set out more than one pot and lid!
- WHERE DID IT GO?: Grab one of your child's favorite toys and a blanket. Demonstrate position in space with the toy and blanket while using words such as "in, under, over, and around."



social

- SIGN LANGUAGE: The use of sign language can decrease frustration levels with communication between adult and child. It provides a foundation for further development of reading, writing, and vocabulary. When starting out, introduce only 5 signs and use them consistently. Don't be worried if your child does not sign immediately; the learning process takes about 1-6 months.
- GOSSIP: Talking aloud to your baby during everyday tasks will familiarize the baby with your voice. Familiar voices will facilitate babbles in a child at this age.
- BRAVO!: At this age it is appropriate to begin verbalizing to your baby those actions that are "right" and those that are "wrong." Praise your baby for good behavior and avoid reinforcing behavior that is not to your liking.

emotional

- PATIENCE!: At this stage temperament can put a damper on things. As a parent, adjust your temperament in attempt to adjust your baby's. An irritable infant can grow to be emotionally happy and well adjusted from a patient, responsive, and loving parent.
- NAME GAME: Use your baby's name often when you are talking to him! A sense of self-identity will begin to develop and your baby will begin responding to his name when it is spoken.
- EXCITE-O-METER: When playing actively with your baby, encourage him to get excited! As you begin to wind down, help him to calm down as well. Your baby will begin to learn how to excite and calm himself before, during, or after activities.



*"In our play we reveal what
kind of people we are."*

~Publius Ovidus Nabo~

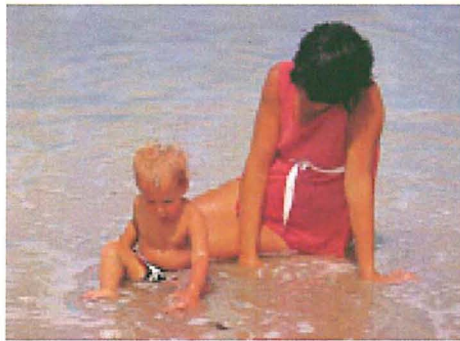
Roman Poet

10-12 months

- Able to walk with support
- Begins to take a few steps without support
- Speaks few simple words; Ex: mama, papa, uh-oh
- Tries to imitate animal sounds
- Associates names with objects
- Waves "bye"
- Begins to explore familiar environments more independently
- Able to finger feed self
- Repeats sounds or gestures for attention
- Uses simple gestures; Ex: shaking head for "no"
- Tries to imitate words
- Able to transition self into different positions independently; Ex: stand to sit, sit to crawl
- Begins to use objects correctly; Ex: drinking from cup, dialing phone, brushing hair

physical

- **BAREFOOT BOOGIE:** At this age your child may be standing with or without support or even taking a few steps. While indoors, have your baby remain barefoot in order to help strengthen his foot muscles.



- **DIVE IN!** Attend a local open swim with your baby. While holding your baby, he will be able to kick and splash, getting used to the new texture and atmosphere while also getting a water aerobics work out!
- **EATING:** As your baby begins to eat solid foods, let him be in charge! Encourage your child to grasp a piece of baby cereal and help him to bring it to his mouth. Don't be surprised if he brings the food to his mouth independently after only a few times! This helps him to develop fine motor skills and hand-eye coordination.

Cognitive

- PHOTO ALBUM: Create a photo album using 4 to 5 pictures. Each picture can be of someone close to your baby. Practice pointing to each picture and then stating the name of that person. Even though your baby may not be able to verbally speak the words, he will be able to recognize familiar faces and respond through gestures
- BARNYARD PAL: Fluent speech is not likely at this age, however animal sounds are a great way to get the ball rolling. Imitate the sound of a lion and pause to listen for a response from your baby. Stick with only one animal sound at first. As your baby is consistent in imitating the sound, go ahead and add another animal!
- FOR REAL?: Provide your baby with objects that have an intended use and show your baby how to use the objects correctly (i.e. dialing the phone or brushing hair). This helps him to understand how common objects work.

