2021

Improving School Readiness in Home-Based Care Settings

Malea Peters

Shelby Wittenberg

Improving School Readiness in Home-Based Care Settings

by

Malea Peters, MOTS and Shelby Wittenberg, MOTS

Advisor: Roberta Carrlson, MOT, OTR/L

A Scholarly Project

Submitted to the Occupational Therapy Department of the

University of North Dakota

In partial fulfillment of the requirements

for the degree of

Master of Occupational Therapy

Grand Forks, North Dakota

May 2021

This scholarly project, submitted by Malea Peters, MOTS and Shelby Wittenberg, MOTS in partial fulfillment of the requirement for the Degree of Master of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

Roberta Cerbins MOT, OTR/L

Faculty Advisor

04/15/2021

Date

PERMISSION

Title: Improving School Readiness in Home-Based Care

Department: Occupational Therapy

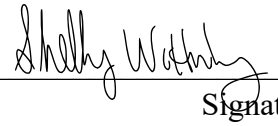
Degree: Master of Occupational Therapy

In presenting this Scholarly Project in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, we agree that the Department of Occupational Therapy shall make it freely available for inspection. We further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised our work or, in her absence, by the Chairperson of the Department. It is understood that any copying or publication or other use of this Scholarly Project or part thereof for financial gain shall not be allowed without our written permission. It is also understood that due recognition shall be given to us and the University of North Dakota in any scholarly use which may be made of any material in our Scholarly Project.

Signature

4/13/2021

Date



Signature

04/13/2021

Date

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

We wish to thank our family and friends for supporting us over the past year. The time and effort dedicated to this project would not have been possible without the encouragement and support from our loved ones. We also wish to thank Professor Carrlson for her guidance throughout the creation and execution of this project, and for providing encouragement and reassurance at times we needed it most. We also wish to thank our respective early childhood care employers, both current and previous, for allowing us to learn and grow alongside other early childhood professionals and serving as our inspiration!

ABSTRACT

Improving School Readiness in Home-Based Care Settings

APA Citation:

Malea Peters, MOTS, Shelby Wittenberg, MOTS, & Roberta Carrlson, MOT, OTR/L. *Improving School Readiness in Home-Based Care Settings.* Department of Occupational Therapy, University of North Dakota School of Medicine and Health Sciences, 1301 N Columbia Rd, Grand Forks, ND 58203-2898.

Introduction: The purpose of this project was to create a resource guide for home-based daycare providers to promote school readiness skills in preschool-age children. Several national and local policies promote children's school readiness in early childhood years (NEGP, 1995). Children in home-based daycares may be at-risk for lower school readiness skills upon school entry compared to similar-age children in other childcare arrangements (Bassok, Greenberg, Fitzpatrick, & Loeb, 2016). Occupational therapists can play a role in supporting home-based daycare providers to implement school readiness activities for preschool-age children into their daily routines.

Methodology: An extensive literature review was conducted to gain a better understanding of the impact early childhood care settings can have on a child's development, overall school readiness skills, as well as the potential role of occupational therapy in promoting these skills. Upon reviewing the literature, a perspective emerged that center-based daycare settings are viewed as providing higher quality care than home-

based daycares often due to factors such as increased structure, daycare providers with higher educational level, increased licensing regulations, etc. Information gathered from the review of literature guided the development of a resource guide for home-based daycare providers to address this disparity. The Person-Environment-Occupation model was used as a guiding framework to ensure that all essential influencing factors of a child's skills were acknowledged.

Results: A resource guide, titled *Targeting School Readiness Skills in Home-Based Daycares*, was developed to assist home-based daycare providers to target national- and state-specified school readiness standards. Common activities were analyzed, with specific examples provided to target all school readiness skills. Information regarding various disciplines that work with children in early childhood was discussed to support daycare providers' recommendations for further services if a child is displaying developmental concerns. A variety of online and community resources were also highlighted to increase awareness about local supports for home-based daycare providers.

Summary: Home-based daycare arrangements are frequently perceived as lower quality than center-based daycare due to less structure and lower requirements of education and regulations (Bassok et al., 2016; Fram, Kim, & Sinha, 2012; Geoffroy et al., 2010). It is anticipated that the product, *Targeting School Readiness Skills in Home-Based Daycares*, will increase the perceived quality of home-based daycares by improving the confidence and ability of daycare providers to intentionally target school readiness skills in everyday activities, making them stronger competitors within the field of early childhood care.

CHAPTER I

Introduction

Children's readiness to learn is highly correlated with their learning and life experiences. Physical well-being and motor development, social and emotional development, approaches toward learning, language development, and cognition all influence a child's learning experiences and their readiness to learn in school (NEGP, 1995). School readiness skills are important for preschool-age children to develop, as researchers have suggested that school readiness is a predictor of performance in academic and later life achievement (Duncan et al., 2007; High, 2008; United Nations Children's Fund, 2012; Williams & Lerner, 2019). School readiness is comprised of interactions between the child, the school, and the supporting social environments (Dockett & Perry, 2009; High, 2008; Williams & Lerner, 2019; Zuckerman & Halfon, 2003).

National and local government have implemented policies focused on promoting children's readiness to learn prior to beginning elementary school (NEGP, 1995). Out of 20.1 million children under the age of 5, 58.7% of children are involved in childcare arrangements outside of their home (Rathbun & Zhang, 2016). These childcare arrangements often play a major role in impacting school readiness skills. Children in home-based daycares are often perceived to receive lower-quality care than children in centered-based daycares and preschools (Bassok et al., 2016). Perceptions of lower-

quality of care may be due to home-based daycare providers typically having lower qualifications and training expectations than center-based daycare providers (Bassok et al., 2016; National Survey of Early Care and Education Project, 2013). Children receiving lower-quality care may be at risk of significantly lower levels of school readiness and achievement than those receiving high-quality care (Geoffrey et al., 2010).

Occupational therapists can provide services in early childhood settings to help preschool-age children gain essential skills for overall development and future school achievements (Jasmin, Gauthier, Julien, & Hui, 2018). At entry level, occupational therapists have the education to address school readiness with preschool age children. This knowledge includes the ability to address motor skills, cognition, social-emotional regulation, and performance within daily activities. These areas of knowledge are addressed in the accreditation standards for a master's degree level occupational therapy educational program including standards B.1.1., B.3.2., B 3.6., and B 4.3. (American Occupational Therapy Association, 2018). Occupational therapists also have the ability to educate individuals, such as with the use of andragogy to help educate adults about enhancing school readiness skills for preschool age children (Bastable & Dart, 2011). A review of research was conducted to examine the factors of school readiness, the perceived quality of care between center-based and home-based daycares, and the potential role of occupational therapy in helping to promote development in early childhood.

The product, *Targeting School Readiness Skills in Home-Based Daycares,* was created to help address the issue of children in home-based daycares often presenting with lower school readiness skills than their peers in other childcare arrangements. The

product is an accessible resource guide for home-based daycare providers that includes education, tools, and resources that address school readiness skills for preschool children ages 3-6 years old. It is intended to help support home-based daycare providers to intentionally target factors that may increase school readiness skills for the children in their care. Specifically, it provides daycare providers with an understanding of influencing factors that may impact the developmental level of specific school readiness skills. In addition, it gives examples of how school readiness skills based on state-specified guidelines can be targeted within various play activities that preschool age children may engage in. The Person-Environment-Occupation (PEO) model was chosen to guide the creation of this product, as it will help to address the child's performance in their environment (Law et al., 1996; Strong et al., 1999). The PEO model aligns with the interactional relational model of school readiness, which is a theory that examines the relationship between the child, their environment, and school readiness.

