UNIVERSAL SCREENING THROUGH PLAY:  
IDENTIFYING PRESCHOOL RISK FACTORS

A Project

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Graduate and Professional Studies in Education
Abstract

of

UNIVERSAL SCREENING THROUGH PLAY:
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The purpose of this project is to provide early childhood professionals with an evidence based, simple, and affordable universal screening measure to identify early risk-factors through observation of cognitive, social, language, and motor play behaviors. The Playful Learning Assessment of Young Children (PLAY) was created, based on a review of current research, to fulfill the need for such a screening measure. Play is an innate behavior in which young children engage to acquire new skills and enhance their knowledge of the world. Interactions through play teach children strategies for problem solving, mediating social interactions, and communicating needs. Play follows a typical developmental sequence that professionals can analyze in order to identify potentially abnormal behaviors that may require intervention and support. Irregular play behaviors have been proven to be associated with later cognitive and social deficits, and early intervention has the potential of alleviating preschool risk factors. Teachers, parents, and professionals use results from the PLAY screener to inform curriculum, offer targeted play opportunities, collaborate with families regarding potential play needs, and
recommend community based referrals for children exhibiting severely delayed play skills.

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Chapter 1

INTRODUCTION

Children’s play is a dynamic activity which helps to facilitate all areas of development. Cognitive, social/emotional, language, and motor development are enhanced, in early childhood, by the complex interactions of these areas through playful opportunities. While the act of play can often appear to the observer as effortless, when attuned to these complex interactions, early childhood practitioners can be more sensitive to play developmental norms and their implications. Thus, being able to recognize various aspects of play at typical stages of development, may help early childhood practitioners to better identify children who may be at-risk of atypical development and initiate targeted, early intervention and services. Providing early childhood practitioners with access to user-friendly, developmentally normed, play screeners would equip preschool communities with an invaluable resource. Especially, as an increasing number of young children are entering early childhood programs, the need for resources to better support early childhood practitioners’ competence in understanding play is becoming necessary.

Background of Problem

Whereas in the past, large segments of the population under five years of age were typically ignored and underserved, current federal and state initiatives now mandate that the needs of children from birth to five years be addressed. Following World War II, two income families became increasingly prevalent, resulting in the proliferation of
daycares, nurseries, and preschool programs. It was during this time that teachers and government officials began to realize that little was known about the overall development of young children, sparking interest in the assessment and evaluation of early childhood assessment (Sears, 1975). Subsequent laws, including P.L. 94-142 and later authorizations (Individuals with Disabilities Education Act, 1990, 2004, & 2015), required federal and state agencies to identify young children with exceptional needs. States are under significant federal scrutiny to close the achievement gaps among ethnic groups and children who are disabled as compared to typically developed children. Due in large part to early childhood initiatives outlined in IDEA, there has been a significant emphasis on the need for prevention and early intervention targeting the needs of very young children. Early interventions can help improve academic and personal outcomes and lessen the burden felt by the educational system. Previous research has shown that many problem behaviors are significantly negated by early recognition and intervention. Psychometric measures and diagnostic tools have been the major focus in meeting these standards; however, many children are not offered full assessment unless significant concerns are noted, which relies on the education of teachers and parents as active members of this process.

The Need for Universal Play Screening in Early Childhood

Preschool and early child care programs are spaces that undeniably shape children’s development through playful learning. In many programs, however, teachers and care providers do not have the resources readily available to measure or gauge children’s play abilities in a meaningful way. Often times, early childhood practitioners
are intuitively aware that children’s play is atypical, but do not have the resources to quantify or specifically reference various aspects of play and their concerns.

The authors, in order to address this concern, have created a developmental play screener. As former preschool teachers, the authors have personally experienced the lack of screening resources available and the need for developmentally appropriate, play screening measures. Therefore, this project was created in order to serve as a measurable tool for use in early childhood programs and as a developmental reference for play; the natural medium through which children develop and learn.

**Description of Project**

The purpose of this developmental play screener is to provide early childhood practitioners with an evidence-based screening tool, that specifically references typical play norms, for young children. This criterion-based developmental screener is a tool that compares a child’s play behaviors to developmental play norms, in order to identify potential risk-factors. The Playful Learning Assessment for Young Children (PLAY) screener is easy to use and cost effective for preschool educators of varying skill levels, in a preschool classroom.

**Justification**

The National Association of School Psychologists (NASP) (2015) has proposed, in a recent position statement, that school psychologists should implement regular universal screening of young children in order to identify early learning needs and document developmental growth. School psychologists have the unique skills to effectively and thoughtfully assess and advocate for students. With the use of a
developmental play screener, participants can more effectively assess and provide early intervention with at-risk youth, taking into account the multiple risk factors that can impact the child’s academic success later on. Additionally, recent federal government initiative has encouraged increased investments in high-quality early childhood education, thus increasing demand for school psychologists’ role in early assessment.

**Definition of Terms**

*Early Intervention:* For the purpose of this project, the authors define early intervention as a process of offering tools and services to at-risk children between the ages of birth to five.

*Risk-Factors:* A characteristic at a developmental level that precedes and is associated with a higher likelihood of problem outcomes.

*At-Risk:* A child who exhibits risk-factors and, therefore, indicates a higher probability of disability.

*Developmental Screening:* A range of preliminary activities used to identify children in need of further monitoring or diagnostic assessment (Brassard & Boehm, 2007). This process usually consists of the evaluation of a few key skills in areas of major development.

*Universal Screening:* The evaluation (screening) of large groups of children with brief, low-cost procedures.

**Assumptions**

The authors assume that teachers, in a preschool setting, are providing children with play opportunities. The authors also assume that teachers aspire to learn about play-
based developmental screening and early risk-factors. Additionally, the authors assume that falsely identifying children as “at-risk” is less harmful than overlooking children with early warning signs. Finally, the authors assume that preschool teachers and school staff will use the instrument with fidelity.

Limitations

This project aims to equip early childhood educators and school staff with an uncomplicated and easily accessible measure to identify early signs of potential developmental risk in preschool aged children. The information obtained from the screening measure is intended for informational purposes only and should not be used for the diagnosis or assessment of developmental disabilities. The PLAY screener is based on a review of current literature; however, the researchers did not explore the validity of the measure. Additionally, due to the natural variability of developmental rates of children and the impact of culture and experience on each child’s individual developmental trajectory, The PLAY screener may over-identify some children.

Statement of Collaboration

This project was developed collaboratively by Kaitlin M. Richter and Elizabeth R. Vargas, both graduate students in the California State University, Sacramento School Psychology Program. The research, collection, and data gathering responsibilities were divided equally between co-authors. Elizabeth had seven years preschool teaching experience with typically developing children and Kaitlin was a special education preschool teacher for four years. Their combined knowledge and experience allowed for
a comprehensive representation of preschool environments and children’s developmental patterns. All tasks performed in the development of the project were shared equally.
Since the mid-1970’s the phenomenon of play has been a topic of great research interest. Psychologists and educators have studied play as it relates to children’s cognitive, linguistic, social, and creative development (Fromberg & Bergen, 2015). At the earliest stages of development, children are engaging in pleasure seeking actions, or early play. These early stages of play begin at birth and continue through childhood, with implications for human development throughout the lifespan. In early childhood, play and learning are considered partners (Berger, 2011; Thompson, 2001). Children use play and their imaginations to understand the world around them, to connect the known with the unknown, to problem solve, and to essentially learn. Therefore, play is both a medium and a condition for learning (Bruder, 2010; Fromberg & Bergen, 2015).

Play parallels, represents, and integrates multiple domains of learning (i.e., physical, social, emotional, cognitive, and language). From a developmental standpoint, play increases in complexity throughout early childhood. Social play starts with simple interactions that over time become less prop-dependent, more imaginative, and increasingly verbal. Motor skills increasingly become more complex, allowing children more access to materials, peers, and exploratory interactions. Cognitive abilities expand as play becomes less literal and progressively more representative (Fromberg & Bergen, 2015). Play is children’s natural language and their daily work.
Play Defined

Understanding and defining play is very complex, and it necessitates recognizing the breadth of information regarding this topic. Where theorists’ and researchers’ understandings about play converge is in the agreement that play may be considered a natural, pleasurable, and productive activity of early childhood (Elkind, 2008). Well-established definitions of play suggest that it symbolically represents reality. Play also connects and relates experiences through meaning. Children are actively engaged during play and find the activity enjoyable. Play, by definition, must also be intrinsically motivated and governed by implicit or explicit rules. Lastly, play is characterized by emerging and shifting goals that transpire spontaneously (Fromberg, 2002).

The Importance of Play in Relation to Developmental Domains

Play is viewed as an all-encompassing activity that promotes the development of young children across multiple domains. When determining the impact of play on a child’s life, historically, only the social and emotional aspects were regarded, but more current research continues to show the value of play in the development of the whole child. The current literature review emphasizes the cognitive and social skills domains as they relate to play (Athanasoiu, 2011). Language and motor development, though still of great importance, are developmental areas often identified early on by childcare providers, parents, and other professionals, due to more common and familiar understandings of developmental norms and comparisons more easily observed between children.
Play and Cognitive Development

Cognitive theories of development. Friedrich Frobel, the “Father of Kindergarten,” emphasized the incredible importance of play as a cornerstone of children’s learning (Manning, 2005). Frobel promoted play as a child’s natural medium through which children develop the knowledge and skills necessary to succeed into adulthood (Manning, 2005). Erik Erikson also believed in the tremendous power that play has in children’s lives, ultimately believing that play influences the adults that children become (Bergen, 2015).

Through both play situations and scaffolding play skills, a child can learn advanced skills in a supportive and planned way. In efforts to project learning just above a child’s current developmental level, Vygotsky (1962) proposed a dialectical approach and what he refers to as the ‘Zone of Proximal Development.’ In this, he theorized that the Zone of Proximal Development encourages children to grow and learn through their play experiences and interaction with peers and their environment (Fleer & Hedegaard, 2010). Vygotsky largely perceived dramatic play as a means of developing abstract thought. In contrast, Piaget (1962) viewed play as a means of constructing knowledge through a series of interactions with the environment.

Based on his observations of play, Piaget (1951) offered the field a developmentally ordered stage theory from which to understand play. He identified children from birth to two-years as being in the Sensorimotor stage, 2-6 year-olds being within the Preoperational stage, and 6-11 year-olds as being within the Concrete Operations stage of development. Within the Sensorimotor stage of development
children are learning to integrate motor movements with sensory experiences. In this way, young children come to know the world around them through movements such as crawling, sucking, and grasping. Children entering the Preoperational stage are engaging in more pretend play opportunities by integrating events from personal experiences and visualizing objects, people, and places in play. In this stage, children are using mental representations (symbols) and using logical thoughts to engage in playful thinking. Finally, in the Concrete Operations stage of development children are able to problem solve using a variety of mental abilities, utilizing various approaches in order to think logically about events and situations. Within these stages Piaget classified play into three main types: practice play, symbolic play, and games with rules.

**Cognitive stages of play.** The cognitive development of young children, as developed through play skills, is well conceptualized within Sara Smilansky’s Stages of Play model (1990). This model recognizes the natural process of how play grows and evolves with respect to, and in harmony with, a child’s cognitive development. Smilansky’s stages of play are largely influenced by Piaget’s developmental stages and presents four main forms of play: *functional play*, *constructive play*, *dramatic play*, and *games with rules*. Although these stages of play develop along a continuum, many of these play behaviors may be developing simultaneously and can be engaged in by children and adults across the lifespan. Thus, Smilansky’s model serves as a useful tool for understanding the general developmental sequence of play, keeping in mind that a child is constantly engaged in developing precursor play behaviors (VanderVen, 2015).
**Functional play.** In following the developmental sequence of play, *functional play* is the form of play that begins as early as infancy. Piaget (1962) identified sensorimotor activities, or functional play, as the means by which infants experience pleasure. Through functional play a child begins to engage in a series of actions, often repetitive, from which they experience movement and gain sensory feedback. These early experiences gained through functional play lay the foundation for a child’s behavioral range, enabling a child to increase his or her response to interactions between themselves and their environment (VanderVen, 2004). Inevitably these repetitive actions, particularly those involving objects, enable children to begin to understand objects and movements in terms of their use (Casby, 2003). These actions ultimately aid in children’s overall cognitive development and lead to their ability to engage in purposeful play.

**Constructive play.** *Constructive play* develops in toddlerhood. In this type of play children interact with materials for a purposeful result, combining pieces or building with materials such as blocks. Through constructive play children are conceptualizing alternative ways of thinking and problem solving as well as building varied strategies and mathematical concepts (Sarma & Clements, 2009).

**Dramatic play.** Roughly, *dramatic play* abilities develop around 15 months (Sarma & Clements, 2009). This play however, does not become sophisticated until approximately 24 months. Dramatic play involves children engaging in pretend play, involving imaginary situations (Sarma & Clements, 2009). Pretend play is a complex form of play, involving the use of fantasy, symbolism, and make believe, and requires the
child to incorporate a level of pretense, and more intense feelings and emotions (Fein, 1987).