social

- **BABY INTERVIEW:** Record your child's babble on a tape recorder, computer program, or a recording toy. Play it back so that your child can listen and hear her own voice. He will begin to recognize how he sounds to others and will love to hear himself "talk!"
- **BREAK THE ICE:** When introducing your child to a new group of people, begin by asking them a simple question which they already know the answer to. Ask him "what does a cow say?" or "where is daddy?" This helps your child to feel like part of the social group and to feel confident.
- **WHAT'S THIS?:** Walk around your house with your baby and name familiar objects. Name the item and who it belongs to out loud, such as Mary's cup or mommy's bed. This will help your child begin to identify objects and the idea of ownership. Watch your child's facial expressions as he learns!

emotional

- NO MORE MELTDOWNS: Tumbles, falls, and bumps are common at this age. Your baby will most likely not fret when this happens unless someone around them is showing distress. Avoid over reacting to minor accidents in order to prevent a meltdown!
- PICK YOUR BATTLES: Temper tantrums are in regular occurrence and seem to happen at the drop of a hat at this age. Be consistent with your discipline and limit disciplining to behaviors that pose potential danger to your baby.
- SCARE-D-CAT: Fear is a common and normal response to everyday events at this age. When your child is scared, help him to remain calm by providing physical and verbal reassurance. You will help him to face his fears and boost his trust in you.



*"The world is your playground.
Why aren't you playing?"*

~Ellie Katz~

12-24 months

- 12-18 months
 - Says several single words
 - Runs with a lack of coordination and falls frequently
 - Can say ten or more words when asked
 - Jumps in place
 - Begins to feed a sense of ownership identifying people and objects by saying " my "

- 18-24 months
 - Imitates adults and playmates
 - Finds objects even when hidden under two or three covers
 - Points to object when it' s named for him
 - Recognizes names of familiar people, objects, and body parts
 - Uses simple phrases 2-4 word sentences
 - Follows simple instructions
 - Walks alone (while pulling or carrying something)
 - Stands on tip toe
 - scribbles
 - Able to communicate needs such as thirst, hunger, need to use restroom

physical

- LAUNDRY HELPER: Allow your child to carry laundry items from one place to another. Use descriptors like colors and numbers as your child brings items from a laundry basket and hands them to you at the washing machine. This will work on balance, coordination, and hand skills—plus your child will love being able to help you out!
- SHAVING CREAM PAINTING: Let your child use his fingers to spread out and draw in a pile of shaving cream placed on a table. Different sensations in his fingers and hands will help him to begin to move his hands in new ways. A low table could be used and the child can stand while “painting” to work on standing balance.
- BOX: Use a medium sized empty box that you are going to throw away-or get a free box from a local grocery or retail store. Allow your child to draw on the box to transform it into a playhouse, fire engine, or a spaceship. Encourage skipping, hopping, climbing, and crawling into and out of the transformed box.

Cognitive

- BODY SCRAMBLE: Name a part of the body and ask your child to point to that part. You can encourage pointing to the child's own nose, or to your nose. Improved accuracy of arm movements and language acquisition will take place as your child begins to make connections between words and objects.
- NATURE WALK: As your child learns to walk, provide an opportunity for outdoor exploration in a park or in your own backyard. Notice and talk about the different smells, colors, textures, and shapes that you see. Be careful to stay close as your child may not be stable and in control of his walking balance yet.
- POURING: Provide an empty milk jug and cereal pieces (if your child is safely able to eat these without choking). Show your child how to place the pieces into the milk jug, and then how to tip and pour out the pieces. Encourage your child to imitate your actions. Use the words "in" and "out" as you play. Non breakable cups and a pitcher can be used to practice pouring water outside during a "tea party" in your backyard.

social

- PLAY DATE: Introduce your child to another infant and encourage them to play alongside each other. Be prepared for difficulties in sharing objects, but encourage the children to watch each other and explore their environment.