This resource guide will utilize Tier 1 of the multi-tiered system of support to benefit preschool-age children of all abilities by providing education and training to home-daycare providers (Positive Behavioral Intervention & Supports, n.d.). The overall goal of the product is to collaborate with home-based daycare providers to help increase the perceived quality of the home-based daycare setting by enhance the provider's confidence and abilities to prepare children for school. There is currently limited research regarding collaboration between occupational therapists and home-based daycare providers, which may influence the application of this product.

Key Terminology

The following terms are frequently used throughout this scholarly project and have been defined for reading ease.

- **School readiness**: Consists of three dimensions, (a) the child, (b), the school, and (c) supporting social environments. These three dimensions come together to determine a child's ability to meet the expectations of school-entry level skills (UNICEF, 2012).
- **Physical and motor development**: Includes components of body physiology and structure, health status, rate of growth, physical fitness levels, and physical abilities. (High, 2008; NDDPI, 2018; NEGP, 1995; UNICEF, 2012).
- **Social-emotional regulation**: Skills that allow children to effectively communicate their attitudes, beliefs, and feelings with others, and in turn accurately identify and comprehend the attitudes and feelings of others (NEGP, 1995).
- **Language development**: Skills that allow children to communicate meaningfully with those in their environments (NDDPI, 2018; NEGP, 1995; UNICEF, 2012).
- **Approaches to play and learning**: Children's distinct characteristics that impact their ability to learn, including concepts such as curiosity, enthusiasm, and creativity (NDDPI, 2018; NEGP, 1995; UNICEF, 2012).
- **Cognition**: A child's ability to use their current knowledge to gain greater understanding of their environments through everyday experiences (NDDPI, 2018; NEGP, 1995).

- **Home-based daycare**: Care provided for a small group of children within a house, apartment, or condo. There are often a limited number of providers in this setting (Childcare.gov, n.d.).
- **Center-based daycare:** Care provided for larger groups of children, typically divided into groups of similarly aged children. Often located in large, commercial buildings, and may have staff overseen by a director (Childcare.gov, n.d.).
- **Occupational therapy**: A profession that helps people of all ages participate in their desired and expected daily activities (AOTA, n.d.b). For the purpose of this project, the role of occupational therapy will be explored in regard to early childhood and school readiness.

This scholarly project consists of 5 chapters. Chapter I provides a brief introduction to the topic, justifies the need for the product, and reviews key terminology used in the following chapters. Chapter II is a literature review that provides information regarding school readiness, childcare, the role of occupational therapy in early childhood, and application of an occupation-based theoretical model. First, the literature review provides a definition of school readiness, an expanded description of the three dimensions, and information regarding the perceptions and benefits of school readiness for later life. Second, it provides a definition of various childcare arrangements and subsequent qualifications of providers, exploration of utilization of the various childcare services, and comparison of services in relationship to school readiness. Third, it provides an overview of the role of occupational therapy in early childhood, and reviews current evidence on interventions used to address skills that are important in determining school readiness. These skills include motor skills, social-emotional regulation, language,

cognition, and play and learning. Finally, the Person-Environment-Occupation model is explored as a guiding framework for viewing school readiness. Chapter III describes the methodology used in gathering data and designing the product to meet the needs identified within Chapter II. Chapter IV contains the product itself. Chapter V provides a summary of the purpose and limitations of the project, along with recommendations for future action.

CHAPTER II

Literature Review

School readiness plays an essential role in preparing children for success in school environments. Preschool-age children are often involved in various childcare arrangements that impact development of school readiness skills. Children entering school with lower level school readiness skills are at risk to fall even further behind their peers, rather than catching up. Occupational therapists can play a role in enhancing school readiness skills in early childhood settings. The literature was reviewed to examine school readiness, childcare for preschool-age children, and the role of occupational therapy in early childhood.

School Readiness

The National Education Goals Panel (NEGP) was a branch of the federal government developed in the 1990's, and worked to promote sustainment of high academic standards in the U.S. (NEGP, 1995). Progress towards national and local identified educational goals were reported over a 10-year period (NEGP, 1995). One major goal identified by the NEGP was that "by the year 2000, all children will start school ready to learn" (NEGP, 1995, p. 1). This goal paved the way for policy implementations focused on ensuring positive and safe early childhood experiences, and worked towards preparing children to enter school with the skills and abilities needed to be successful in both school and later life (NEGP, 1995). Early childhood experiences

and subsequent learning were found to be influenced by five dimensions: physical well-being and motor development, social and emotional development, approaches toward learning, language development, and cognition (NEGP, 1995). While the NEGP is no longer considered active, it's lasting impact has strengthened public support and policy in the notion of promoting educational success in the youth of the United States.

While school readiness has been a major focus in the past 30 years following the establishment of the NEGP, the broad concept is often still misunderstood due to the complexity of its description. School readiness is described in literature as a three-dimensional tier system to help improve understanding. The dimensions include the child, the school, and the supporting social environment, all of which interact together to shape the overall perception of school readiness (Dockett & Perry, 2009; High, 2008; Williams & Lerner, 2019; Zuckerman & Halfon, 2003). The use of these dimensions is also supported by the interactional relational model, a school readiness theory that acknowledges the mutually influencing relationship between the child and their surrounding environments (Dockett & Perry, 2009; High, 2008; UNICEF, 2012; Williams & Lerner, 2019). The interactional relational model aligns well with the current societal perspective that positive relationships, experiences, and childcare in early childhood lead to improved child development outcomes (High, 2008; Williams & Lerner, 2019). The dimensions of school readiness are described in further detail below.

The Child

The dimension of the child focuses on the unique personal characteristics and skills that impact one's ability to learn and develop skills, and in turn be successful in school (NDDPI, 2018; High, 2008; UNICEF, 2012; Williams & Lerner, 2019;

Zuckerman & Halfon, 2003). Characteristics identified within the child include physical and motor development, social-emotional regulation, language, cognition, and approaches to play and learning (Dockett & Perry, 2009; High, 2008; NDDPI, 2018; Williams & Lerner, 2019). These characteristics closely mirror the NEGP (1995) identified influential dimensions described above.

Physical and motor development. Physical and motor development skills are essential for children to fully explore and function within the surrounding environments (High, 2008; NDDPI, 2018). Their development encompasses characteristics of body physiology and structure, health status, rate of growth, physical fitness levels, and physical abilities (High, 2008; NDDPI, 2018; NEGP, 1995; UNICEF, 2012). Body physiology and structure assesses how the body is conducive to perform naturally (NEGP, 1995). Rate of growth assesses concepts of height, weight, and physical maturation compared to what is considered typical for one's age (NDDPI, 2018; NEGP, 1995). Physical fitness assesses flexibility, stamina, energy, and body mass index (NEGP, 1995). Finally, physical abilities assess concepts of gross motor, fine motor, sensorimotor, and oral motor skills along with one's ability to use these skills for the completion of functional tasks (NDDPI, 2018). Children experiencing difficulties in any of these characteristics often have increased levels of dependence on caregivers and require special arrangements, which can lead to difficulties creating peer relationships and decreased self-esteem (NEGP, 1995).