Sociodramatic play is a type of dramatic play that involves peers joined together in complex and ever adapting play (VanderVen, 2015). This type of play necessitates creative and abstract thinking. It is a more advanced form of play that is elaborate, incorporates scripts and social communication, involves sequencing, and requires a child to enact a variety of roles. While these abilities can rely on social skill development, it is the development of complex cognitive thought that allows a child to begin to access this form of play. Children with autism often display difficulties with social communication particularly in terms of their social interactions, lack of gestures, decreased eye gaze, and skills in play (Pickles et al., 2009). They may lack the critical skills necessary to engage in dramatic or sociodramatic play opportunities with peers. A child that is not able to engage in dramatic play may be at-risk of missing critically important periods of cognitive development.

*Games with rules.* Although an older child will continue to engage in constructive and dramatic play, as they age, children become more interested in engaging in *games with rules* as a form of play. While this ability roughly develops around the age of 3, this type of play becomes more prevalent and more complex in early primary school from the age of 4 to 7 years of age. While infants can engage in simple games like peek a boo, and toddlers enjoys games such as chase and tag, preschoolers and particularly early primary school not in aged-children begin to enjoy board games and organized play such
as sports. Older children decide on rules collectively before beginning play and their play may have multiple steps, such as in a board game (Sarma & Clements, 2009).

**Cognitive development through play.** Smilansky’s (1990) developmental stages of play offer an organized framework for conceptualizing play in early childhood. In keeping Smilanksy’s developmental stages of play in mind, it is critically important that we also acknowledge the complexity of a child’s development, particularly with respect to play. Play is often recognized for its dynamic and chaotic qualities (Fromberg, 2002; Smilansky, 1990). It is a process that is also recursive, and constantly evolving (Kegan, 1982). Thus, as a child is cognitively developing and adapting to new experiences and environments, play is going through dynamic changes. Play, therefore, has enormous cognitive implications. Play serves a significant function in aiding in a child’s cognitive development (Smilansky, 1990: VanderVen, 2015). For the purposes of recognizing the impact of play on cognitive development, the authors will examine the following cognitive and developmental abilities promoted through play: symbolism/representation, meaning making, making connections, referential ability, creative thinking, and informational knowledge.

Piaget (1962) believed that play served as a means of leading from activity to representation. Representation, he theorized, was reflected in the transition from functional play to more symbolic means of play. Piaget’s theory proposed that around 18 months of age, a child develops the ability to utilize symbolic schemes during play. This skill, Piaget argued, is the result of a child developing the ability to think beyond him or herself, thus allowing the child to engage in a behavior that is symbolic and differentiated
from the environment. Additionally, using symbolism in play to represent a child’s perceptions allows for the integration of new ideas (VanderVen, 2015). As children’s cognitive abilities expand, they are able to use a variety of objects and toys for specific representational purposes. Growth in the ability to use and understand symbolism/representation in play aids in the child’s ability to make meaningful connections and understand a variety of situations. According to Vygotsky (1962), objects used in symbolic play, meant to represent ideas of the child, help support to the development of complex thinking. Particularly between the ages of 24 to 30 months, children attempt to pretend that one object is another, such as pretending to feed a baby doll with a stick to represent a bottle. This ability is further developed as children expand their pretend play repertoire throughout their development.

A longitudinal study examined the relationship between sociodramatic play and representation to children’s early academic skills (Hanline, Milton, & Phelps, 2008). This study found that symbolic abilities in sociodramatic play in early childhood are positively related to both reading and math skills in early elementary school. The researchers concluded that representational play provides children with the opportunity to develop symbolic and abstract thinking, which impacts their potential for later learning. The ability to make meaning is a skill also developed through a child’s play. Through functional play a child uses repetitive actions to begin to understand the purpose of actions and objects in their environment, therefore establishing meaning (Casby, 2003a). They additionally engage in imitative schemes and actions, such as pretending to cook like their mothers, ascribing meaning to action. Typically, children
around the age of 18 months are engaging in imitative play schemes. This type of play enables children to experience different concepts and ideas, combine various aspects of their environment and interactions, and generate meaning from these experiences through play (VanderVen, 2004).

Play also serves as a means of allowing children the opportunity to make connections across a variety of situations, events, themes, and persons (VanderVen, 2004). Children begin to make connections between themselves and their environment, reinforcing their ability to ascribe meaning and engage in complex thought. This also requires that a child have the ability to reference a variety of situations, events, objects, and persons in order to interact with persons and their environment meaningfully (VanderVen, 2004).

Creative ability and thinking are developed through the integration, connection, and meaning making aspects of play (VanderVen, 2004). Studies have shown that children, when given the opportunity to play with and explore objects before being asked to problem solve, are substantially more successful in their creative problem solving abilities (Sarma & Clements, 2009). In a study by Holton et al. (2001), researchers instructed a group of 3 to 5 year-olds to retrieve an object using sticks and connectors in order to solve a problem. The children were divided into three groups: one group was allowed to play with the materials beforehand, the second group was instructed as to how to correctly connect the materials, and the third group was not allowed access to the materials prior to solving the problem. In this study, the playgroup and the taught group performed much better than the group without access to the materials.
beforehand. Interestingly, the playgroup over several trials often outperformed both groups. Thus, play serves as a means of enabling a child to creatively interact with and construct their world, developing advanced creative thinking skills necessary for problem solving, reasoning, and intellectual growth.

Play additionally creates an opportunity in which a child is able to construct, retain, and develop knowledge (VanderVen, 2004). As early as 15 months of age children are beginning to use objects in a conventional and representational manner, indicating their understanding of that object as representing a real idea, object, or situation (Casby, 2003a). For example, children may pretend to talk on a toy phone, or as they progress in their play, they may be able to demonstrate understanding of complex situations or events, enacting those with peers and negotiating their meanings.

Numerous studies indicate that play produces cognitive benefits (Lillard, et al., 2013). Playful learning allows children multiple opportunities to process information and master their experiences (Rushton, 2011). Each child’s individual brain processes information in a unique way. Researchers have indicated that play is an invaluable means of learning in that its open-ended nature allows for individual and varied learning opportunities (Rushton, 2011). Although play development is a critical component of cognitive development, at the heart of play is its intrinsically motivated and pleasurable nature. It is critical that play is enjoyable (Bergen, 2009). Play must be motivated by enjoyment in order to foster creative thinking, representational/symbolic thought, and verbal/construct knowledge (Bergen, 2009).

**Play and Social Development**
**Social theories of development.** At the most basic level, play opportunities support long maintained social learning theories of human development, such as the social learning theory, the transactional model and the ecological systems theory of development. In his social learning theory Bandura argues that behavior is learned through the environment and relational interactions. He theorizes that learning has an observational component that may be reinforced either internally or externally for social purposes (as cited in McLeod, 2011). Social influences, such as parents, peers, and caregivers, provide models for learning which children learn to imitate through play (McLeod, 2011). This indicates that much of learning is a process of observation of those significant adults in a child’s life. Additionally, a child’s capacities for play development are well conceptualized by the transactional model of learning. Through the transactional model of development, the child is involved in a series of transactions and interactions within their environment that contribute to, and shape, their developmental growth (Sameroff, 2010). Similarly, Brofennbrenner’s ecological systems theory enables us to better understand the relationships, transactions and sociocultural development of a child within all contexts and interactions of his/her life (as cited in Berger, 2011). A child cannot stand-alone from the rich social, environmental, and cultural experiences that influence daily life. These interactions are largely experienced through play. Brofenbrenner and Evans (2000) posit that human development occurs through an active process of complex reciprocal interactions between the biopsychological human, and persons and objects within the external environment. As a child interacts with his/her environment and significant persons within it, play becomes a tool for learning and
shaping development as the child selects, modifies and partially constructs his/her own understanding of the world through relationships (Bronfenbrenner & Ceci, 1994).

Early play experiences thus serve an important role in the process of social development. Stimulating experiences, such as early play, activates different connections within the architecture of the developing brain. The child, through the development of these connections, can then adapt to meet the needs of the environment. These early play experiences and relationships can therefore enhance or diminish developmental potential (Thompson, 2001). Thus, in order for formal learning to occur, a child must be able to engage with the world and with others.

Vygotsky (1978) theorized that a child’s learning is socially mediated by interactions with adults and peers with more knowledge or skills, speaking to his concept of the ‘Zone of Proximal Development.’ Thus a child is able to better increase social competence and functioning through play interactions with adults, providing support and opportunities to increase his/her repertoire of skills. Developing play skills, and social capacity to engage in social interactions, ultimately impacts overall development. A child’s development is contingent on the quality of interactive experiences with significant adults and the relationships in their lives. Therefore, if development is the result of a complexity of relationships, interactions, environments, and systems (Landy & Menna, 2006), then it could be assumed that children learn and develop through play. These interactions contribute to, and shape, children’s emotional, social, physical, cognitive and behavioral development. Meaningful relationships through play, therefore, can serve as a powerful vehicle for learning.
Social stages of play. Observing children’s play interactions with peers provides critical insight into their social and emotional development. In 1932, Mildred Parten conducted an in-depth study of play behaviors in preschool aged children. Her research led to the creation of six categories of social participation in play: unoccupied behavior, onlooker behavior, solitary play, parallel activity, associative play, and cooperative play. Parten’s work remains an integral component of current research of social play and development (Brownell, Ramani, & Zerwas, 2006; Howes & Stewart, 1987; Howes & Matheson, 1992).

Unoccupied behavior describes children who apparently are not engaged in play activities and who instead engage themselves in anything of momentary interest. They may be observed playing with their own body, standing in one place, following a specific person, or sitting idly, disengaged from activity. A child who intently watches other children play and does not engage in his/her own play, is displaying onlooker behavior. Children engaged in onlooker behavior may talk to the children they are observing (e.g., give suggestions or ask questions) but do not overtly enter the activity.

Children who pursue activities without reference to what others are doing are demonstrating solitary play. They play alone with toys that are different from those being used by the children within speaking distance. Similar to solitary play is parallel play. Though these children are engrossed in their own activities, they are using similar toys or engaging in similar behaviors. They are playing next to, not with, other children. These behaviors are often observed during sand play or constructive work (e.g., paper cutting, beads, clay, etc...) (Parten, 1933).
Parten’s (1932) final two play categories become socially motivated and are more characteristic of late toddlerhood and preschool. *Associative play* involves borrowing, exchanging materials, and discussing plans amongst the group of children. The children are overtly aware of the members of their common activity, though there is no division of labor or specific roles for each member. For example, a group of children building together with blocks, engaging in a common goal and using the same materials, are involved in associative play. Every member has the same responsibility and peers can enter and leave the playgroup without interruption of the activity. The most advanced form of social play is *cooperative play*, wherein the goal of the plan necessitates a division of labor amongst the participants. Generally, one or two children organize the group and assign roles to each member. Different from associative play, each member’s roles are critical and new members entering or exiting play effects progress.

Howes (1980) began research to expand the developmental sequences of social play. The aim was to enhance meaning and utility for assessment purposes by studying the stages as they relate to the developmental continuum (Howes & Smith, 1995; Howes & Stewart, 1987; Howes, Unger & Seidner, 1989; Howes & Matheson, 1992; Howes, 1988). The result was an empirically supported social development sequence, enhancing the work of Parten. Howes and Matheson (1992) suggested, through empirical support, *complex social pretend play* develops in the latter preschool years and involves both social pretend play and metacommunication about the play (i.e. naming the roles, explicitly assigning roles, proposing a play script, prompting the other child, and leaving a role to modify the existing play script). The previously identified “associative play”
was divided into two categories: *Simple social play* (traditional associative) and *complimentary and reciprocal play*, which involves children demonstrating action based role reversals in social games such as tag or peek-a-boo. The addition of complimentary and reciprocal play supported research suggesting role reversals and exchanges are more complex than simple interactions and develop after simple social play (Brownell, Ramani, & Zerwas, 2006).

**Social and emotional development through play.** In their preschool years, children are developing skills that increase their abilities to interact with others and their environment, as well as coming to understand themselves (Bricker, 2002). Social development is very closely related to all other developmental areas and plays a significant role in a child's overall development (Bricker, 2002). Play provides children with multiple and varied opportunities to demonstrate and practice their interpersonal skills, increase their opportunities for social growth, and learn to express themselves and interact with others (Gagnon & Nagle, 2004). Through play children develop the social, emotional, cognitive, and language skills necessary to establish relationships with peers (Eggum-Wilkens et al., 2014; Elias & Berk, 2002). Therefore, play is the primary context for fostering young children’s positive peer interactions, emotional expression and social experimentation.

Lev Vygotsky (1978) makes a case that all play is essentially social. All play involves rules, social expectations, and cultural understanding. Knowing the dynamics of a family, the use of objects, the difference between “good guys” and “bad guys,” etc, set the implicit rules for play between children (Nicolopoulou, 1993). Children discover
through play strategies that work and those that do not in their relational worlds. They also learn how to sustain relationships and solve problems. Basic social skills such as sharing, turn taking, self-restraint, working in groups, and getting along with others, are also supported through play-based reciprocal relationships (Glover, 1999).