- HELLO/GOODBYE: Encourage waving goodbye when someone leaves and acknowledging when someone arrives—either with physical attention or a verbal response. This is one way in which children can learn to interact with others using verbal and nonverbal language skills.
- FINGERPLAY: Use finger puppets (you can make them yourself out of child-safe materials) to act out a scene. Use songs and stories to enhance the social experience of the characters. Take turns using the finger puppets and in talking about what they are doing.

emotional

- CAREGIVER: Let your child play the role of a caregiver. This might be pretending to take care of a baby doll or a stuffed animal. Encourage gentle handling of the doll/animal and suggest nice things that can be done for the doll/animal such as giving a bottle, feeding the puppy, or holding/cuddling. This will promote consideration of and kindness toward others.
- JOIN ME!: Emotional security continues to develop in your child as he grows. Help strengthen the bond between you and your child by consistently interacting with him during his playtime. Ask to join in when he is playing alone.
- LOVE SONG: When there is a lull in the day, take the time to sing an affectionate song to your child in order to build a strong emotional bond.



"Deep meaning lies often in childish play."

~Johan Friedrich von Schiller~

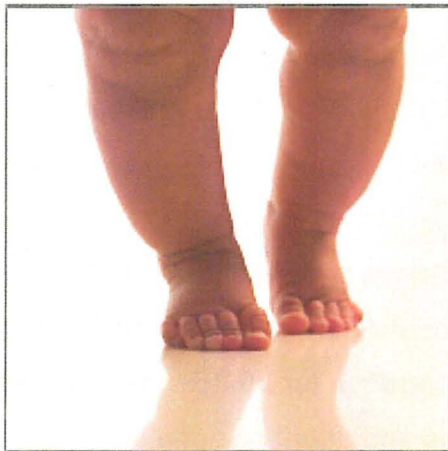
German Poet

year 2

- Enjoy playing next to other children and start to learn the concept of sharing and taking turns
- Understands concept of "mine" and his/hers"
- Expresses affection openly to familiar people
- Matches an object in her hand or room to a picture in a book
- Sorts objects by shape and color
- Completes puzzles with 3 or 4 pieces
- Follows a two part command
- Understands placement in space (on, in under)
- Uses pronouns (I, you, me, we, they)
- Bends over without falling
- Makes up-and-down, side-to-side, and circular lines with pencil or crayons
- Runs easily
- Feeds self without difficulty
- Hand preference beings to develop

physical

- YOGA: Do simple yoga poses and have your child imitate. Poses can become more complex with standing only on one foot or bending down in order to facilitate balance, strength, and coordination



- PULL AND PUSH: These toys can facilitate forward and backward movement with more ease and promote gross motor movement
- BUNNY HOP: Have your child hop in designated directions while squeezing a small object (ball, pillow, bean bag) between his legs.
- FAT UTENSILS: Provide your child with blank paper and "fat" or built up utensils. This will facilitate a proper grip pattern in fine motor activities.

Cognitive

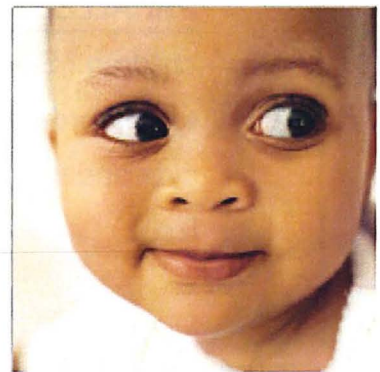
- MIRROR ME: Sit face to face with your child and have him imitate all actions that you perform including body position, facial expression, and gross motor movement
- SHADOW DANCING: Find a place where your child can see his or her shadow. Then have him "take charge" of the shadow and control its movement by following your instructions. For example, "Make your shadow tall, short, wide, or thin. Make it jump, stand on one foot, or touch its feet."
- FREEZE FRAME: Play different styles of music and have your child dance according to the flow of the music. When the music stops your child holds that position for 10-15 seconds. This promotes following instructions and attention span.
- PUZZLES: Easy puzzles of 3-4 pieces will provide your child with an activity of focus. This promotes concentration and attention as well as fine motor skills use.

social

- MY TURN, YOUR TURN: At this age don't expect children to readily share toys or take turns; but you can introduce the concept in everyday activities. While stirring the cake batter, stop and say "would you like a turn?" and then pass the spoon to your child. After your child stirs the mixture for a few minutes say "may I have a turn now?" Down the road, your child may even offer to share without being prompted.
- START A BAND: There is more than one member to a band. Use household objects to create musical instruments for a small group of children. When the band is playing, children are learning to be aware of others around them, following instruction, and to socialize with peers.
- PARALLEL PLAY: Have your child play in the same area as other children. Since sharing is not likely to take place, offer duplicate toys in order to prevent tantrums. The children will play side by side and interact as they please, increasing their ability to socialize.