Social-emotional regulation. Social characteristics are skills used during interactions with others (NDDPI, 2018; NEGP, 1995). A child who is able to form and sustain social relationships will typically demonstrate increased positive behaviors and

better social adjustment, while children who struggle to develop and sustain social relationships will demonstrate greater problems behaviors such as aggression and lack of empathy (NEGP, 1995). Emotional characteristics are skills used to understand, express, and interpret emotions accurately, and include self-concept, self-esteem, and self-efficacy (NEGP, 1995). Self-concept is the idea that the way one perceives themselves is based on their abilities, habits, roles, goals, and values (NEGP, 1995). Self-esteem is the belief that one has self-worth, value, and purpose in life, and is usually viewed as being either positive or negative (NEGP, 1995). Self-efficacy is the belief that one has the necessary skills and abilities to complete the things they set out to do (NEGP, 1995). The combination of these two characteristics is termed social-emotional regulation, which allows for the child to learn how to effectively communicate one's attitude, beliefs, and feelings with others, as well as to accurately identify and comprehend the feelings of others (NEGP, 1995). Commonly identified concepts of this skill include the child's ability to take turns, have empathy, cooperate with others, manage and respond to their own and other's emotions, and develop healthy relationships with others (High, 2008; NDDPI, 2018; NEGP, 1995; UNICEF, 2012).

Language development. Language development is an essential competency, as it allows for a child to communicate with those around them (NDDPI, 2018; NEGP, 1995; UNICEF, 2012). Language encompasses gestures, speech, writing, signs, and symbols, and is often categorized as expressive or receptive (NAPA Center; 2020). Expressive language is defined as how one uses language to express themselves, and receptive language is defined as how one understands and comprehends language (NAPA Center; 2020). Important language skills include reading, writing, speaking, listening,

remembering, comprehending, print awareness, story sense, and the acquisition of grammar and vocabulary (NDDPI, 2018; NEGP, 1995). These skills are utilized in both expressive and receptive language. Children who are unable to use language effectively are unable to purposefully and meaningfully interact with those around them, which can lead to isolation and decreased quality of life (NEGP, 1995).

Cognition. Cognition is focused on how children use their current knowledge to learn about novel or more complex concepts (NDDPI, 2018; NEGP, 1995). Noted cognitive concepts include skills such as reasoning, memory, problem-solving, scientific reasoning, mathematics development, and critical thinking (High, 2008; NDDPI, 2018; UNICEF, 2012; Williams & Lerner, 2019). Often the most notable school readiness characteristic, it addresses general knowledge children hold when entering school (NEGP, 1995). While all children have the ability to learn and gain knowledge, it is apparent that the ways in which each child learns can differ greatly based on their unique strengths and abilities (NDDPI, 2018; NEGP, 1995).

Approaches to play and learning. Approaches to play and learning can be influenced by a wide variety of personal factors, such as temperament, culture, and values (NDDPI, 2018; NEGP, 1995). These factors help determine one's curiosity, enthusiasm, creativity, and overall attitude about their ability to learn (NDDPI, 2018; NEGP, 1995; UNICEF, 2012). Interactions of these various components create a disposition for success with certain learning styles unique to each individual (NDDPI, 2018; NEGP, 1995). A person may benefit from the use of one or several learning styles to obtain and store information received, including visual, auditory, kinesthetic, reading/writing, and multimodal styles (NDDPI, 2018). When the teaching style used in educational settings

aligns with the child's learning style, the child is more likely to experience success in that setting (NDDPI, 2018; NEGP, 1995).

The School

The dimension of the school is focused on the ability of the environment to support a smooth transition into educational settings (High, 2008; UNICEF, 2012; Williams & Lerner, 2019). A smooth transition can be facilitated through continuity between one's early childhood program and school structure (High, 2008; Puccioni, Froiland, & Moeyaert, 2020; Williams & Lerner, 2019). Continuity can be achieved by ensuring that the distinctive settings have similar expectations when possible (High, 2008; Puccioni et al., 2020; Williams & Lerner, 2019). This includes the understanding of the importance of early childhood development, and the ability of children to learn through structured activities, as well as through play and natural experiences (High, 2008; Williams & Lerner, 2019). Continuity must be balanced with the need to provide support for the individual differences among children, which can be addressed by tailoring educational and play experiences to meet the child's unique needs (Dockett & Perry, 2009; High, 2008; Williams & Lerner, 2019). Another assertion within this dimension is high-quality instruction is best attained when provided by someone viewed as familiar and safe, as well as at a rate that provides a just right challenge for the child's unique skills and abilities (High, 2008; Pianta et al., 2020; Puccioni et al., 2020). School readiness is often used by early childhood communities as an important measure of success for their programs, as it demonstrates the ability of the facility to ensure children using their services are well prepared for school (Zuckerman & Halfon, 2003). Using federal and state determined standards of school readiness to guide developmental

curriculum and instructional activities provided in early childhood care settings can help guide in assessing a facility's ability to meet this measure of success (Zuckerman & Halfon, 2003).

Supportive Social Environments

The dimension of supportive social environments is focused on the impact surrounding social environments can have on a child's skill acquisition regarding school readiness (High, 2008; Williams & Learner, 2019). Supportive caregivers and a stimulating home environment are both strong predictors of school success (High, 2008; Williams & Learner, 2019). This is accomplished by achievement of Maslow's hierarchy, a five-tier motivational theory based on human needs (Maslow, 1954). The five tiers include physiological needs, safety needs, social needs, self-esteem needs, and self-actualization. Physiological needs include items such as food, water, warmth, and rest. Safety needs include feelings of security and safety. Social needs include feelings of belonging, participation in relationships. Self-esteem needs include prestige and feelings of accomplishment and positive self-worth. Finally, self-actualization includes achieving one's full potential. He asserted these levels must be met before one can continue developing towards their dreams and ideals found within self-actualization (Maslow, 1954). If viewing school readiness as falling within the self-actualization tier, it is apparent that many other needs must be met before the child can fully reach this ideal (Maslow, 1954; Reid & Strobino, 2019). Another main assertion within this dimension is all children should have access to high-quality preschool experiences (High, 2008; Williams & Learner, 2019). As previously stated, a stimulating home environment is a strong predictor of school success, indicating other early childhood environments may

also provide high benefits for school preparedness and success. Therefore, it is crucial that children have opportunities to experience early childhood environments that are stimulating and promote attainment of a variety of skills and abilities (High, 2008; NDDIP, 2018; NEGP, 1997; UNICEF, 2012; Williams & Learner, 2019).