Research suggests a child’s socio-emotional skills are supported through play as play requires the capacity to think about actions, sense others’ perspectives, regulate behaviors, and understand emotions (McArdle, 2001). Both Piaget (1962) and Vygotsky (1978) attribute pretend play with providing the opportunity to practice perspective taking and to enhance understanding of other’s emotions. These skills are critical in establishing Theory of Mind (Lindsey & Colwell, 2003). Theory of Mind skills are defined as enhanced self-awareness, the ability to formulate distinction between pretend and reality, and recognizing the intentions of others (Bailey, 2002). These role-taking abilities are necessary for communication, empathy, and altruistic behavior (Hughes, 1999). In a study conducted by Moore and Russ (2008), the effects of pretend play on the affective skills of young children were explored. Results suggested pretend play opportunities led to significantly increased emotional stability and resiliency on multiple behavior rating scales. Further research led to the conclusion that pretend play develops skills in emotional expression, spontaneity, taking risks, understanding others perspective, and emotional processes. (Russ, 2009). These emotionally based skills heighten positive emotional processes; thus, decreasing rates of anxiety and depression (Ross, 2002).
Preschool-aged children who engage in a higher frequency of social interactive play at school are more likely to be rated as socially competent by parents in the home environment (Newton & Jenvey, 2011), and they are likely to have superior emotional regulation skills, initiation, and self-determination. Children who are well adjusted socially and emotionally are likely to engage in more group play (Factor & Frankie, 1980). These children also are less likely to demonstrate aggression, withdrawn, or shy behaviors (Fantuzzo, Sekino, & Cohen, 2004). Conversely, children who are more likely to engage in solitary play have more challenges in social competence and increased rates of overall problem behaviors (Newton, 2011; Factor & Frankie, 1980). Disruptive and disconnected play behaviors are highly correlated with emotional dysregulation experiences (Fantuzzo & McWayne, 2002). When children demonstrate social deficits they often engage in negative interactions such as aggression, oppositional defiant behaviors, and social isolation (Stromshak & Webster-Stratton, 1999).

Social-emotional abilities operate along a continuum that progressively builds upon social opportunities and previous experiences. Children are shaped by early interactions and begin to formulate expectations regarding future interactions (Guralnick, 2010). When children are able to have appropriate interactions they build confidence in their abilities to reach personal goals and are able to engage in reciprocal positive interactions that allow for the formation of friendships (Buyssee, Goldman, West, & Hollingsworth, 2008). Infants and toddlers of stressed and unavailable parents who are under-sourced in play opportunities have demonstrated poor social skills due to limited play practice with adults and peers (Milteer, Ginsburg, & Mulligan, 2012). Further
studies highlight the impact of poor social competence in the early years on later
development, evidencing an increased risk for later psychopathology (Rimm-Kaufman &
Pianta, 2000), including oppositional defiant disorders (Emond, Ormel, Veenstra, &
Oldehinkel, 2007) and anxiety and depression (Goodwin, Fergusson, & Horwood, 2004).

In 1992 Howes and Matheson completed a study that proposed that children who
engaged in more advanced social play skills at younger ages were more likely to be rated
as more prosocial and less aggressive or withdrawn by teachers, observers, and social
competency rating scales. They found that the age a young child begins exhibiting social
behaviors, and the amount of time spent in social play, was highly predictive of later
social competence. Also, the younger the child was when he/she first demonstrated
complimentary and reciprocal play, the earlier the child tended to develop cooperative
pretend play behaviors.

**Social development and school performance.** Young children who have
engaged in more social play have been found to have more kindergarten readiness skills
(Eggum et al., 2014), higher motivation to learn, greater autonomy, and increased self-
regulatory skills (Fantuzzo & McWayne, 2002). Peer skills in preschool, foster the
development of skills necessary to successfully adapt to the social and compliance
demands of a formal school setting (Leung, 2014; Eggum et al., 2014). Children who
experience peer acceptance and positive relationships tend to have more positive feelings
regarding school and perform better in an academic environment. Although social
learning plays important roles in influencing health, safety, and citizenship it also plays a

School success is not solely a matter of literacy and number skills. The ability to form and maintain positive relationships with peers and adults has critical implications for academic achievement (Pianta & McCoy, 1997). As denoted by previous research, prosocial behaviors are linked to positive intellectual outcomes including predicting performance on standardized achievement tests (Malecki & Elliot, 2002; Welsh, Park, Widarman, & O’Neil, 2001). Some researchers have gone as far as to suggest that social-emotional competencies are among the most influential skills in supporting school success (Jennings & DiPrete, 2010).

The quality and success of a child’s social relationships in the early years lay the foundation for a wide range of later developmental outcomes that shape future success in school, home, life, and community (Guralnick, 2010). When young children enter school without the abilities to work cooperatively with their peers, follow rules, listen to their teachers, and work independently, they are placed at greater risk for a wide range of negative outcomes including peer rejection and school failure. Any child with severely limited peer involvement is at considerable risk for significant adverse developmental consequences (Zins et al., 2007).

**Typical social development throughout early childhood.** Since the work of Parten in 1932, an extensive body of research has been conducted to acquire insight into the progression of social skills throughout early childhood. In a study by Howes and Matheson (1992), it was discovered that most (83%) of children (ages 12 months-5 years)
in a longitudinal study developed social skills during the age intervals suggested by previous developmental literature. Howes and Matheson’s sequence follows the theory of Parten (1932) and the decades of subsequent research (Howes, 1987; Howes et al., 1991). These results continue to support the theory that social development follows a consistent developmental trajectory among typically developing children.

Before 12 months of age, young infants attend to adults by gazing, imitating, following pointing motions, and attracting their parents’ attention (Carpenter, Nagell, & Tomasello, 1998). Young infants enjoy peek-a-boo, making eye contact, and responding to their names. Since language is not established at this point, parallel play behaviors are most common and social interactions are limited (Howes & Matheson, 1992).

By 15 months, young toddlers are bringing objects to show peers and adults, using social referencing (using facial expressions of others to interpret situations), sharing objects, and using declarative pointing. Parallel play with eye-contact and social reference begins to emerge around 20-24 months (Carpenter et al; Howes & Matheson, 1992). For example, toddlers look to peers and smile as they play.

With the expansion of language skills, toddlers begin to engage in associative play (prior to 24 months). Twenty-five percent of young toddlers (13-15 months) can be observed engaging in more advanced forms of associative play (i.e. cooperative and reciprocal play) and a majority of children are engaged in this type of play behavior by 23 months (Howes and Matheson, 1992). While parallel play continues throughout early childhood, parallel play with eye contact ends and engagement becomes more direct over time.
By 30-35 months (late toddlerhood), the majority of children are able to engage in cooperative social pretend play. During this period, the older toddler is able to talk about how they are feeling during interactions with peers (Abe & Izard, 1999). It is between 42-47 months that the preschool aged child is beginning to engage in complex social pretend play (Howes & Matheson, 1992). During this phase, children are engaged in complex role playing and articulating the roles and rules of interactions. As preschool children age, typical play group size increases. Prior to 40 months, groups of two or three are most common. After 40 months, children are more likely to engage in groups of five or more (Barbu, 2003).

**Play and Motor Development**

As an infant, motor development enhances the ability to access the environment and engage in learning opportunities (Adolph & Tamis-Lemonda, 2014). At about one year, the crawling infant begins to walk; the two-year-old can smoothly run throughout the playground; and the three-year-old can use developing fine motor skills to strings beads and manipulate small objects. Compared to crawling infants, walking infants cover more space more quickly, experience richer visual input, access and play with more objects, and interact in qualitatively new ways with adults and peers. During the preschool years, children are learning to use their bodies in complex ways (e.g., jump, climb, catch), which require motor skills such as locomotion, motor planning, balance, and object manipulation (Favazza et al., 2013). Children must move to develop the strength, balance, and the stability needed to participate in the physical demands of daily life (Fuchs, 2015). Development in these motor areas depends on the acquisition of
motor skills such as balance and motor planning, as well as multiple opportunities to hone and expand these skills (Gallahue & Ozmun, 1998).

Overall motor movement allows young children to learn through exploration, engagement, and challenging experiences. A child with well-developed motor skills can move freely within his/her environment, manipulate objects of interest with ease, and gain independence through adaptive skills development (Favazza et al, 2013). Early exploration increases motor related skills, which can lead to self-confidence and self-esteem when the child is successful (Bunker, 1991). Simultaneously, it allows a child to engage in play with peers more effectively and increases social skills (Menear & Davis, 2007). These opportunities enhance other forms of development such as social, cognitive, and language skills (Diamond, 2000).

**Motor development and related functioning.** A large body of research exists suggesting motor development is often compromised when cognitive development is impaired; likely a result of decreased executive functioning and problem solving skills (Diamond, 2000; Hartman, Houwen, Sherder, & Visscher, 2010; Wang, Wang, Huang, & Su, 2008). These findings led to recent efforts to study the positive relationship between motor and cognitive abilities. Research has found correlations between well-established motor development in young children and increased levels of attention and executive functioning (Chiao et al., 2013; Pesce et al., 2013).

Additional research has suggested the predictive power of motor development on later academic success (Bart, Hajami, & Bar-Heim, 2007; Carlton & Winsler, 1999; Kurdek & Sinclair, 2000). In a longitudinal study, fine motor development was found to
be a significant predictor of higher achievement on academic adjustment and social emotional skills. Young children were assessed in multiple dimensions of motor development upon kindergarten entry. One-year later, academic adjustment and social skills were assessed using multiple rating scales and standardized achievement tests. Children with higher motor functioning in early kindergarten showed higher academic adjustment and functioning, in addition to enhanced social/emotional capabilities (Bart et al., 2007). In 2012, Cameron et al., conducted a study supporting early research and proposing that fine motor is related to executive functioning and predicts higher academic achievement in multiple areas at kindergarten entry. A meta-analysis of research in the predictive relationship between motor skills, academic abilities, and social proficiency resulted in the recommendation for the addition of motor abilities to school readiness measures (Grismer, Grimm, Aiyer, Murrah, & Steele, 2010).

**Play and Language Development**

Language developmental milestones, as well as delays in language development, are typically identified early in childhood. The important language milestones achieved specifically in a child’s second year of life have critical implications for cognitive abilities, receptive and expressive language abilities, and play abilities (Lyytinen, Poikkeus, & Laasko, 1997). In early childhood young children often utilize play as a means of gaining knowledge about the meaning, sounds, and forms of language (Davidson, 2015). Infants babble, attempting to imitate the sounds of an adult’s speech; toddlers being to play with sounds, chant and repeat new words; and preschoolers begin to manipulate language for playful exchanges and purposes. Preschool-aged children
begin rapidly developing skills in the area of language and using language for a variety of purposes, including social purposes (Bricker, 2002). The production of language, as well as communicative abilities expands: children begin to use words, phrases and sentences to ask questions, express feelings, to inform and direct as well as to engage in conversations with peers and adults (Bricker, 2002). This increase in language is often linked directly with increased interest in using language for social purposes and for interacting with peers and materials during play in increasingly complex ways.

Play offers a rich means by which children enhance their language abilities. Symbolic play specifically, and early language development are closely correlated with respect to a child’s global development (Casby, 2003b). Piaget (1962) theorized that language and symbolic play were reflective elements of a child’s symbolic abilities, as well as the ability to engage in representational thinking. Pretend and symbolic play often necessitates that children have well developed language skills that are necessary for more complex play schemes (Rutherford & Rogers, 2003).

In a study of 110, 18-month-old toddlers, researchers examined the connection between language comprehension and symbolic play (Lyytinen, et al., 1997). The study found that children who began speaking early engaged in more symbolic play and demonstrated a higher level of language comprehension than peers delayed in their early language abilities. Children who began speaking earlier were ultimately able to engage in symbolic play opportunities with more frequency (Lyytinen et al., 1997). Having the ability to engage in these higher levels of play affords children more opportunities for developmental growth.
Resources Needed in Early Childhood Programs

Limited Training for Early Childhood Educators

The number of children enrolled in full-day preschool/daycare programs increased from 39% in 1990 to 60% of the total population of preschool aged children in the United States in 2013 (U.S. Department of Education, 2015); however, resources for early education educators are minimal. Generally speaking, the educational requirements for early childhood teachers in California are nominal, specifically when compared to education requirements for educators in the public K-12 education system. Public K-12 educators are required to earn a college degree in addition to a teaching credential that is maintained via professional development participation. Preschool educators are required to complete 12 early childhood education units at a junior college or university. Only 30 percent of early childcare teachers hold a four-year-degree (U.S. Department of Education, 2015). Additionally, half of the three to four-year-olds attending school are enrolled in pre-primer education programs that are private, for-profit institutions that are not required to offer professional development or hire certified teachers (U.S. Department of Education, 2009). Only 16 states require pre-service qualifications for early childhood educators (National Childcare information and Technical Assistance Center, 2011). The median child-care worker earns $21,320 a year and preschool teachers (except special education) earn a median wage of $30,150 at a national level (Bureau of Labor Statistics, 2014). These earnings leave little income for professional development and learning opportunities for these teachers. In a recent joint publication by the California Department of Education and First 5 California (2011), it is
noted that the current system has few regulations, lacks a coordinated plan to prepare early childhood educators, and lacks a clear accountability system.