emotional

- SET-UP FOR SUCCESS: When playing games and trying out new activities, make sure that there is a window for success. Eventually mastering skills leads to further mastery in other areas due to increased self esteem and self confidence
- PREDICTABLE BOOKS: Books with repeating words and phrases and that are read often to the child will create a sense of familiarity and confidence. Your child will feel more secure with a routine book and will likely be able to participate more in the "reading" because he will have parts memorized.
- NAME THAT EMOTION: Flip through a book or magazine with pictures and look for people with happy faces and people with sad faces. Let your child point out the emotion of the person in the picture. This will help to develop an understanding of others' emotions and feelings.



*“Children need the freedom and
time to play. Play is not a luxury.
Play is a necessity.”*

~Kay Redfield Jamison~

*Contemporary American
professor of psychiatry*

year 3

- Negotiates solutions to conflicts
- Views self as a whole person involving body, mind, and feelings
- Follows three part commands
- Understands the concept of "same" and "different"
- Engages in fantasy play
- Speaks in short sentences (4-5 words) using past tense
- Go up and down stairs independently alternating feet
- Moves forward and backward with agility
- Kicks ball forward
- Throws ball overhead
- Catches bounced ball most of the time
- Copies square shapes
- Use scissors
- Draw circles and squares
- Begins to copy some capital letters
- Can count to 4
- Able to distinguish between two objects based on simple criteria such as size and weight

physical

- SHOESTRING: Provide large buttons and/or beads for the child to string on a shoelace to promote hand eye coordination and fine motor skills
- BALLS: Provide balls of all shapes and sizes in order to promote coordination.
- MUSIC: Use items from around the house to create instruments (pots and spoons, coffee can filled with beans) and encourage different body movements for different musical sounds.
- SIMON SAYS: Have "Simon" make the game more challenging with more than one step directions.
- FOLLOW THE LEADER: The leader can act like an animal or use quick steps and motions to promote agility

Cognitive

- REPETITION & EXPANSION: Mold your child's language by repeating and expanding on thoughts. Example:
 - Child: bird
 - Adult: bird sing
 - Child: bird sing
 - Adult: the bird is singing
- IMAGINE: Provide props for children to create and imagine their own story (cardboard boxes, dolls, dress up clothes, action figures).
- TWO COINS: Use colors, numbers, and shapes in everyday conversation. "I have *TWO* coins in the *RED SQUARE* box."
- CLAP: Create a rhythm by clapping your hands together, next let your child try to imitate the rhythm previously created.
- PILE SORT: Using toys or common household items have the child sort objects into two piles, organizing by shape color, or size. For example, put the blue items in one pile or all of the pots in one pile.

social

- ARTS & CRAFTS: Craft activities can be done individually but doing alongside someone else requires sharing (may involve, crayons, markers, scissors, glue, etc.). Sitting at the same table with other kids or adults will allow for practice in sharing and getting along with others.



- CLUBBING: Joining preschool programs or extracurricular activities (swimming lessons, gymnastics) is a chance for the child to socialize among peers similar in age and to also explore new interests.
- CIRCLE GAMES: "Who stole the cookie from the cookie jar; ___stole the cookie from the cookie jar; who me? Yes you! Couldn't be! Then who?" Repeat Circle games promote interaction and works on eye contact, controlling behavior, and listening to others.

emotional

- FACE-O-METER: Have your child draw a face on a paper plate that describes how he is feeling.
- PLAY DOUGH: Squeezing and molding the dough can let out aggression in a healthy way; it also serves as a calming and soothing activity.



- STORIES:
Stories involving conflict, anger, sadness, and other emotions assist your child in being able to talk about his own feelings.
- ROLE PLAY: Role play a scene where something unfortunate happens (Sally drops her gloves, or Billy spills his milk). Then act out how to help in the situation in order to teach the child empathy and sympathy.