Perceptions of School Readiness

While federal and state standards have begun to include a broader focus on what it means to demonstrate "school readiness", there appears to still be emphasis placed on academic skills (Husted, Buell, Hallam, & Pinder, 2018). This may be attributed to the notion that there is a specific body of knowledge required prior to school entry in order to discern positive performance (Duncan et al., 2007; Husted et al., 2018; Miller & Kehl, 2019). However, there is increasing awareness that nonacademic skills, such as optimism, general health, and social-emotional skills also have great importance in determining one's success in school (Husted et al., 2018; Miller & Kehl, 2019; UNICEF, 2012). Husted et al. (2018) measured changes in teacher's perceptions from 2000-2013 to determine how associated importance of school readiness skills varied. At all three assessment periods, readiness skills of behavior management, developmental maturity, and academic skills were ranked as the most important; however, prioritization changed between each assessment period. In 2000, developmental maturity, behavior management, and academic skills received importance rankings of 48%, 86%, and 31% respectively. In 2011, developmental maturity, behavior management, and academic skills received importance rankings of 67%, 66%, and 53% respectively. Finally, in 2013, developmental maturity, behavior management, and academic skills received importance rankings of 64% 48%, and 47% respectively. Both the 2011 and 2013 assessment periods

demonstrate more equivalent rankings between the three concepts, indicating a need to address more than solely academic skills in order for children to be successful upon school entry. In a more recent study, Miller and Kehl (2019) compared how teachers and parents ranked importance of school readiness characteristics. They concluded both groups rank being healthy, happy, and socially skilled as more important than basic cognitive skills such as counting, listening to directions, and shape or letter identification (Miller & Kehl, 2019). The teacher group further ranked being well-rested and well-nourished at a higher level of importance than parents, indicating slight variations in perceptions between these two groups (Miller & Kehl, 2019). This research highlights the ambiguity of school readiness, and provides evidence that further descriptions are needed to ensure similar understanding.

Benefits of School Readiness

Researchers suggest that one's school readiness skills upon school entry can predict academic and later life achievement, and is supported by the notion that development of strong skills in early childhood provide the foundation for positive adaptations required within the classroom and other educational settings (Duncan et al., 2007; High, 2008; UNICEF, 2012; Williams & Lerner, 2019). Noted academic benefits include improved learning, high rates of school completion, and the transfer of success to non-academic activities (UNICEF, 2012). In fact, the American Academy of Pediatrics (AAP; 2014) reported a child's literacy level at the third grade is the most important predictor of obtaining a high school diploma and future successful employment. Investment in early childhood has also been noted to promote school readiness, and is linked to less resources wasted in grade school, decreased need for specialized

intervention, and an overall positive return on education program investments (UNICEF, 2012). Sustained success in school is believed to eventually create a well prepared future workforce who will become contributing members of society (UNICEF, 2012; Zuckerman & Halfon, 2003). Finally, addressing the various aspects of child development with the hopes of earlier achievement is also believed to lead to better health outcomes as adults, leading to lowered overall healthcare costs (Zuckerman & Halfon, 2003). Strengthening skills and abilities prior to school entry may allow children to acquire more advanced skills at an early age, increasing the rate and level of achievement seen in the school environment and potentially beyond (Duncan et al., 2007; UNICEF, 2012; Williams & Lerner, 2019).

Childcare

Definition and Utilization

Many parents utilize childcare arrangements for their children, often starting from a young age. Laughlin (2013) found an increase in need and demand for childcare services due to a rise in employment rates of mothers. According to a survey conducted by Rathbun and Zhang (2016), out of 20.1 million children under the age of 5, 58.7% of children are regularly involved in non-parental childcare arrangements, which includes childcare centers, preschools, home-based daycares, and care from a relative. Specifically, 33% of the children attended a care facility (including childcare center, preschool, or prekindergarten program), 24.6% were in the care of a relative and 13.4% were in other nonrelative care, including home-based daycares (Rathbun & Zhang, 2016). Capizzano and Adams (2000) found that children with employed mothers spend on

average 35 hours in some type of childcare arrangement. Specifically, children of preschool-age spend on average 33 hours per week in childcare (Laughlin, 2013).

There are a variety of childcare arrangements utilized on a daily basis, including center-based daycares and home-based daycares. According to Childcare.gov (n.d.), home-based daycares are defined as a childcare arrangement where a provider cares for a small group of children of various ages in a residential building. They define child care centers as a childcare arrangement that takes place in a commercial building, where multiple staff members care for larger numbers of children, and are often split into classrooms by similar ages (Childcare.gov, n.d.).

Comparison of Services in Relationship to School Readiness

The utilization of certain childcare arrangements can have an impact on children's school readiness skills (Son & Chang, 2018). According to Geoffrey et al. (2010), children in formal childcare, such as large daycares centers or preschools, had significantly higher levels of school readiness and achievement than those in informal childcare, such as home-based daycares or relative care. This may be due to center-based daycares often offering higher quality care compared to home-based daycares (Bassok et al., 2016). Li, Farkas, Duncan, Burchinal, and Vandell (2012) found children who received higher quality care in preschool had higher language, reading, and math scores. Specifically, children in center-based daycares were associated with significantly higher reading and math scores than children in informal settings, such as home-based daycares (Bassok et al., 2016; Fram, Kim, & Sinha, 2012; Keys et al., 2013). This may be due to providers in these formal settings being more likely to intentionally complete school readiness activities on a daily basis, such as reading and math activities, compared to

informal settings (Bassok et al., 2016). However, high-quality childcare, including center-based daycares and preschools, may not be affordable or available to many families, especially for low-income working parents (Donoghue, 2017; Laughlin, 2013; Sandstrom, Giesen, & Chaudry, 2012). In addition, many families often select home-based daycare due to the lack of availability, high costs, and timing of center-based daycares (Bassok et al., 2016; Laughlin, 2013).

Although children in home-based daycares may have lower quality of care and lower levels of school readiness, research has shown children who attended in home-based daycare have more advanced social skills in early childhood, as well as enhanced ability to form positive relationships with peers in early elementary compared to children in center-based daycares (Morrissey, 2010; Son & Chang 2018). However, there is significantly less research on the impact of attending home-based daycares on school readiness skills.

Qualifications of Childcare Providers

Qualifications for childcare providers in center-based daycares and home-based daycares often varies. Several studies have found that childcare providers working in center-based daycares often have higher qualifications than providers in home-based daycares (Bassok et al., 2016; National Survey of Early Care and Education Team, 2013). According to the NSECE Team (2013), 53% of center-based daycare teachers had some level of college degree, whereas 34% of listed home-based daycare providers had no more than a high school education. Providers in formal settings are more likely to be involved in ongoing training and continuing education compared to providers in informal settings (Bassok et al., 2016). In addition, Lin and Magnuson (2018) found that providers

without any early childhood training had lower classroom quality and teacher-child interactions compared with providers with college education.

Qualifications and training required for childcare providers varies greatly by state. Center-based daycare providers are often required to complete more annual childcare training than home-based daycare providers. For North Dakota, center-based daycare providers are required to complete a minimum of 13 hours of annual training related to child care, whereas home-based daycare providers are only required to complete 9 hours of training (North Dakota Department of Health, n.d.). In addition, center-based daycare providers often have higher expectations and qualifications to become licensed compared to home-based daycare providers in North Dakota (NDDOH, n.d.).

Occupational Therapy

Role In Early Childhood

Occupational therapists can play a major role in early childhood settings. According to AOTA (2015), they may address children's skills, environments, and occupational performance in preschool settings to help improve participation in self-care, play, and educational activities. Occupational therapy services in preschool settings often focus on helping children acquire prerequisite skills for overall development and future school achievement (Jasmin et al., 2018). Services can also help to support the child's development and ability to engage in learning experiences (Foss, 2010). Researchers have found all children can benefit from occupational therapy services in early childhood settings, regardless of whether they were with, without, or at risk of difficulties (Bazyk, et al., 2009; Jasmin et al., 2018). Specifically, occupational therapists often help preschool age children to enhance fine motor and graphomotor skills, as well as participation in

educational and daily living activities (Jasmin et al., 2018). There are a variety of approaches and interventions that occupational therapists might use to address development of skills in early childhood.