More specifically, despite the growing recognition of young children’s early development in relation to school readiness and academic success, there are few professional development opportunities offered to these teachers (Han, 2014). In regards to the above-mentioned statistics, it becomes apparent that access to easy to use and economical materials is needed to assist early child educators in their efforts to screen and serve children. We must allow early childhood professionals easy access to critical information regarding children’s play development in order to best meet their developing needs.

**Early At-Risk Identification: Value and Means**

**Value of early identification of risk.** Due in large part to the early childhood initiative outlined in Individuals with Disabilities Education Act (IDEA), there has been a significant emphasis on the need for prevention and early intervention (Gagnong et al., 2007). Early developmental difficulties often continue, which can, in turn greatly impact, the developing elementary and adolescent child. For example, externalizing problem behaviors have been found to greatly impact students’ academic success and approximately 3.4 million children have some form of emotional or behavioral problem, composing roughly 7% of the school-aged population in the United States (National Health Statistic Reports, 2012). These issues can result in students being unable to complete their academic work and can have far reaching impacts, including drop
out. School systems can also become overwhelmed by the sheer volume of students requiring additional resources (Dawson et al., 2009).

Over the years, considerable evidence has accumulated for the efficacy of intervening with children at-risk for developmental problems. The results of numerous studies have shown that concerns can be remediated or lessened if they are identified early. Specifically, it has been suggested that cognitive, emotional, and social functioning of young children can be positively influenced by adequate services and intervention (e.g., Barkley et al., 2000; Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey, 2001; Dawson et al., 2009).

Early interventions can help improve academic and personal outcomes and lessen the burden on the educational system. For example, developmental behavioral interventions started early to treat autism spectrum disorders (ASD) significantly improved adaptive behavior and communication abilities (Dawson et al., 2009). Additionally, psychoeducational interventions have been shown to benefit kindergarteners who are at high-risk of developing antisocial behaviors (improving aggression and oppositional behaviors) and disruptive behaviors (improving self-control, in attention, and aggression) (Barkley et al., 2000). The Abecedarian Project, conducted by the Frank Porter Graham Child Development Institute (2005), established that children demonstrated higher scores on cognitive tests, higher achievement on math and reading measures, and completed more years of school when offered early intervention services. Studies demonstrating the efficacy of early intervention services make a strong case for identifying potential disabilities in the preschool years.
Early intervention has been shown to have a positive influence on children who not only have established disabilities, but also may be considered “at-risk” of having or developing a disability (American Academy of Pediatrics, 2007). Providing intervention in the early years allows practitioners to better enhance a child’s social-emotional well-being as well as the child’s foundation for learning. It is important for the field to re-conceptualize a child’s development as more than a means of promoting good health and citizenship, and instead think of it as a means through which a child is able to learn (Zins et al., 2007). By acknowledging the foundational need for strong play development in young children, and the opportunity for growth provided by early intervention, we can better implement systems that identify this critical area of need.

**Universal screening in a multi-tiered system of support.** A common method for monitoring children who may require additional services is using a multi-tiered system of supports (MTSS) that systematically identifies individual children’s needs, while linking appropriate intervention services. Jimerson, Burns, and VanDerHeyden (2007) promote MTSS in stating its benefits as, (1) earlier identification of difficulties that have a higher success rate than when identified later in life, (2) utilizing a risk versus deficit approach that emphasizes the screening of all students and offering supplemental support that prevents or reduces later impacts, and (3) focusing on outcomes of students, not solely problem identification.

MTSS is not a new concept but has only recently been added to federal legislation (IDEA). Though its implementation and conceptualization varies slightly amongst professionals, the core components begin with quality core instruction and universal
screening. Students’ progress is then monitored regularly and increasingly intensive interventions are implemented based on a student’s individual need. The resulting data is used to make instructional, resource allocation, placement, and special education identification decisions (VanDerHeyden & Burns, 2010).

Perhaps the most important aspect of any intervention and a crucial aspect of the Multi-Tiered Systems of Supports (MTSS) model is the screening stage (Barnett et al., 2006); this becomes especially important in terms of early intervention where proactive screening methods are used. Universal screening is the systematic assessment of all children in a grade, classroom, school, or district. It offers invaluable insight regarding the effectiveness of current curriculums and the needs of the students at a global and individual level. These approaches are also proactive rather than reactive in nature, which is critical in identifying early intervention needs (Gresham, 2007). The ability to identify these individuals early allows for the initiation of evidence-based prevention and early intervention services in an effective multi-tiered approach (Kratochiwill, 2007). A traditional “wait to fail” model is avoided in order to identify those in need of additional supports, and instead early interventions are offered.

Results from universal screening data allow professionals to determine which students are “at-risk” for delays or disabilities and apply appropriate next steps. Universal screening may over-identify students; however, best practice refers to this error as the “least dangerous assumption.” That is, it is better to give extra support than none (Ikeda, Neessen, and Witt, 2008). Relying on referrals from teachers reduces valuable intervention time and allows for some children to be overlooked.
Various approaches have demonstrated effectiveness in screening school-aged children for the risk of early developmental delays and deficits. However, current screening methods are cumbersome in nature, costly, and require intensive specialized training for administration (Severso, Walker, Hope-Doolittle, Kratochwill, & Gresham, 2007). According to Barnett et al. (2006), further development of universal screening methods that broadly encompass potential risk factors for very young children is needed. Thus, there is a need for a user-friendly, easy access, play screener that may benefit the early childhood educational system’s ability to intervene more effectively, in turn improving MTSS effectiveness.

**Guidelines for selecting screening procedures.** Screening is a means of identifying children who may be at-risk of developmental delays and deficits, and who may be eligible for mandated services. Due to the gravity and the potential implications of using a screener, special considerations must be made in terms of selecting procedures and constructs for its’ development. Effective screeners must clearly define the purpose of evaluation (Boan, Aydlett, & Multunas, 2011). With the objectives of the screener clearly defined, it then better enables the opportunity for defining relevant and critical terms, and more carefully considering technical aspects of the screening instrument.

Pertinent and desirable technical aspects of screeners that should be considered are: whether the screener is cost effective, whether it focuses on specific aspects of development, and whether the screener can be used effectively for program evaluation (Boan, Aydlett, & Multunas, 2011). Additionally, within the field of early childhood education, there is much debate between the utility of using screeners that are norm-
Criterion-referenced screeners may allow for more alignment with classroom-relevant content and curriculum goals than norm-referenced screeners. Therefore, taking into consideration these aspects of effective screening measures, a thoughtfully considered criterion-referenced, developmental play screener has the ability to not only identify children at-risk of developmental delays, but also can be used as a measure of effective classroom programming. This would enable early childhood practitioners to better evaluate children’s play abilities in their care, and make necessary curriculum adjustments to address potential program-wide needs.

**Developmental screening.** One specific way to implement screening procedures is through an early childhood, play based, developmental screener. Developmental screening measures are designed to provide quick information of a child’s developmental profile. This would enable early childhood professionals to identify at-risk children more easily by identifying delays in their play abilities. These methods are not intended to diagnosis or plan intervention, but act as a gateway for referral for diagnostic evaluation or intervention. In order to determine children’s potential needs, developmental screeners typically compare children to developmental norms for their specific age group. Results serve as an initial starting point in a comprehensive psychoeducational evaluation (Boan, Aydlett, & Multunas, 2011).

**Opportunity to Enact Change**

Due to research on the effects of early intervention services, it is mandated that educational systems promote the early identification of children with special needs
through Child Find. Child Find is outlined in Individuals with Disabilities Education Act (IDEA) as a mandate calling for the early detection of, and screening for, young children with special needs (Edwards, Gallaghers, & Green, 2013). IDEA mandates that Child Find activities are implemented, in the broad sense, in order to promote identification through public awareness, referral, eligibility determinations, and enrollment in services (Derrington & Shapiro, 2004).

Play serves as a means both of early identification and early intervention in early childhood. In that play abilities are strongly connected to a child’s global development, it is critically important that practitioners are able to identify early at-risk students through observation of their play abilities (Casby, 2003a). In early childhood specifically, play behaviors, activities, and interactions may be the only opportunities by which professionals are able to evaluate those children suspected of having a developmental disability or delay. Providing play intervention opportunities in early childhood has the potential to influence cognitive, social, language, and motor abilities. It also has the ability to impact later academic success for children with developmental delays (Casby, 2003a).

**Play as a Means of Global Developmental Screening**

**Observation of Play as a Tool in Screening**

Play is a means of expression for a child. It is a vehicle for learning and development that follows a distinct sequence (Fantuzza & Hampton, 2000). Therefore, the role of play in the development of infants, toddlers, and young children is of significance to professionals interested in early intervention. Play is a developmental
domain that is critical to early intervention (Casby, 2003a). As noted throughout this review, much can be revealed about the developmental status of a young child by evaluating his/her play proficiencies. In the field of early childhood, play is the primary means by which all behaviors and competencies are observed. Play skills are strongly related to cognitive development in addition to language, motor, and social abilities. Through the observation of children at play, developmental norms can be clearly observed. A child’s play is easily observed, can easily be identified, and is relatively simple to describe. Observation can be done so in such a way that the observer can more clearly identify where a child’s developmental abilities fall based on established developmental stages (Lifter et al., 2011). Play offers a means by which an observer can, with increased accuracy, observe the sequence of development in a child’s abilities (Lifter et al., 2011) and guide intervention or prevention efforts (Casby, 2003b). Especially since early childhood curriculum and content standards identify play skills, the observation of play becomes a wonderful means of identifying children’s development and allows for earlier at-risk identification, and thus, more meaningful interventions (Gagnon & Nagle, 2004).

In 2003, Hampton and Fantuzzo studied a commonly used play based rating scale, The Penn Interactive Peer Play Scale (PIPPS). This complex rating system is only available for use in Head Start programs, but offers valuable information regarding play skills as a predictor of cognitive delays. The PIPPS has been found to be a reliable measure to use with young children from low SES families. In 2002, Castro, Mendez, and Fantuzzo conducted follow-up research expanding the validity of the measure to
Hispanic and African American children. Though their work is limited to Head Start environments, it signifies the predictive value of play-based assessment. Calhoon (1997) compared cognitive scores of four children with known speech delays, using both a traditional cognitive assessment (Differential Ability Scales- Early Years) and a play-based rating scale (PIPPS). Results suggested similar cognitive ability scores for both forms of assessment; however, the play-based assessment was more accurate in depicting a concrete representation of the child’s current cognitive skills level and emerging cognitive abilities.

A study by Eisert and Lamorey (1996), showed similar findings when results from the Play Assessment Scale (PAS) were compared to the Mullen Scale of Early Learning (Fewell, 1986; Mullen, 1995). Play significantly correlated with all domain scales on the Mullen. In fact, language and visual spatial skills on the Mullen were better at predicting play skills than the child’s chronological age. The Child-Initiated Pretend Play Assessment (ChIPPA) assesses preschool-aged children’s development of pretend play behaviors (Stagnitti, 2007). This scale was found to have excellent inter-rater reliability and effectively discriminated between typically developing children and children experiencing pre-academic struggles. The elaborateness of a child’s play behavior was a significant predictor of pre-academic problems (Stagnitti, Unsworth, & Rodger, 2000). These studies support the use of play as a valid, if not superior, means of developmental assessment.

Development of an Early Childhood Play Screener
In recognizing the importance of a child’s play development and the effectiveness of play based assessment, practitioners in the field are seeking out tools for screening and assessment that specifically address the challenge of children’s needs in school (Gagnong, Nagle, & Nickerson, 2007). The use of a universal play screener is not only a user-friendly means of identifying children at-risk, but also it capitalizes on children’s natural means of interacting with the world around them, through play. Through the observation of children at play, developmental norms can be compared to the child’s skill acquisition to determine whether the child is functioning within typical limits for his or her age. Obviously, no one brief instrument can tap into the complex interaction of factors that contribute to a child’s potential risk. Yet, a simple play-based screening instrument allows parents and teachers the information needed to decide if further, more in-depth evaluations are needed or if the child should be monitored in the classroom setting. This level of screener assists with federal “Child Find” mandates and also gives simple tools to educators who may not have the training or skills necessary to recognize developmental delays.

Early childhood assessors consistently point to the need to observe children in play as part of the assessment process. Play is often used as a component for assessment of children suspected of disabilities (e.g. Transdisciplinary Play-Based Assessment, Play Assessment Scale) but is rarely used for preventative screening purposes (Fewell, 1986; Linder, 2008). In recent years, a number of observational rating scales have been developed to focus on different aspects of play including: Ostrov Early Childhood Play Project Observation System (Ostrov, 2005), Howes Peer Play Observation Scale (Howes,
1980), and The Penn Interactive Peer Play Scale (Fantuzzo & Hampton, 1995). These scales are commonly used and found to be valid and reliable assessment tools.