*"Do not keep children to their studies
by compulsion but by play."*

~Plato~

Greek philosopher

year 4

- Distinguish fantasy from reality
- Can count 10 or more objects
- Correctly names at least 4 colors
- Speaks sentences of more than five words
- Uses future tense
- Stands on 1 foot for 10 seconds or longer
- copies triangle and other shapes
- Maintains balance while standing on one foot with eyes closed
- Draws person with body
- Prints some letters
- Uses fork, spoon, and sometimes knife



physical

- PHYSICAL CHALLENGE: Create an obstacle course for your child to go through using common household objects. This can be adjusted for indoor or outdoor play. Have him walk on a straight line of tape, weave between trees, jump over pillows, etc.



- ANIMAL WALK: Pretend your child is an animal and ask him to walk as that animal would walk. A rabbit might hop, a kangaroo might jump, a snake might slither, a mouse might tiptoe, and an elephant might stomp and swing his trunk.
-
- SCOOP BALL: Save large bleach bottles or plastic milk jugs and cut out the bottoms. Hold onto the handle and practice catching and throwing a ball or beanbag with the "scoop."

Cognitive

- WHAT DO YOU THINK?: Children at this age often ask many questions. Responding with this statement to a child's question will promote your child's independent processing of information.
- BOARD GAMES: Simple games with dice and counting spaces engage your child in math skills
- SEARCH MISSION: Ask your child to collect items that belong to a particular category (i.e., things found in the kitchen, things that are blue, etc.). Take turns hiding one of the objects and help each other to find the "lost" item using directional words such as on, behind, under, close to, beside, before, or after. This activity can be expanded by creating a story involving a hunt for lost treasure.
- SORTING: Sort and count objects by size and color: crayons, containers, leaves, blocks, socks, etc.
- GARDENING: Assist your child in planning and planting a flower or small garden. Measure plant growth and create a pictorial reminder for your child to water the plant(s).

social

- ELABORATE ROLE PLAYING: Pretend play involving scenarios such as a grocery store, pizza restaurant, fire house, shoe store, hospital, or a classroom. Encourage collaboration in creating and acting out the scene and include costumes and props.



- COMEDY HOUR: Provide a time for your child to be silly! Give him props and costumes to include in their comedy routine. Encourage creativity and laughter and let your child introduce the production to the "audience" before the show begins.
- SHOPPING WITH FRIENDS: Provide old coupons, catalogs, or magazines to a small group of children. Encourage sharing materials and collaborating to make a "store" and go on a shopping expedition!

emotional

- GOOD VS. BAD: Help your child learn the difference between accidents and misbehavior. When something is spilled or broken, reassure your child that accidents happen sometimes. Accidents do not make someone a bad person.
- I AM ME: Have your child draw a picture of what they like about themselves and ask for an explanation. Accomplishments should be praised and celebrated to contribute to a sense of self-worth.
- MY COOKIE RECIPE: Provide a number of items (nothing unsafe!) that can be used to create a special recipe. Let your child pick the ingredients and measurements to provide opportunities for freedom and independence. Provide positive acknowledgement for the decision making happening during the process.



additional resources

- ◆ **American Academy of Pediatrics**

- The most current information on children's health and parenting
- Popular parenting books, online journals, and medical information
- ⇒ <http://www.aap.org>

- ◆ **Baby Center**

- Detailed month by month information on caring for your child, development & behavior, and health & safety (pregnancy to 9 years)
- ⇒ <http://www.babycenter.com>

- ◆ **Centers for Disease Control and Prevention**

- Parenting tips and safety techniques for specific ages throughout a child's development (birth to 17 years)
- ⇒ <http://www.cdc.gov/ncbddd/child/>

- ◆ **Fisher Price**

- Using the left navigation bar, click on "Fun & Family Time → Play & Learn Activities" to find age-appropriate ideas for play and learning (birth through 6 years)
- ⇒ <http://www.fisher-price.com>

- ◆ **National Network for Child Care**

- Resources examining child development, learning strategies, and parenting tips for important life events such as toilet training and feeding
- ⇒ <http://www.nncc.org>

- ◆ **Talaris Institute**

- "Timeline" is interactive and provides milestone guidelines based on specific ages (birth to 5 years)
- ⇒ <http://www.talaris.org/timeline.htm#>

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