Role With School Readiness Skills

Physical and motor development. Occupational therapists are qualified to address fine motor and visual motor skills in early childhood (Case-Smith, 2000; Dankert, Davies, & Gavin, 2003). In the systematic review by Jasmin et al. (2018), occupational therapists can help to increase developmental and functional skills for preschool-age children in the areas of fine motor skills, gross motor skills, sensorimotor skills, and oral motor skills. Interventions that address fine motor skills often focus on grasping skills, manual dexterity, pencil grip, in-hand manipulation, and visual motor integration (Jasmin et al., 2018). Along with this, Case-Smith (2000) mentioned that integrating fine motor skills into play activities can motivate and engage children to achieve goals related to fine motor and functional performance. In addition, one significant intervention addressed for fine motor skills and sensorimotor skills is handwriting. According to Kadar, Yunus, Tan, Chai, and Razaob (2020), occupational therapy interventions addressing handwriting have enhanced the development of skills for preschool age children, including fine motor, visual motor, legibility, spatial orientation, line orientation, directionality, and proportion. It was also found that interventions were beneficial among children by providing multiple improvements in their handwriting skills (Kadar et al., 2020). Occupational therapy interventions for gross motor skills often focus on balance, ball skills, and reflex integration, motor imitation, bilateral coordination and sequencing, and spatial awareness (Jasmin et al., 2018; Murata & Tan,

2009). Development of gross motor skills may help to enhance motor skill acquisition, which will help to address school readiness and age-appropriate functional skills for preschool age children. Occupational therapists also help to promote sensorimotor skills. These skills are important to address, as a child's sensory system often greatly impacts their motor movements (Buskirk & Slone, n.d.). Occupational therapists can help to address the underlying sensory concerns a child may demonstrate to help improve overall motor performance. Occupational therapists can also play a role in oral motor skills by addressing feeding, eating, and swallowing (AOTA, 2017). For instance, occupational therapists can provide interventions that may include bringing food to the mouth, manipulating food in the mouth, and swallowing food/liquids appropriately (AOTA, 2017).

Social-emotional regulation. Social-emotional regulation can also be addressed by occupational therapists in early childhood. Occupational therapists can help to examine social-emotional skills that are impacting social participation within early childhood settings (Anderson & Grinder, 2017). They are able to help promote a child's ability to recognize various feelings and emotions, practice effective self-regulation, and develop healthy coping strategies while participating in various childhood occupations (Anderson & Grinder, 2017). By addressing social-emotional regulation, occupational therapists can help to promote self-awareness, self-management, social awareness, relationship skills, and responsible decision-making among children (Anderson & Grinder, 2017). Interventions that may be utilized by occupational therapists to address social-emotional regulation with preschool age children includes promoting peer support, modeling and reinforcing appropriate social behaviors during play, selecting toys that

promote social-emotional development, and providing direct instruction to teach children social skills (Case-Smith, 2013). They may also collaborate with teachers through consultation or direct service provision to integrate different social-emotional skills into a preschool setting for all children (Anderson & Grinder, 2017; AOTA, 2013).

Language development. Occupational therapists also play a role in language development in early childhood. In particular, they often address a child's social participation and communication with others. Occupational therapists often play a role in modifying the environment to help promote language development for children (Ketchum & Potvin, 2018). They may use interventions with parents to help them identify strategies that they can utilize with their children to promote language development (Ketchum & Potvin, 2018). These interventions may including parent training, routine based intervention, and coaching (Ketchum & Potvin, 2018). Occupational therapists might also incorporate language concepts into daily routines, such as during play or self-cares (Ketchum & Potvin, 2018). For instance, occupational therapists may work on receptive language by observing if a child follows simple directions during play or self-care activities. They may also use expressive language by having a child make choices of what they want to do and having them ask for what they want such as during play and self-care activities.

Cognition. Cognition is another area that occupational therapists are qualified to address in early childhood. Occupational therapists work on cognition with children to help promote performance, self-efficacy, and participation in various occupations (AOTA, 2019). When addressing cognition in early childhood settings, occupational therapists often focus on enhancing areas including attention, memory, problem solving,

imitation, and executive functioning (Clark & Schlabach, 2013). According to Clark, Fischbach, Crane, Nadolny, and Corry (2019), interventions utilized to improve cognitive abilities include enhancing the environment through nurturing caregivers and providing age-appropriate toys, providing specific training programs to educate daycare providers, and developing group interventions to address specific cognitive skills.

Approaches to play and learning. Occupational therapists play a major role in addressing play due to it being a primary occupation for children, especially in early childhood (AOTA, 2012). For preschool age children, play is often used to help enhance overall development and competency while learning and developing new skills (Schaaf, 1990). Occupational therapists often use play to help increase skills a child may be struggling with, such as motor skills (body awareness, motor planning, coordination, etc.), cognition, emotional regulation, and social skills (AOTA, 2012; Schaaf, 1990; Stagnitti & Unsworth, 2000). Different ways in which occupational therapists address play include engaging the child in play, adapting toys, modifying the environment, recommending play activities that provide a "just right challenge" for the child, and collaborating with caregivers to increase play activities within the home and other environments (AOTA, 2012).

Occupational Therapist Training

Multi-tiered system of support. Occupational therapists may utilize a Multi-Tiered System of Support to help address school readiness skills in early childhood settings. The Multi-Tiered System of Support is a framework of three tiers that describes levels of approaches to working with children. Tier 1 focuses on universal prevention that supports all children (Positive Behavioral Intervention & Supports, n.d.). The role of the

occupational therapist in Tier 1 includes providing education and training to teachers, assisting with universal screenings for all children, and utilizing population-based approaches for all children (AOTA, n.d.a). Tier 2 focuses on targeted prevention, which supports children who are at-risk and need help improving specific skill deficits (Positive Behavioral Intervention & Supports, n.d.). The role of the occupational therapist in Tier 2 includes providing suggestions to general education staff for a small group of at-risk children who are struggling in a certain aspect of their education (AOTA, n.d.a). Finally, Tier 3 focuses on intensive, individualized prevention that aims at supporting a specific child's needs and uses approaches that are more intense and assessment-based (Positive Behavioral Intervention & Supports, n.d.). The role of occupational therapist in Tier 3 includes reviewing data collected by formal assessments, assisting the child's care team in understanding if a child has a suspected disability, and determining if a referral for individualized evaluation is needed. The occupational therapist would also make recommendations that are specific to each individual child (AOTA, n.d.a).

Activity analysis. Occupational therapists also have significant training in activity analysis. Activity analysis is the "careful observation of an activity to identify the features of the activity that may be adapted and/or used therapeutically" (Kuhaneck, Spitzer, & Miller, 2010, p. 44). With children, activity analysis is often used as a means to assess play activities that children engage in (Kuhaneck et al., 2010). The use of activity analysis allows occupational therapists to better understand characteristics of preferred activities and the match between the activity and child (Kuhaneck et al., 2010).

Education. Occupational therapists can help to educate home-based daycare providers about the importance of promoting school readiness skills for preschool age children. In order to effectively educate the learner, it is important to understand the specific factors that impact adult learning, known as andragogy. According to Bastable and Dart (2011), learning within andragogy is focused more on the learner, their experiences, and the social roles they are involved in. The purpose of adult learning is often to help apply knowledge and skills to problems and must understand the importance of acquiring the new information in relation to their social roles and life tasks. Educating adults means that learning is often self-initiated, self-directed, helps to meet an immediate need or problem, and is person-centered. The adult learning experience often draws on past experiences and relates to topics they may already be familiar with. In addition, adults are able to actively engage in the learning process and may learn either individually or as part of a group. Finally, adults often learn best through reinforcement of information by application and feedback when being educated on a topic (Bastable & Dart, 2011).