Unfortunately, the PIPPS is only available for use in Head Start Preschool programs and other instruments are expensive for use in private settings. These instruments are also most commonly used for diagnostic purposes for children already suspected to have a disability, as opposed to screening tools.

**Conclusion**

Children are internally motivated to play and, when given the opportunity, will typically choose to engage in play (Pramling-Samuelsson & Pramling, 2015). Thus, play offers the most appropriate means by which to observe a child in his/her natural environment, as well as the most appropriate means by which to identify critical developmental milestones. There is clear evidence that play is an integral and highly integrated component of children’s developmental progress (Bergen, 2002). Children are continuously engaged in playful learning, where play and learning are never separate from one another, but integrated, and building from one another (Pamling Samuelsson & Pramling, 2015). Information regarding play and its important role in the development of young children is of significant value to early childhood professionals (Casby, 2003a). This information enables practitioners to not only identify children at-risk of not meeting developmental milestones, but can also inform early intervention in a targeted way.

The review of literature presented demonstrates that children’s play both impacts and reflects global development. Information presented with respect to the development
of play, the impact of play across cognitive, social, motor, and language abilities, and the importance of screening for early play abilities is of critical value to early childhood professionals. Availability of such information offers a resource potentially integral to assisting in early identification and early intervention services.
Chapter 3

METHODS

This chapter describes the research processes in creating The Playful Learning Assessment for Young Children, designed for early screening for typical play behaviors in preschool aged children. Interest in the topic began through discussion with Darren Husted, M.S., a school psychologist in the Sacramento community and a lecturer at California State University, Sacramento. Darren worked as an early childhood psychologist. He also taught both EDS 248 (Child Development and Learning) and EDS 247 (Preschool Assessment), in the school psychology department, both of which highlighted early childhood developmental trajectory and assessment. Darren and the current authors noticed a deficit in early childhood screening measures that were developmentally designed, easy to use, and economical.

Research

The authors began by discussing their early childhood development education and previous experiences with young children. Differences in behaviors between the typically developing children that Elizabeth taught and the special education students in Kaitlin’s classrooms were discussed. Emphasis was placed on how the two groups were observably dissimilar. Once play based observation was established as a viable measure, the authors searched Academic Search Premier, ERIC, and PsychINFO using the search terms play, development, play benefits, correlations of play and development, and early childhood development. These terms were then combined with other terms such as academic achievement, cognitive development, social skills, motor development, speech,
learning disabilities, and early intervention. The authors also searched for textbooks on the development of play. The book *Play from birth to twelve: contexts, perspectives, and meanings* (Fromberg & Bergen, 2015) was selected as a reputable compellation resource, as both editors are established early childhood professionals and educators. The book was also published recently, providing up to date information and research. The authors reviewed the book in order to gain a broad understanding of the development of play. The book’s reference library was explored to locate empirical studies related to play development.

Qualitative and quantitative research studies were considered. The chosen articles were then categorized by theme according to the preliminary outline. Specifically, the presented resources identified and described in the previous chapter, literature review, were placed into the following categories: Play defined, motor development through play, language development through play, cognitive development through play, social development through play, effects of abnormal play behaviors, early intervention, and universal screening procedures and measures. Each author then focused on specific categories to further research and write sections of the literature review. Kaitlin Richter wrote the Cognitive Development Through Play and Language Development Through Play sections of the literature review. Elizabeth Vargas wrote the Social Developmental Through Play and Motor Development Through Play sections of the literature review. Additional sections were created in joint effort.
**Screener Development**

The books *Preschool Assessment* (Braddard & Boehm, 2007) and *Psychoeducational Assessment of Preschool Children* (Bracken and Nagle, 2007) were used to gather information on established preschool screening measures, procedures, and uses. Both books offered a full chapter regarding play based screening and assessment. This research led the examiners to empirical research articles used in the creation of popular play based assessment measures. Preschool screening measures including the AGS Early Screening Profiles (Harrison et al., 1990), the Battelle Developmental Inventory Screening Test (Newborg, 2004), Child Development Inventory (Ireton, 1992), and the Denver Developmental Screening Test (Frankenberg et al., 1990) were explored for strengths and shortcomings. The screeners were examined for length of questions, number of items, and structure. These evaluations were used in creating The PLAY. Significant effort was placed in locating a play-based non-standardized screeners. No such measures were discovered.

The Desired Results Developmental Profile (California Department of Education, 2015) is an assessment measure used in a majority of government funded preschool programs. Most observations are play-based and it follows a developmental continuum. This measure was inspirational in creating the layout of The PLAY, as it is already established as a teacher friendly classroom measure. The limitations were its length and complexity. The California Department of Education Preschool Learning Foundations (2013) were also used in identifying valid and reliable developmental norms from birth.
until late preschool. The authors combined principals from both tools to create the layout, content, domains, and age groups on The PLAY.

Upon completion of a rough draft of the measure, the authors sent The PLAY and a brief description to 30 professionals in the field of early childhood education. Professionals included professors at California State University, Sacramento, California State University, Chico, two government funded preschools, two private preschools, and six school psychologists working with preschool aged children. Professionals were asked to provide expert opinions on the measure, in addition to constructive feedback and advice to increase the content validity of the measure. Four professionals provided feedback, which was incorporated in the final draft of the tool. The completed PLAY screening measure is provided in Appendix A.
Chapter 4

RESULTS

The Playful Learning Assessment for Young Children (PLAY) was developed after identifying the need for a developmentally designed, easy to use, and economical preschool, play-based screener. The methods described in chapter 3 aided in designing the format, various features, and items within the PLAY. Similarly, the literature review helped to inform the development of the screener, specifically in terms of identifying developmental areas associated with play. Its development was intended for use by preschool teachers in order to not only highlight the important milestones that observations of play can provide, but also to provide a tool that encourages data collection for developing meaningful interventions and making informed referrals.

Description of Project

The PLAY is a tool designed for use by preschool teachers and contains developmental domains of play associated with cognitive, social/emotional, language, and motor development. Each broad developmental domain is divided into categories of specific play related behaviors, listed below each domain. Additionally, each domain and categories within each domain, are divided into four age ranges: Infant, Toddler, Early Preschool, and Late Preschool. A handbook was developed in order to assist the user, or examiner, in understanding the screening tool and how to appropriately utilize such a tool in the classroom.

The handbook guides the examiner through the importance of play, instructions for using the screener, and implications for intervention and referral. The categories
described within each domain were developed as general guidelines for typical play behaviors. Examiners are encouraged to use the PLAY screener by analyzing the behaviors under the general age range most closely comparable to the child’s chronological age. Examples of play behaviors in a given category are provided to aid in determining a child’s estimated mastery level. For a child who is unable to demonstrate a behavior in an age related category, the examiner is encouraged to refer to lower aged behaviors until they are able to identify a level of performance the child is able to master. It is recommended that this tool be used to measure play behaviors for each child in a classroom in order to most effectively evaluate and monitor play behaviors and skills.

The PLAY was additionally designed to encourage examiners to use data collected by the tool to inform potential interventions for individual children. The data may also be used to inform class-wide interventions when multiple children in a classroom demonstrate delayed play skills. It is encouraged, as highlighted in the handbook, that the screener be implemented in classrooms throughout the year in order to monitor the growth and development of children and the effectiveness of interventions implemented. Ultimately, the results of The PLAY screener should supplement interventions and supports designed to prepare all young children for a successful educational experience.

**Conclusion**

Play is a natural and fundamental aspect of a child’s growth, not only reflecting, but dramatically influencing, his or her global development. A child naturally engages in various aspects of play throughout his or her early development; thus, play serves as a
natural means by which an examiner can critically observe a child’s developmental
milestones. Through the availability of this screener, it is hoped that teachers will be able
to use The PLAY as an integral resource in influencing classroom and individual early
interventions, as well as in making appropriate referrals. The availability of this resource
is intended to support teachers in meeting the diverse needs of preschool students, while
simultaneously emphasizing the critical importance of play in early childhood.
APPENDIX A

The Playful Learning Assessment of Young Children (PLAY) Handbook
The PLAY Screener: Playful Learning Assessment for Young Children (PLAY)

Created By
Kaitlin M. Richter and Elizabeth R. Vargas

Handbook
The **PLAY** Screener:

*Playful Learning Assessment for Young Children (PLAY)*

Kaitlin M. Richter and Elizabeth R. Vargas

**A Handbook**

*The PLAY Screener: Playful Learning Assessment of Young Children* is an early childhood developmental screener designed to identify play behaviors in preschool aged children. Children’s play behavior develops along a typical developmental trajectory. Identifying typical and atypical play behaviors can assist child development professionals in identifying and supporting potentially at-risk children and making appropriate classroom modifications.

**Importance of Play**

Children learn through play. Through play all areas of children’s development can be enhanced. Play positively supports children’s social, cognitive, language, and motor development. From a developmental standpoint, play increases in complexity throughout early childhood. Social play begins with simple interactions that over time become less prop-dependent, more imaginative, and increasingly verbal. Motor skills increasingly become more complex, allowing children more access to materials, peers, and exploratory interactions. Cognitive abilities expand as play becomes less literal and progressively more representative. Play is children’s natural language and their daily work.

**Play Defined**

Defining play is very complex; however, agreement among professionals is that it may be considered natural, pleasurable, and productive. Play should also be defined by the following criteria:

- **Symbolic:** in that it represents reality
- **Meaningful:** in that it connects and relates experiences
- **Active:** in that children are doing things
- **Pleasurable:** even when children are engaged seriously in an activity
- **Voluntary and internally motivating:** whether the motives are curiosity, mastery, or other
- **Rule Governed:** whether implicitly or explicitly expressed
• **Episodic:** characterized by emerging and shifting goals that develop spontaneously

**Benefits of play in early childhood**
As an essential part of childhood, studies have shown that play has a positive impact on children’s overall development.

- Play enhances children’s creativity and problem-solving
- Play serves as a means of allowing children the opportunity to make connections across a variety of situations, events, themes, and persons
- Play allow children to explore objects in order to gain meaning and understanding
- Play provides children with multiple and varied opportunities to demonstrate and practice their interpersonal skills, increase their opportunities for social growth, and learn to express themselves and interact with others
- Basic social skills such as sharing, turn taking, self-restraint, working in groups, and getting along with others, are also supported through play-based reciprocal relationships
- Through play children develop the social, emotional, cognitive, and language skills necessary to establish relationships with peers
- Play contributes to the development of self-regulation and social skills such as turn-taking, collaboration and following rules, empathy, and motivation
- Children, who engage in social and dramatic play, are better able to take others’ perspectives, and are viewed as more intellectually and socially competent by their teachers
- Children discover through play, strategies that work and those that do not in their relational worlds
- Outdoor play helps to promote children’s physical well-being, attention, conflict resolution, coordination, muscle development, and healthy weight
- Young children who have engaged in more social play have been found to have more kindergarten readiness skills
- Children, who play out events in a story, have improved story comprehension and develop a stronger theory of mind, the understanding that others have different feelings, thoughts, views and beliefs
- Positive links between children’s dramatic play and early reading achievement have been found

**Concerns Regarding Irregular Play**
While the act of play can often appear to the observer as effortless, when attuned to these complex interactions, early childhood practitioners can be more sensitive to play developmental norms and their implications. Thus, being able to recognize various aspects of play at typical stages of development, may help
early childhood practitioners to better identify children who may be at-risk of atypical development and initiate targeted, early intervention and services. This user-friendly, developmentally normed, play screener can equip preschool communities with an invaluable resource. Especially, as an increasing number of young children are entering early childhood programs, the need for resources to better support early childhood practitioners’ competence in understanding play is becoming necessary.

**Stages of Play**

Children’s development follows a typical trajectory from birth through adulthood. Though individual children’s growth may slightly vary, the course of development is similar amongst most typically developing children.

**Social**

Observing children’s play interactions with peers provides critical insight into their social and emotional development. In her famous study, Parten (1932) developed six categories of social participation among preschool children. Her play categories are still actively used by educators today. They include:

- Unoccupied behavior - not engaged in any activity
- Solitary independent play - child playing alone, no other children within 3 feet
- Onlooker behavior - child observing others play but not joining in
- Parallel play - child playing next to others without verbal interaction
- Associative play - verbal interaction, but few attempts to organize the play situation
- Co-operative or organized supplementary play - each child taking an active role to plan and structure the play situation while collaborating with each other.

Parten found that with increasing age, the children tended to participate in more social forms of play. Younger children tended to engage in more unoccupied behavior, onlooker behavior, and solitary play, while older preschoolers engaged in more cooperative play.