Targeting School Readiness Skills

Home-based daycares are frequently perceived as lower quality than center-based daycares due to lower education and regulation requirements, less structure, and decreased awareness of how to encourage achievement of important developmental milestones for the children in their care (Bassok et al., 2016; Fram et al., 2012; Geoffroy et al., 2010). Lower quality associations may prevent home-based daycares from being strong competitors in the field of early childhood care. One way to potentially improve the quality of home-based daycare is to improve the ability of the care provider to assist children in meeting important developmental milestones, especially those deemed

necessary to be successful in formal schooling. Occupational therapists are well-qualified to assist daycare providers with meeting this goal, with high levels of education and training in almost all areas of school readiness, activity analysis, and universal approach to intervention (AOTA, n.d.a.; Jasmin et al., 2018; Kuhaneck et al., 2010). Using these skills, occupational therapists could support home-based daycare providers to increase understanding on how to target specific developmental skills and in turn, improve basic school readiness skills for the children in their care.

Product

The product developed for this scholarly project is a resource guide intended to be used by home-based daycare providers to promote school readiness in preschool-age children (3-6 years-old). The ultimate goal of the product is to help increase the perceived quality of home-based daycare settings by improving the care provider's ability to prepare children for school. Contents will include descriptions of each school readiness skills, important associated concepts and terms, influencing factors that impact one's abilities, and how the skills may be seen in a child's daily activities. The Person-Environment-Occupation practice model will be used as a guiding framework to ensure all essential components that contribute to one's functional abilities are being considered. A wide variety of common daycare activities will be analyzed using state-specified school readiness guidelines, with recommendations to increase or decrease difficulty of the activity. Aligning with a universal approach, this will guarantee that the activities discussed are appropriate and beneficial for children of all abilities. It is with hope that this product will eventually be distributed to numerous home-based daycare providers within North Dakota.

Guiding Framework

Description. The Person-Environment-Occupation (PEO) model is an ecological, occupation-based practice model developed to address the lack of emphasis placed on the impact one's surrounding environments can have on performance (Baptiste, 2017; Brown, 2014; Law et al., 1996; Turpin & Iwama, 2011). The goal of PEO is to create an optimal "fit" between the person, the environment, and the occupation in order to maximize one's occupational performance (Baptiste, 2017; Brown, 2014; Law, et al., 1996; Turpin & Iwama, 2011). This model is described in further depth below.

Terminology. The three components of PEO are the person, environment, and occupation, all of which transact to create varying levels of occupational performance (Baptiste, 2017; Brown, 2014; Law et al., 1996; Turpin & Iwama, 2011). The person is viewed as a motivated and dynamic being that consistently interacts with the environments around them. The person component includes one's values and interests, life experiences, and physical, cognitive, affective, sensory, and spiritual skills and abilities. The environment is where occupational performance occurs, and is often a major predictor of how successful and satisfied one is with their performance. The environment can hold either barriers or supports for occupational performance. The environment component includes one's cultural, institutional, physical, social, temporal, and occasional virtual surroundings. Occupation is recognized as what meets one's needs for satisfaction, fulfillment, and self-expression in their daily roles and environments. The occupation component is often divided into three categories, including self-care, productivity, and leisure. Self-care includes things such as grooming and hygiene, eating, dressing, etc. Productivity includes things such as work, studying, volunteering, etc.

Leisure includes tasks that a person finds enjoyable, typically identified as hobbies such as knitting, reading, play, etc. These three components come together in a transactive nature to create occupational performance. One's perceptions of success and satisfaction in their performance is related to the maximization of fit between the three components, which must be assessed regularly due to the ever changing nature of one's development and the impact of the surrounding environments (Baptiste, 2017; Brown, 2014; Law et al., 1996; Turpin & Iwama, 2011).

Application to school readiness. Research application has shown that PEO is an appropriate choice for school-based practice, as it addresses how one's occupational performance is influenced by both personal characteristics and the school-based environment (Law et al., 1996; Strong et al., 1999). This indicates that PEO would also be a viable choice for early childhood environments, especially those with incorporated aspects of education. When viewing the main assumptions of the PEO components, it is clear parallels exist between it and the interactional relational model often associated with school readiness. Both models focus on the continuous and mutually influencing interaction occurring between a child and their environments, and the notion that neither aspect can be discarded when assessing one's abilities to perform successfully (Law et al., 1996; Strong et al., 1999; Williams & Lerner, 2019). The interactional relational model further acknowledges as children move along the developmental continuum, their abilities and readiness for school increase when provided with positive early childhood experiences (High, 2008; Williams & Lerner, 2019). The similarity in perspectives between these two models further demonstrates the appropriateness for use of PEO with this population. Therefore, PEO will be used to guide the development of the product

described below due to its comprehensive view of influencing factors on occupational performance.

Conclusion

National and local policy implementation has helped to support and provide guidance for preparing children to be successful in school environments. As children spend much of their time in early childhood care arrangements, it is vital these environments support children's acquisition of the necessary skills for success in alignment with national and local guidelines. Occupational therapists have the necessary training in task and environmental analyses to help support daycare providers in meeting the goal of preparing the children they serve for school. The purpose of the resource guide is to further enhance the confidence and ability of home-based daycare providers to intentionally target identified school readiness skills. This will promote improvements in the perceived quality of home-based daycare services, allowing them to become prominent competitors in early childhood communities. The methodology of product development will be discussed further in Chapter III.

CHAPTER III

Methodology

The inspiration for this project was a mutual passion for working with children, with both authors being previously employed in early childhood centers. While exploring potential topics, comparisons were made between the different experiences in these environments. It was noted there is often a greater demand than available reputable childcare centers, leading to high levels of competition and long waiting lists for openings. Wanting to understand how different variables of early childhood care influence children's development and the perceived quality of a childcare environment, the authors conducted an initial online search to determine relevancy of the topic and if similar problems had been identified in research. It was identified that children spend a large majority of time in a wide variety of early childcare environments. Different environments have different quality ratings based on a number of factors, including caregiver training and education, cost, availability, size, and ability to prepare children for school. The authors decided to further explore home-based daycare environments related to school readiness skills and the potential involvement of occupational therapy.

Following the initial search, a more in-depth search was done to collect supporting information for the literature review. Articles were retrieved from online databases including American Journal of Occupational Therapy (AJOT), CINAHL Complete, Eric, Google Scholar, Pubmed, Psychoinfo, and a general search in the

University library of online databases. Search terms used include “school readiness AND (childcare OR daycare)”, “school readiness AND occupational therapy”, “school readiness AND academic success”, “public health tiers”, “fine motor skills AND occupational therapy”, “gross motor skills AND occupational therapy”, “social-emotional regulation AND occupational therapy”, “cognition AND occupational therapy”, “play AND occupational therapy”, and “early childhood AND occupational therapy”. Articles were then critiqued using both qualitative and quantitative forms. Following critiques of articles, information was sorted into the main sections created for the literature review, which included school readiness, childcare, role of occupational therapy, and theoretical application.