**Cognitive**

Sara Smilansky is known for her four stages of play. These play stages are considered to reflect a child’s cognitive development. Smilansky’s four stages consisted of:
• **Functional Play** (infancy): a child begins to engage in a series of actions, often repetitive, from which they experience movement and gain sensory feedback

• **Constructive Play** (toddlerhood): children interact with materials for a purposeful result, combining pieces or building with materials such as blocks. Through constructive play children are conceptualizing alternative ways of thinking and problem solving as well as building varied strategies and mathematical concepts

• **Dramatic Play**: Roughly, dramatic play abilities develop around 15 months. This play however, does not become sophisticated until approximately 24 months. Dramatic play involves children engaging in pretend play, involving imaginary situations. Pretend play is a complex form of play, involving the use of fantasy, symbolism, and make believe, and requires the child to incorporate a level of pretense, and more intense feelings and emotions

• **Sociodramatic Play**: Sociodramatic play is a type of dramatic play that involves peers joined together in complex and ever adapting play. It is a more advanced form of play that is elaborate, incorporates scripts and social communication, involves sequencing, and requires a child to enact a variety of roles. While these abilities can rely on social skill development, it is the development of complex cognitive thought that allows a child to begin to access this form of play.

• **Games with Rules**: Older children decide on rules collectively before beginning play and their play may have multiple steps, such as in a board game

This model recognizes the natural process of how play grows and evolves with respect to, and in harmony with, a child’s cognitive development. Smilansky’s stages of play are largely influenced by Piaget’s developmental stages and presents four main forms of play: *functional play*, *constructive play*, *dramatic play*, and *games with rules*. Although these stages of play develop along a continuum, many of these play behaviors may be developing simultaneously and can be engaged in by children and adults across the lifespan. Thus, Smilansky’s model serves as a useful tool for understanding the general developmental sequence of play, keeping in mind that a child is constantly engaged in developing precursor play behaviors.

**Play behaviors throughout early childhood**
It has been found that children engage in increasingly more complex stages of play as they get older.

• Infants engage in solitary-functional play
• Toddlers engage in parallel-functional play
• Early preschoolers engage in associative play, constructive play and dramatic play
• Four and five year olds engage in cooperative-constructive play, socio-dramatic play and begin to play games with rules.
• Kindergarten and school age children elaborate cooperative-constructive play, socio-dramatic play and games with rules.

There are times when individual children choose solitary play. A master lego builder, for example, may want the concentration allowed in solitary play. When day after day is spent in solitary play and play seems “stuck” adults should extend their observations to determine if:
• The child is being isolated by peers
• The child has some emerging interest and social skills
• The child chooses to play alone
• The child needs some assistance to move beyond the present form and level of play.

Functional play includes the investigation of the properties and functions of objects through sensory motor exploration. When we are introduced to a new medium like clay for the first time we all may pinch, poke and pull apart the clay in functional play. When children are “stuck” using functional play and do not move with time and experience from poking, pinching and pulling clay to rolling it and forming shapes and eventually creating objects then it may be time to intervene.

**Glossary**

*Early Intervention*: For the purpose of this project, the authors define early intervention as a process of offering tools and services to at-risk children between the ages of birth to five.
*Risk-Factors*: A characteristic at a developmental level that precedes and is associated with a higher likelihood of problem outcomes.
*At-Risk*: A child who exhibits risk-factors and, therefore, indicates a higher probability of disability.
*Developmental Screening*: A range of preliminary activities used to identify children in need of further monitoring or diagnostic assessment. This process usually consists of the evaluation of a few key skills in areas of major development.
*Universal Screening*: The evaluation (screening) of large groups of children with brief, low-cost procedures.
How to use the PLAY

The PLAY is intended to be completed by an infant, toddler, or preschool teacher who is familiar with the child’s play behaviors and can sufficiently observe the child interacting with the environment and other children. The screener is divided into the following developmental domains: Cognitive Development, Social/Emotional Development, Language Development, and Motor Development. Each domain has related play behaviors listed below. Additionally, each category of play behavior is divided into four age ranges: Infant, Toddler, Early Preschool, and Late Preschool. For the purpose of this screener, exact ages are not listed and the categories are to be used as a general guideline for typical behaviors. Behaviors listed in the infant category are typically behaviors expected to emerge around or before 12 months of age. Toddler aged children are recommended to be about 24 months of age.

Examiners start the screener by first analyzing behaviors in the category most comparable to the child’s chronological age. If the child is unable to complete a behavior in that category, the examiner may refer to lower aged behaviors until they find a level of performance the child is able to master. As a universal screening measure, it is recommended that a PLAY be completed for each child in a classroom.

Teachers or examiners may use the data collected to offer interventions to individual children or, if multiple children in a classroom demonstrate delayed skills, class-wide interventions can be offered. The screener should be used throughout the year in order to monitor the growth and development of children and the effectiveness of interventions.

This screener is not intended for diagnostic purposes. Practitioners are encouraged to use collected information, solely, as a basis for initiating interventions and placing referrals to local and county agencies.

What to do if children’s play development appears delayed?

Although observation requires time, a “wait and see” approach, when delays are identified, is not in the interest of the children. Early identification should lead to early intervention. Early intervention should lead to increased brain stimulation at
a time when the child’s brain is most receptive and malleable. Early interventions may include:

- **Increased parental engagement** - Examiners should review a child’s abilities with parents to inform them of their child’s potentially play based strengths and weaknesses. Parent’s may be encouraged to promote play development, at home, in the areas of need.

- **Added opportunities to socialize with other children and adults** - Children’s play development is most easily increased through practice. If a child or multiple children in a class are demonstrating deficits in typical play skills they should be offered more opportunities to expand their skill set and practice.

- **Engaging the child in a variety of play activities** - All children benefit from varied play opportunities, but they are increasingly necessary for children demonstrating delayed social skill development. Teachers are encouraged to offer new and varying play opportunities on a weekly and/or daily basis. Toys and materials should be varied offering new dynamic play opportunities.

- **Specialized Services (district referrals)** - The PLAY is not intended for diagnostic purposes and should never be used as a basis for any diagnosis of young children. However, children demonstrating significantly delayed play skills may benefit from a formal assessment or screening from the local school district or a county agency. Each school district should have a “Child Find” process that allows for free special education assessment for infant and preschool aged children. Examiners are encouraged to familiarize themselves with local referral agencies for concerned parents.

**Resources for play-based interventions**

http://www.highscope.org/


### At the end of Infancy
**Expect a child’s play behavior to include:**

<table>
<thead>
<tr>
<th>Social/Emotional</th>
<th>Cognitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cry when a caregiver leaves or appear shy around strangers</td>
<td>Functional play: explore objects in many different ways (e.g., shaking, banging, throwing, dropping).</td>
</tr>
<tr>
<td>Play game with caregivers (e.g., peek-a-boo, pat-a-cake)</td>
<td>Look or point to correct picture when the image is named</td>
</tr>
<tr>
<td>Seek comfort (e.g., reach up to be held when upset)</td>
<td>Imitate gestures (e.g., high-fives, clapping).</td>
</tr>
<tr>
<td>Repeat sounds and gestures for attention</td>
<td>Begin to use common objects correctly such as a cup, hairbrush, or phone</td>
</tr>
<tr>
<td>Show preference for people and toys</td>
<td>Begin to explore cause and effect</td>
</tr>
<tr>
<td>Show caregiver toys</td>
<td></td>
</tr>
</tbody>
</table>

**Language**

- Look towards a person saying their name
- Use simple gestures, such as shaking head for “no” or waving for “bye”
- Consistently use 3 or more words, even if not pronounced accurately
- Show interest in simple picture books
- Understand simple requests and questions (e.g., “Where is the ball?”, “Find your shoes”).
- Babble or combine sounds together as though talking

**Motor**

- Get up into a sitting position
- Crawl or shuffle easily
- Pull up to stand on furniture
- Walk holding onto hands or furniture
- Put objects in a container
- Take off socks

### At the end of toddlerhood
**Expect a child’s play to include:**

<table>
<thead>
<tr>
<th>Social/Emotional</th>
<th>Cognitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify self in photos</td>
<td>Find objects, even when hidden under covers</td>
</tr>
<tr>
<td>Enjoy watching or playing near other children</td>
<td>Actively sort objects into categories</td>
</tr>
<tr>
<td>Say “no”</td>
<td>Imitate actions of peers and adults even after a delay of up to several months</td>
</tr>
<tr>
<td>Like to do things without help (showing independence)</td>
<td>Complete a simple shape matching puzzle</td>
</tr>
<tr>
<td>Become increasingly enthusiastic about the company of other children</td>
<td>Engage in make believe (dramatic) play using simple actions (e.g., talking on a pretend phone, carrying a purse)</td>
</tr>
<tr>
<td>Self-conscious emotions begin to emerge such as shame, embarrassment, and pride</td>
<td>Solve simple problems suddenly (instead of through trial and error)</td>
</tr>
<tr>
<td>Ask for help using words</td>
<td></td>
</tr>
</tbody>
</table>

**Language**

- Point to object or picture when it’s named
- Join two words together (e.g., “want cookie”, “car go”, “my toy”)

**Motor**

- Carry large toys while walking
- Walk backwards or sideways while pulling a toy
- Open doors
Follow simple two-step directions  
Learn and use one or more new words a week

| Walk up or down stairs one step at a time, holding on to railing for support  
Make scribbles or dots on paper  
Scribble in a circular pattern  
Turn pages of a board with easily |

**By early preschool**  
Expect a child’s play to include:

<table>
<thead>
<tr>
<th><strong>Social/Emotional</strong></th>
<th><strong>Cognitive</strong></th>
</tr>
</thead>
</table>
| Greet familiar adults and playmates  
Be able to take turns in games most of the time  
Understands concept of “mine” and “his/hers”  
Plays with others comfortably  
Asks for help  
Shares some of the time  
Cooperates with parents’ requests at least half of the time  
Spontaneously shows affection for familiar peers  
Express a wide range of emotions  
Shows some awareness of own and other’s feelings  
Be able to wait for their needs to be met some of the time |
| Play make-believe games with actions of words such as pretending to cook a meal or fix a car  
Asks a lot of questions  
Can complete a 3-4 piece puzzle  
Make mechanical toys work |

<table>
<thead>
<tr>
<th><strong>Language</strong></th>
<th><strong>Motor</strong></th>
</tr>
</thead>
</table>
| Understand two- and three-step directions  
Understands adjectives and may use them in communication  
Understanding “w” questions  
Recognizes and identifies almost all common objects and pictures  
Speaks clearly enough to be understood most of the time by family  
Can listen to a story for 5-10 minutes  
Starts to make over-regularization errors (e.g. I runned home, I have two feets) |
| Climb well  
Run  
Stand on one foot briefly  
Throw a ball at least 3 feet  
Make vertical, horizontal, and circular writing strokes  
String big beads  
Build a tower of 6 blocks  
Dress or undress with help |

**By late preschool**  
Expect a child’s play to include:

<table>
<thead>
<tr>
<th><strong>Social/Emotional</strong></th>
<th><strong>Cognitive</strong></th>
</tr>
</thead>
</table>
| Play cooperatively with 2-3 children for 20 minutes  
Apologize for actions they did not mean to do  
Help others  
Engage in social problem-solving  
Can wait his/her turn or wait to have needs met  
Is able to express and control emotions in most situations |
| Begin to know that others have thoughts (e.g., Mommy thinks I am hiding in the bedroom”)  
Copy shapes  
Learn more complicated games with rules  
Demonstrate a more realistic sense of self by assessing their strengths and weaknesses  
Late preschoolers begin to integrate past experiences as well as predictions about cause and |
Separate easily from caregiver
Want to please friends
Play complex make-believe games (sociodramatic) with others
Show increasing independence
Want to be like friends

effect, to effect change in objects, situations, and their environment.

<table>
<thead>
<tr>
<th>Language</th>
<th>Motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell long stories about personal experiences</td>
<td>Go up and down stairs, alternating feet</td>
</tr>
<tr>
<td>Recall parts of a story</td>
<td>Kick a ball forward</td>
</tr>
<tr>
<td>Use future tense</td>
<td>Throw a ball overhead</td>
</tr>
<tr>
<td>Understand directions using “if-then” statements</td>
<td>Catch a large ball</td>
</tr>
<tr>
<td>Speak in full sentences</td>
<td>Use the toilet</td>
</tr>
<tr>
<td>Pay attention and follow group instructions</td>
<td>Draw a person with three or more body parts</td>
</tr>
<tr>
<td></td>
<td>Dress and undress but may need help with closures</td>
</tr>
<tr>
<td></td>
<td>Use scissors to cut along thick line on piece of paper</td>
</tr>
<tr>
<td></td>
<td>Manipulate and shape clay</td>
</tr>
</tbody>
</table>

Atypical Development

Although children develop at their own rate, there are certain signs in a child’s development which may indicate more serious concerns. These concerns should be discussed with a child’s doctor and/or local school district.