Upon completion of the literature review, the authors compiled data to create a resource guide to assist home-based daycare providers with increasing the perceived quality of their services in comparison to other early childhood care arrangements. First, information regarding federal and state guidelines of school readiness, as well as a detailed definition, was provided to improve understanding of this broad concept. Second, a description of the PEO model was provided to lay out a specific approach to use when viewing school readiness skills. Third, each school readiness skill was broken down into concepts based on the PEO model, including *person, environment, and occupation aspects* [emphasis added], to better understand how the skill may be seen by others, as well as the influence of surrounding environments on the skill in certain tasks. Each school readiness skill is explored through the following: a brief description, important terminology, influencing personal characteristics, influencing environmental factors, and examples of how the skill may be used in daily activities. The authors then

identified common activities they encountered within their previous early childhood care experiences, and analyzed how these activities can be used to address each school readiness skill. Finally, the authors searched for recommendations and resources in the community and online that would be helpful for daycare providers to know when addressing potential developmental concerns with family.

CHAPTER IV

Product

Targeting School Readiness Skills in a Home Daycare

Figure 1. Multicultural preschoolers drawing pictures with pencils in classroom (IgorVetushko, 2018).

Malea Peters, MOTS & Shelby Wittenberg, MOTS
University of North Dakota

Table of Contents

Introduction

This resource guide is intended to be used by home-based daycare providers. Home-based daycare arrangements are one of several available opportunities for childcare services. Home-based daycare is often associated with lower costs compared to center-based care, better child to adult ratios, mixed-age groups, and more general availability with shorter wait lists. However, home-based daycare is sometimes viewed as lower quality than center-based childcare. This may be attributed to less structured daily routines, lower educational and training requirements of care providers, and less focus on school preparation when comparing practices of home-based care to center-based care.

The purpose of this resource guide is to provide home-based daycare providers with information, tools, and resources regarding school readiness. This will help to support the provider's confidence and ability to intentionally target school readiness skills of the children in their care. As school readiness is a large predictor of quality, we hope to enhance the perceived quality and competitiveness of home-based daycare compared to other childcare arrangements. The next section will provide further information on school readiness goals and specific skills identified by federal and state policies. Next, the Person-Environment-Occupation model will be described in depth, as it will serve as the guiding framework when analyzing each school readiness skill. Finally, opportunities for application will be provided with recommendations for possible adaptions and accommodations to meet the needs of all children.

School Readiness

In the early 1990's, the federal government established National Educational Goals Panel (NEGP). The goal of the panel was to establish and sustain high educational standards throughout the country. This panel identified several important goals, but most notably that "by the year 2000, all children will start school ready to learn".

School readiness is an important concept for early childhood care providers. It is frequently used as an indicator of success for childcare organizations, and can increase competitiveness within the market. School readiness consists of 3 dimensions, including the child, the school, and the supporting social environments. This multidimensional skill is complex, and can become overwhelming without the proper structure and tools to address its many characteristics. When combined, characteristics from these three dimensions determine a child's ability to meet the expected demands of school entry. In order to fully determine a child's school readiness, a strong understanding of each dimension is required.

Dimension One: The Child

- Assesses the unique personal abilities and skills of each child
- Important concepts include
    - *Physical and motor development*
    - *Social-emotional regulation*
    - *Language development*
    - *Cognition*
    - *Approaches to play and learning*

Dimension Two: The School

- Assesses the importance of a smooth transition from early childhood care into school settings
- Important concepts include
    - *Continuity*

Continuity is supported by having similar expectations at daycare as the children will experience in the school setting. Support must be provided to meet the child at their current skill level and promote success.

- *High-quality instruction*

High-quality instruction is best provided by someone who the child feels comfortable with, as they are able to establish a familiar and safe relationship. Rate of instruction must also be given to provide a "just right" challenge, meaning that they activity is slightly above what the child is able to easily do on their own.

- *Standards*

School readiness is often used by early childhood communities as important measure of success and a major selling point compared to other local competition. By using federal and state-specified standards to guide choice of activities allows for early childhood care providers to easily measure their ability to target school readiness skills.

Dimension Three: The Supporting Social Environments

- Assesses the impact surrounding social environments have on a child's development
- Important concepts include
    - *Maslow's hierarchy of needs*

A psychological theory that utilizes a 5-tier pyramid model to determine one's motivation to participate in daily life activities.

Physiological needs	Includes fulfilling one's basic needs such as food, water, warmth, and rest
Safety needs	Includes feelings of security and safety within everyday environments
Social needs	Include feelings of belonging and participation in relationships
Self-esteem needs	Includes prestige and feelings of accomplishment and self-worth
Self-actualization needs	Includes the ability to achieve one's full potential

- *Stimulating and high-quality environments*

Access to stimulating environments in early childhood is a strong predictor of later school and life success. Promotion of universal access to high-quality early childhood care could lead to increased school readiness in the general youth population.

Interactional Relational Model

- A school readiness model that assesses how all three dimensions interact with one another and influence the child's ability to gain skills that will benefit them for future school experiences. This model promotes the importance of positive early childhood experiences on development and future success.

Person-Environment-Occupation Model

The Peron-Environment-Occupation Model was used to assist in the creation of this guide. This model is used to understand how factors within the person, environment, and occupation influence each other to impact performance in activities. Below describes aspects within each factor of the person, environment, and occupation.

Person There are 5 aspects of the person

Aspects of the "Person"	Definition
Physical	Includes movement, range of motion, strength, and tone of the person's body
Cognitive	Includes thought, memory, reasoning, and judgement of person
Sensory	Includes touch, smell, sight, hearing, and taste
Affective	Includes the emotion and mood of person
Spiritual	Includes the belief and value system, the person's sense of meaning and purpose, religion, and "connection to something greater than self"

Environment: Involves the contexts where occupations take place in

Aspects of the Environment	Definitions and Examples
Cultural	Customs, beliefs, behavioral standards and expectations within society • Examples: Social norms, holidays celebrated, religious beliefs
Physical	Objects surrounding the person • Examples: furniture, buildings, landscape, weather/air temperature, lighting
Social	People, groups, or populations that person has contact with • Examples: Family members, friends, community members

Institutional	Involves government laws and policies impacting a person • Examples: No Child Left Behind Act, Individuals with Disabilities Education Act (IDEA)
Virtual	• Where technology is used to communicate with others • Examples: Videos, video conferencing (FaceTime, Zoom, etc.)

Occupation: Involves the meaningful daily activities that one engages in

Categories of Occupations	**Definitions and Examples**
Self-Care	Activities involving taking care of self • Examples: bathing, dressing, eating/feeding, grooming, and toileting
Productivity	Activities that involve keeping an individual busy • Examples: work tasks, school-based tasks, household chores
Leisure	Involves activities that are enjoyable for person • Examples: playing sports, crafts, play, hobbies

The factors of the person, environment, and occupation are associated with occupational performance. Please refer to Figure 4 on page 19 of Law et al. (1996) to better understand the basic relationship between these three concepts. When there are issues within the factors of the person, environment, and/or occupation, an individual's performance in activities is negatively impacted. A poor fit between the factors results in decreased performance during activities. When factors within the person, environment, and/or occupation are a good match and appropriate for the individual, performance in activities is positively impacted. A good fit between the factors helps to promote performance during activities. Please refer to Figure 5 on page 18 of Law et al. (1996) to better understand how these differences in fit may impact performance.

Physical and Motor Development

Figure 3. Children playing on carousal (DMC-FZ8, 2017).