**By the end of infancy (about 12 months):**
- does not crawl
- cannot stand when supported
- says no single words
- is hard to console
- does not use gestures such as pointing or waving
- does not search for objects that are hidden while they watch

**By the end of toddlerhood (about 24 months):**
- Does not know the function of common household objects
- Cannot walk
- Does not speak at least 15 words
- Does not use two word sentences
- Does not follow simple instructions
- Does not appear interested in peers or adults

**By the beginning of the preschool years:**
- Cannot jump
- Has difficulty scribbling
- Ignores other children
• Does not engage in pretend play
• Lashes out without self control when angry or upset
• Does not use sentences of at least 3 words

By the end of the preschool years:
• Exhibits extremely fearful or timid behaviors
• Is easily distracted and unable to concentrate on a single activity for more than five minutes
• Shows little interest in playing with other children
• Does not express a wide range of emotions
• Seeks unusually passive
• Cannot understand two-part commands using prepositions
• Seems uncomfortable holding a crayon
• Engages primarily in functional play activities
• Has trouble eating, sleeping, or using the toilet
• Avoids or seems aloof with other children or adults
• Unable to build a tower of 6-8 blocks
• Does not use plurals or past tense properly when speaking

If the following behaviors are pervasive during any of the preschool years, follow-up is highly recommended:
• In constant motion
• does not play with other children
• does not speak
• resists discipline consistently
• preoccupation with specific areas of interest that may seem unusual for age group; additionally, the child resists transitions to other topics or activities
APPENDIX B

The Playful Learning Assessment of Young Children (PLAY) Screener
The **PLAY** Screener:

**Playful Learning Assessment for Young Children (PLAY)**

The play describes abilities that most children are expected to exhibit within certain developmental timelines. Essentially, it describes behaviors that most young children will exhibit in a natural play environment. The specific ability levels may vary from child to child. It is expected that teachers, administrators, parents, and intervention staff will use results of the **PLAY** screener to supplement interventions and supports designed to prepare all young children for a successful educational experience. Please refer to the **PLAY** handbook prior to administration. Results are NOT intended for diagnostic purposes.

**Instructions:**
Listed below are observable play behaviors. Each developmental area displays behaviors commonly associated with four different age ranges: Infant (about 12 months), Toddler (about 30 months), Early Preschool, and Late Preschool. Beginning with the child's chronological age read each behavior, and mark an "X" over the box if the child has been observed engaging in the activity. If the child is unable to complete a behavior in that category, the examiner may refer to lower aged behaviors until they find a level of performance the child is able to master. As a universal screening measure, it is recommended that a **PLAY** be completed for each child in a classroom. Please refer to the **PLAY** handbook for further information.

<table>
<thead>
<tr>
<th>Social/Emotional Play</th>
<th>Infant</th>
<th>Toddler</th>
<th>Early Preschool</th>
<th>Late Preschool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of Social Play</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ø Infants primarily engage in simple acts of solitary play, playing alone with objects or toys, despite other children being close.</td>
<td>Ø Toddlers engage in parallel play, using similar toys and showing similar behaviors as nearby peers. and may engage in more associative play as they get older, where they may borrow or exchange materials, communicate with peers, or work together to achieve a common goal within play.</td>
<td>Ø Early preschoolers begin to engage in cooperative play opportunities, where the goal of play requires children to take on a variety of roles or divide labor to achieve their means.</td>
<td>Ø Late preschoolers begin to engage in complex social pretend play which involves both social pretend play and communication with peers about the play (naming the roles, assigning roles, proposing a script, and modifying roles).</td>
<td></td>
</tr>
</tbody>
</table>
### Social Interactions with Adults

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants</td>
<td>Engage in interactions with adults to get needs met, for play, or influence interactions.</td>
</tr>
<tr>
<td>Toddlers</td>
<td>Begin to imitate the behavior of adults in play, and participate in interactive games that require exchanges.</td>
</tr>
<tr>
<td>Early Preschoolers</td>
<td>Interact with adults in order to solve problems during play and achieve play goals.</td>
</tr>
<tr>
<td>Late Preschoolers</td>
<td>May appear more independent from adults, but may seek out adults for approval or appreciation of their play.</td>
</tr>
</tbody>
</table>

**Examples:**
- Plays peek-a-boo with familiar adult.
- Gestures to adult to continue interaction or activity (such as singing, playing pat-a-cake, simple games).
- When having difficulty solving a puzzle, will ask a familiar adult for help.
- Will seek out an adult to help with conflicts with peers in play situations.

### Social Interactions with Peers

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants</td>
<td>Begin to show interest in peers and may watch another child during play.</td>
</tr>
<tr>
<td>Toddlers</td>
<td>Engage in very simple and brief play exchanges with peers and enjoy watching or being near other children at play.</td>
</tr>
<tr>
<td>Early Preschoolers</td>
<td>Are able to participate in playful and cooperative exchanges with peers and following rules.</td>
</tr>
<tr>
<td>Late Preschoolers</td>
<td>Are able to participate in games with rules with others, and are more likely to agree on rules collectively with peers.</td>
</tr>
</tbody>
</table>

**Examples:**
- May laugh when a child makes a silly face or does a silly action.
- May chase a peer in an unstructured game.
- Takes on simple roles in pretend play with peers. For instance, the child may pretend to take their dog (a peer pretending to be a dog) for a walk or ask another child to watch their baby while they go to work.
- Discusses with a peer the roles they will assume and how they will act (“I'm going to be the doctor. I will look at your heart”).

### Social/Emotional Awareness

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants</td>
<td>Begin to show an awareness of the feelings of others.</td>
</tr>
<tr>
<td>Toddlers</td>
<td>Begin to adjust their behaviors during play towards others in order to demonstrate their awareness of that person’s feelings.</td>
</tr>
<tr>
<td>Early Preschoolers</td>
<td>Demonstrate their awareness of other’s feelings by responding to peers/adults in a variety of ways.</td>
</tr>
<tr>
<td>Late Preschoolers</td>
<td>Demonstrate social/emotional awareness in pretend play by enacting a variety of situations and possible emotional responses.</td>
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</tbody>
</table>

**Examples:**
- Infants may smile back at a familiar adult’s smile at them.
- Infants may stare intently at a child who is crying and may react by showing interest.
- When a peer becomes upset, a toddler may rub their back, imitating the actions of a caregiver.
- They may try to act silly for a peer who is upset.
- A child pretends to comfort a baby doll who is sleepy by rocking her to sleep.
- They may pretend to comfort a teddy bear who is afraid of getting his shots.
Shared Enjoyment/Interests

- Infants begin to share interest and enjoyment with adults by shifting their attention between the adult and objects in meaningful ways.

  **Examples:**
  An infant looks back and forth between a caregiver and a toy they are interested in or enjoying, to share in that with the caregiver.
  May gesture to alert interest.

- Toddlers begin to enjoy the company of peers and seek out peer’s attention to engage in play and share interests.

  **Examples:**
  A child is playing with a ball and hands it to another child.
  A child takes a favorite book to a peer and says “Look!”

- Early preschoolers actively seek out the attention of caregivers in play to share in their interests and enjoyment.

  **Examples:**
  A child tells his/her caregiver, “Watch me do this!”
  A child seeks out his/her caregiver prior to initiating an activity, to ensure their attention.

- Late preschoolers may seek out peers, identified as friends, to engage in cooperative activities for the purposes of sharing enjoyment.

  **Examples:**
  A child tells their teacher, “I want to color with Isabelle when she gets here.”
  A child seeks out a frequent playmate and asks if they want to play house.

Emotional Regulation

- Infants engage in behaviors in an attempt to comfort themselves or alert caregivers to their need for help.

  **Examples:**
  May suck their thumb for comfort.
  Look to a caregiver for when unsure (when a stranger enters the room).

- Toddlers may seek out both adults and objects as a means of comforting themselves.

  **Examples:**
  Seeking out a preferred object or toy during transitions to help with feelings of discomfort from change.
  Using a toy or stuffed animal in play as a means of distracting him/herself from becoming upset.

- Early preschoolers demonstrate more awareness of their emotional needs and may engage in comfort seeking activities in anticipation of change or discomfort.

  **Examples:**
  Plays with a favorite toy prior to caregiver separating.
  Asks caregiver to read them a story prior to leaving.
  An overwhelmed child find a quiet spot in the classroom to be alone.

- Late preschoolers may act out a variety of emotional responses during pretend play, exploring different means of coping and a variety of potentially upsetting situations/events.

  **Examples:**
  During pretend play a child pretends to be a mom comforting her child (another peer).
  During dramatic play a child pretends to engage in conflict mediation (e.g. “pretend you knocked over my tower”).

Communication of Feelings

- Infants use sounds, gestures, and back and forth reciprocal behaviors to maintain

- Toddlers may use gestures, vocalization, and shared attention to communicate needs and

- Early preschoolers can talk to express their wants and feelings or the feelings of others.

- Late preschoolers communicate feelings and emotions to others. They express what they like
the attention of preferred others.

Examples: An infant enjoying peek-a-boo begins babbling and covering their face when an adult discontinues play. A scared infant yells “mama” to request comfort.

Examples: Child says “I don’t like that!” to peer. Attempts to console an upset peer. Asks to go outside.

and dislike. They may make specific requests of others based on emotional needs.

Examples: Tells peer “it makes me sad when you say you don’t want to be my friend.” Expresses feelings of appreciation and adornment to friends.

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### Atypical Social Play Development

<table>
<thead>
<tr>
<th></th>
<th>Difficult to soothe or console and may stiffen or shy away when approached.</th>
<th>Does not imitate actions or expressions of caregiver or familiar persons.</th>
<th>Shows little to no interest in interactive games with peers.</th>
<th>Unable to separate from a parent or caregiver without becoming significantly upset.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Does not point to objects, people, or pictures to show to a person.</td>
<td>Does not respond to initiations or interactions from unfamiliar persons.</td>
<td>Does not express a wide range of emotions or expressions.</td>
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### Cognitive Play

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<thead>
<tr>
<th></th>
<th>Infant</th>
<th>Toddler</th>
<th>Early Preschool</th>
<th>Late Preschool</th>
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<tbody>
<tr>
<td><strong>Symbolism/Representation</strong></td>
<td>Infants actively engage with their environment, in functional play, and become familiar with people, objects, and events.</td>
<td>Toddlers begin to pretend that one object represents another during play.</td>
<td>Early preschoolers are involved in pretend play, where children have roles, follow an understood plan, and can use their imagination to pretend objects, people, and events are present.</td>
<td>Late preschoolers engage in more complex pretend play, typically involving peers, and enacting roles and events closer to reality and familiar situations.</td>
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<td></td>
<td>Examples: Infants shake toys and make noise with toys. They may roll toys back in forth on the floor.</td>
<td>Examples: They may pretend a block is a cell phone, picking it up and saying “Hello!” They may use a stick in the sandbox and pretend it is a spoon, mixing food (sand) in a bowl (bucket) for dinner.</td>
<td>Examples: They may assign roles to one another in play (“You’re the firefighter and I’m the cat”). They may move furniture (such as chairs in a line) to create a school bus and invite peers to ride.</td>
<td>Examples: A child may pretend they are working in a grocery store, selling pretend groceries to peers, and “scanning” items for customers. Invites peers to play babysitter and help get the children to bed before parents come home.</td>
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<tr>
<td>Imitative Play</td>
<td>Creative Thinking</td>
<td>Problem Solving</td>
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<tr>
<td><em>Infants imitate expressions and actions of caregivers during play opportunities.</em></td>
<td><em>Infants, through the repetition of basic physical movements, are enabled to engage in playful sensory exploration experiences.</em></td>
<td><em>Infants engage in repetitive and simple movements in play to attempt to solve problems using the bodies or objects in their environment.</em></td>
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<td><strong>Examples:</strong> Infant follows along to hand movements in a finger play. Watches a familiar adult press a button on a toy, and imitates by pressing the same button in order to repeat the action.</td>
<td><strong>Examples:</strong> Infant shakes toy. Infant pulls on nobs and pushes buttons on a toy.</td>
<td><strong>Examples:</strong> While carrying two blocks, infant puts both blocks in one hand before reaching for a third.</td>
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<td><em>Toddlers imitate actions they have observed previously into simple play routines.</em></td>
<td><em>Toddlers engage in ritualized and experimental play, deliberately interacting with materials, toys, or objects to achieve an effect.</em></td>
<td><em>Toddlers will attempt to solve problems in play using a variety of different approaches, some that would not work, to find one that works.</em>*</td>
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<td><strong>Examples:</strong> Toddler puts phone up to ear and begins babbling or talking. Uses toy broom to sweep.</td>
<td><strong>Examples:</strong> Repeatedly fills and empties a bucket with sand. Stacks blocks and knocks them over.</td>
<td><strong>Examples:</strong> Uses tools to assist in accessing a preferred activity. Asks a caregiver or peer for help when an item is</td>
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<td><em>Early preschoolers begin to engage in imitative play schemes, combining aspects of their environment and interactions they have seen previously, into play.</em></td>
<td><em>Early preschoolers actively interact with materials, toys, and objects, during play in new ways to explore creative options for their use.</em></td>
<td><em>Early preschoolers begin to problem solve during play without attempting multiple approaches that clearly would not work.</em></td>
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<td><strong>Examples:</strong> Child puts on shoes and purse and talks into phone “I’m sorry but I have to go to work.” Pretend to get ready for work or school by making breakfast, packing lunch, grabbing a purse, and communicating “goodbye” before heading out the door.</td>
<td><strong>Examples:</strong> Child colors with crayon on paper. Then, sets the crayon down and rips the paper. Begins building complex structures with blocks</td>
<td><strong>Examples:</strong> Places the triangle piece in the puzzle, without first attempting to place it in the square or rectangular hole. Asks or gestures for help</td>
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<td><em>Late preschooler engage in more complex imitative play, integrating previously observed behaviors, interactions, and actions, into dramatic play with peers.</em></td>
<td><em>Late preschoolers use materials, toys, and objects in increasingly complex ways to integrate different uses to achieve play goals.</em></td>
<td><em>Late preschoolers integrate previously attempted problem solving processes with new ideas, based on predictions, to solve a variety of problems during play.</em></td>
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<td><strong>Examples:</strong> Child plays “teacher” and leads a group of children through a pretend lesson. Child plays house with a group of peers using words and behaviors consistent with experiences they have had in their personal home experience.</td>
<td><strong>Examples:</strong> Child spends a significant amount of time on one art project, adding multiple realistic components. Child builds a ramp for their car and experiments with the height of the ramp to adjust speed.</td>
<td><strong>Examples:</strong> After previously creating a ramp for toy cars, a child applies similar problem solving skills to create a</td>
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Problem Solving

- Infants engage in repetitive and simple movements in play to attempt to solve problems using the bodies or objects in their environment.
  - Examples: While carrying two blocks, infant puts both blocks in one hand before reaching for a third.

Creative Thinking

- Infants, through the repetition of basic physical movements, are enabled to engage in playful sensory exploration experiences.
  - Examples: Infant shakes toy. Infant pulls on nobs and pushes buttons on a toy.

Imitative Play

- Infants imitate expressions and actions of caregivers during play opportunities.
  - Examples: Infant follows along to hand movements in a finger play. Watches a familiar adult press a button on a toy, and imitates by pressing the same button in order to repeat the action.
Figures out how toys work by repeating the same actions over and over again.

out of reach.

moving train tracks out of the way so they may build a tower on the floor.

slide for dolls using similar materials.

Figures out how to move sand from one side of yard to the other, with less effort, using buckets and a small wagon.

### Spatial Relationships

- **Infants** move their bodies in a variety of ways, exploring concepts of size and shape of objects and their environment.

  *Examples:* Infants may knock over a tower of blocks and watch the blocks fall over the ground. Will use their senses to respond to sights and/or sounds, moving their bodies or heads to explore.

- **Toddlers** use objects and their bodies in play to problem solve and understand how their bodies and environment move and fit within different spaces.

  *Examples:* Toddlers will next small cups inside larger cups after a series of trial and error attempts. Will attempt to fit a shape into a shape sorter, turning the shape to problem solve when it does not fit on first attempt.

- **Early preschoolers** are able to formulate a guess as to how objects will fit and move within a given space without attempting multiple approaches that clearly would not work during play.

  *Examples:* A child will stack rings on a post from biggest to smallest, without attempting multiple approaches or errors. Solves 3-4 piece puzzles without difficulty.

- **Late preschoolers** are able to move their bodies and objects in coordinated and integrated ways to successfully engage in play scenarios that require an understanding of space.

  *Examples:* Able to navigate an obstacle course with relative ease, avoiding attempts that clearly would not work. Able to use images or examples to replicate designs with blocks (ex. Simple Lego designs).

### Cause and Effect

- **Infants** begin to learn that their actions may have an effect on objects, others, and their environment. They engage in actions that will produce an effect.

  *Examples:* Infants repeatedly shake a toy in order to hear the sounds it produces (rattle). Puts small toys or items in a container, then dumps it out, and repeats.

- **Toddlers** learn that they can create change through a series of actions and find enjoyment in cause-and-effect play.

  *Examples:* Will repeatedly build a tower and knock the tower down with hands or feet. May drop various toys in a bucket of water from various heights to observe the splash.

- **Early preschoolers** begin to demonstrate their knowledge of how they effect change by engaging in play and predicting what may happen.

  *Examples:* Will roll different toys down a ramp or slide to see what will go farthest. To build a sand castle, will pour a small amount of water to make sand more malleable, and mixing with tools.

- **Late preschoolers** begin to integrate past experiences as well as predictions about cause and effect, to effect change in objects, situations, and their environment.

  *Examples:* Incorporates cause and effect play into dramatic play. When pretending to fish, will fashion tools (such as a stick with tape) to catch paper fish. Makes a prediction that the rock will sink and the boat will float in a bucket of water.

### Informational Knowledge
**Infants** to use familiar objects (ex. cup, brush, phone) appropriately and functionally, demonstrating an understanding of an object’s purpose.

*Examples:*
- Brings cup to lips to drink.
- Brings phone to ear and babbles.

**Toddlers** use objects in conventional ways, indicating their understanding of that object as representing a real idea, object, or situation.

*Examples:*
- Pretends to feed a stuffed animal with a real spoon.
- Putting a diaper on a baby doll before putting them to bed.

**Early preschoolers** begin to play make-believe games that incorporate known, or previously observed, and familiar actions in simple pretend play.

*Examples:*
- May act out a trip to a restaurant by seating dolls at a table and taking their orders by scribbling on a notepad.
- Pretends to be the teacher and gives peers a sticker for sitting at circle and following classroom rules saying “Good job!”

**Late preschoolers** demonstrate their understanding of roles, events, and situations, by acting out these concepts during dramatic play opportunities.

*Examples:*
- Acts out with a peer an interaction between a child and a mother when the child has made a big mess.
- Pretends to be a police officer catching the “bad guy” and communicating the consequences (“You’re under arrest”).

### Atypical Cognitive Play Development

- Not mouthing or sensorily exploring objects and spaces in their environments.
- Does not look for objects that are hidden in their presence.
- Does not demonstrate an interest in cause-and-effect play.
- An unusual fascination with spinning objects or parts of toys or objects (ex. spinning the wheel repeatedly on a toy car), not essential in play or for understanding the purpose of an object.
- Does not engage in imaginative or pretend-play schemes.
- Demonstrating a preoccupation with specific areas of interest, typically unusual for age group. Not able to shift interest to different topic.

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### Language Play

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<thead>
<tr>
<th>Infant</th>
<th>Toddler</th>
<th>Early Preschool</th>
<th>Late Preschool</th>
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<tbody>
<tr>
<td><strong>Expressive Language</strong></td>
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</table>
- Infants use expressive language and gestures to communicate.
  *Examples:*
  - An infant will cry for their mother when distressed.
- Toddlers are able to use both words and gestures to communicate with others.
  *Examples:*
  - Toddlers may gesture to a familiar adult for help opening a container.
- Early preschoolers are able to communicate in a variety of ways, using sentences, and engaging in conversational exchanges for more social purposes.
  *Examples:*
  - A child pretends to be the teacher with a peer and says “It’s time for circle time.” The peer responds, “What will we do next?”
- Late preschoolers are able to use language to produce stories that are either real or imagined for the purposes of play.
  *Examples:*
  - During pretend play the child states, “I went to the moon in a rocket. It was fast! And I saw an alien.”
May gesture towards a preferred toy when out of reach. | They may ask for toys by name for play. | They may ask questions in response to topics of interest. | Then I came home for dinner. Pretends they are a teacher and narrates a story to the “class.”

**Receptive Language**

- Infants are able to demonstrate a basic understanding of familiar words, pertinent to their environment.
- Toddlers are able to follow simple one-step directions.
- Early preschoolers begin to find humor in playful language, demonstrating an increasing receptive language understanding.
- Late preschoolers demonstrate understanding of longer stories and narratives.

**Examples:**
- Infants turn towards door when mother says, “Dada’s home.” Or looks for pacifier when mother asks, “where’s your binky?”
- A toddler is able to follow directions in play, “feed the doll,” or “cook the baby dinner.”
- A child may laugh when an adult tells a silly rhyme or song (Fuzzy Wuzzy was a Bear, Fuzzy Wuzzy had no hair), or uses silly or made-up words (“Bahumbug!”).
- A child may act out stories previously heard or narratives communicated (acting out the 3 little pigs).
- A child may attempt to draw a picture of a story heard.

**Sound Awareness**

- Infants babble, experimenting with sounds and vocalizations, imitating caregivers.
- Toddlers begin to play with sounds, chant, and repeat new words.
- Early preschoolers manipulate language for playful exchanges and purposes.
- Late preschoolers use rhyming and manipulate words and sounds to engage in play with peers.

**Examples:**
- Infants play with sounds such as “ba ba ba ba” when babbling.
- When pretending to talk on a toy telephone, a toddler may produce a series of sounds (jabbering) and words to imitate a phone conversation.
- When referring to toys or people in play, may use made-up words (“my buba” for a familiar friend).
- May say silly sentences when playing.
- May use made-up words in playful exchanges (“That’s a whatsis!”).
- May tell a friend a silly knock-knock joke.
- A child may play pat-a-cake with a peer, reciting a rhyme around.

**Atypical Language Play Development**

- Does not use single words such as “mama” or “dada”
- Does not use gestures to communicate needs.
- Is not able to put together two word sentences to communicate.
- Less than half of the early preschooler’s speech is unintelligible
- Not using language for social purposes in play.
- Is not able to communicate about past experiences or events.
- Is not able to follow multi-step directions.
<table>
<thead>
<tr>
<th>Motor Play</th>
<th>Infant</th>
<th>Toddler</th>
<th>Early Preschool</th>
<th>Late Preschool</th>
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</thead>
<tbody>
<tr>
<td><strong>Gross Motor</strong></td>
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<tr>
<td>Infants can demonstrate and maintain posture when sitting, can switch easily between sitting and other positions</td>
<td>Toddlers can independently walk or run with basic control and coordination</td>
<td>Early preschoolers can move with ease and coordinate more than one large muscle at a time</td>
<td>By late preschool, children appear to have coordinated control over most large muscle movements</td>
<td></td>
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<tr>
<td>Examples: Uses the couch for support while walking feet from one stop to another. Transitions from stomach to sitting or sitting to standing with ease.</td>
<td>Examples: Walks independently across a room, avoiding obstacles, and without falling. Runs after a peer, avoiding major obstacles, occasionally falling.</td>
<td>Examples: Throws or kicks a ball, but with limited control or speed. Jump with both feet. Climbs up climbers/ladders. Catches a large ball with two arms.</td>
<td>Examples: Can run forward and sideways with ease. Walks up stairs using alternating feet. Can stand and hop on one foot.</td>
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<tr>
<td><strong>Fine Motor</strong></td>
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<td>Infants use thumb and index finger (pincer grasp) to pick up small objects.</td>
<td>Toddlers fold a piece of paper. and can use hands in opposition such as holding a toy with one hand and exploring it with the other.</td>
<td>Early preschoolers can hold a crayon between thumb and first finger and create intentional shapes on paper including circles and lines.</td>
<td>By late preschool, children are able to Manipulate and shape clay into intentional designs. and can use scissors to cut along a thick line drawn on a piece of paper.</td>
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<td>Examples: Grabs Cheerios between fingers and brings to mouth. Picks up small rocks to examine.</td>
<td>Examples: Brings toy in front of their face for closer inspection and explores its purpose.</td>
<td>Examples: May draw a series of lines with a crayon. May attempt to draw a person with a circle for a head and lines for legs and arms.</td>
<td>Examples: Cuts out identifiable shapes with increasing accuracy and control. Rolls clay into a ball or makes a snake.</td>
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<tr>
<td><strong>Perception</strong></td>
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<tr>
<td>Infants use their senses to take in information about the environment</td>
<td>Toddlers use sensory information to respond to the environment</td>
<td>Early preschoolers can quickly and easily combine sensory information and react accordingly</td>
<td>By late preschool children are able to integrate their senses in more complex ways.</td>
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<td>Examples:</td>
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<td>Puts toys in mouth.</td>
<td>Stops adding sand to a bucket that is already full.</td>
<td>Walks more slowly and carefully when carrying an item that may spill.</td>
<td>Can draw or copy basic shapes.</td>
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<tr>
<td>Hears an adult walk in the room and turns face towards adults.</td>
<td>Sways back and forth or dances to music playing.</td>
<td>Identifies a hidden object through touch.</td>
<td>Can sort toys based on like-characteristics.</td>
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<tr>
<td>Shows excitement when favorite food is offered.</td>
<td>Finds object after watching it hidden under a blanket.</td>
<td>Climbs more slowly when reaching the top of a slide.</td>
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### Atypical Motor Play Development

- Unable to sit with balance
- Unable to take 2-3 steps with support
- Excessively repetitive body movements (hand flapping, rocking, spinning or moving constantly.
- Finds certain textures and consistencies excessively aversive
- Walks on toes frequently
- Unable to build a tower of 6-8 blocks
- Can not run without falling
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