Description

Physical and motor development skills are essential for children to fully explore and function within the surrounding environments. Children experiencing difficulties in this school readiness skill may have increased levels of dependence on caregivers and require special arrangements to partake in and complete activities. To view examples on how physical and motor development may be targeted in various activities, refer to appendix B.

Involves
Body physiology and structure • Musculoskeletal system health (bones, muscles, joints, soft tissue, etc.) • Other organ systems (cardiac, digestive, integumentary, lymphatic, nervous, reproductive, urinary, etc.) **Rate of growth** • Height • Weight • Physical maturation **Physical fitness** • Flexibility • Stamina • Energy • Body mass index **Physical abilities** • Fine motor skills • Gross motor skills • Oral motor skills • Sensorimotor skills

Person

The information below is intended to help you examine the influencing factors related to the unique personal characteristics of the children you care for. This includes their values, interests, previous experiences, and skills. The factors noted below may impact a child's performance in tasks related to physical and motor development.

Influencing Factors within the Person
Interests/Values • Interest and/or willingness to participate in particular activity • General preference for physical vs. sedentary activities **Previous Experiences** • Current and/or previous involvement in youth sport programs • Current and/or previous services for motor skills • Current and/or previous emotional, physical, or sexual abuse • Familiarity with a particular activity **Skills** • Absence/presence of body structural deformities or restrictions • Absence/presence of motor and/or movement disorders, including cerebral palsy, ataxia, ALS, paralysis, muscle tone disorders, etc. • Absence/presence of cardiovascular disorders/disease, including congenital heart defects, arrhythmias, heart murmurs, etc. • Absence/presence of respiratory disorders/disease, including asthma, cystic fibrosis, etc. • Overall vision and/or hearing abilities • Achievement of typical developmental milestones for their age (See appendix A).

Environment

The information below is intended to help you examine the influencing factors of the surrounding environments in which the children you care for are participating daily. This includes the cultural, institutional, physical, social, and virtual environments. The factors noted below may impact a child's performance in tasks related to physical and motor development.

Influencing Factors within each aspect of the Environment	
Cultural	• Behavioral expectations of the family • The value of school success within each child's family • The value of general independence within each child's family • Cultural practices, celebrations, and/or customs that the child's family participates in, especially those that promotes physical movement
Institutional	• Federal/State Regulations for home daycares • Home capacity regulations • Federal/state policies for school readiness
Physical	• Size of home • Describe the daycare environment • Stairs within the home • Backyard/outdoor space available • Home space available for the children to participate in activities, such as for running and jumping • Availability of local parks nearby • Closeness of local parks compared to the location of the home daycare • Space allocated within the home for the daycare • Noise levels within the home

Social	• Amount of children within the home • Ratio of daycare providers/caregivers to children within the home • The age difference between the children who attend the daycare • Children who have siblings within the daycare
Virtual	• Access to electronics for the children throughout the day • Amount of screen time allotted during the day • Amount of media shown to children that demonstrates physical activity

Occupation

The tasks listed below are associated with physical and motor development. They are categorized by self-care, productive, and leisure tasks. Noted difficulties in any of these tasks may indicate issues physical and motor development.

Self-care

Bathing	• Taking off and putting on clothes • Get into and out of bath/shower • Opening bottles (shampoo, conditioner, body wash, etc.) • Washing hair/body
Dressing	• Putting on and taking off clothing • Buttoning • Zipping • Tactile sensory influences
Eating/Feeding	• Using fork, spoon, knife • Grabbing finger foods • Chewing and swallowing food
Grooming	• Brushing hair • Brushing teeth • Washing face • Washing hands
Toileting	• Pulling pants down and up • Managing zipper and fasteners on pants • Opening/closing toilet lid • Getting on/off the toilet • Wiping • Flushing the toilet

Productivity

Household Chores	• Putting dishes away after meal times • Cleaning up toys/play activities • Putting naptime objects away (including blankets, pillows, cots, etc.)
School-Based Tasks	• Writing name/letters • Cutting with scissors • Coloring • Drawing shapes

Leisure

Onlooker Play
Constructive Play • Watching other children engaging in art projects • Watching other children build structures • Watching other children completing puzzles **Rough-and-Tumble Play** • Watching other children/caregivers jump, run, climb, and skip • Watching other children play on playground equipment **Sports** • Watching other children play with ball • Watching older children engage in organized sports/games

Parallel Play
Constructive Play • Building structures by self near other children • Completing puzzles next to other children • Engaging in art projects next to other children **Rough-and-Tumble Play** • Completing jumping, running, climbing, and skipping next to other children • Playing on playground next to other children

Sports

- Playing with ball next to other children
- Kicking a ball next to other children

Associative Play

Constructive Play

- Building structures while sharing same materials with other children
- Engaging in art projects while sharing same materials with other children

Rough-and-Tumble Play

- Sharing playground equipment with other children
- Jumping, running, climbing, and/or skipping with other children though do not have a formal plan

Sports

- Individually shooting basketballs into the same hoop as other children
- Individually kicking soccer balls into the same net as other children

Cooperative Play

Constructive Play

- Building structures with different materials with other children/caregivers
- Completing puzzles with other children/caregivers

Rough-and-Tumble Play

- Jumping, running, climbing, and skipping with other children and having a formal plan (i.e. leap frog, Ring around the Rosie, etc.)
- Playing on the playground with other children with rules

Sports

- Playing catch/throwing ball with other children while creating game with rules
- Kicking ball with other children while creating game with rules

Social-Emotional Regulation

Figure 4. Young boys laughing (Canon EOS Digital Rebel XSi, 2017).

Description

Social-emotional regulation skills are essential for children to learn how to interact and communicate with those around them. It allows them to express their attitudes, beliefs, and feelings with others, as well as understand these characteristics in others. Children experiencing difficulties in this area may have problems getting along well with others, frequent emotional outbursts, and negative coping strategies. To view examples on how social-emotional regulation may be targeted in various activities, refer to appendix B.

Involves
Social Characteristics • Compromise • Conflict resolution • Cooperation • Positive relationships • Sharing **Emotional Characteristics** • Emotional expression • Emotional intelligence • Empathy • Self-concept • Self-efficacy • Self-esteem

Person

The information below is intended to help you examine the influencing factors related to the unique personal characteristics of the children you care for. This includes their values, interests, previous experiences, and skills. The factors noted below may impact a child's performance in tasks related to social-emotional regulation.

Influencing Factors within the Person
Interests/Values • Interest and/or willingness to play w/ other children • General preference for group vs. individual activities/play • Family **Previous Experiences** • Current and/or previous services for social-emotional skills • Modeling of positive/negative emotional expression in their home environment(s) • Current and/or previous emotional, physical, or sexual abuse • Social etiquette used in their family **Skills** • Absence/presence of social disorders/diagnoses, such as autism, attention deficit hyperactive disorders, • Absence/presence of specific mental illnesses/disorders, such as oppositional defiant disorder, conduct disorders, anxiety, post-traumatic stress disorder, etc. • Ability to identify emotions • Achievement of typical developmental milestones for their age (See appendix A).

Environment

The information below is intended to help you examine the influencing factors of the surrounding environments in which the children you care for are participating daily. This includes the cultural, institutional, physical, social, and virtual environments. The factors noted below may impact a child's performance in tasks related to social-emotional regulation.

Influencing Factors within each aspect of the Environment	
Cultural	• Behavioral expectations of the family • The value of school success within each child's family • The value of general independence within each child's family • Family expectations of how to deal with frustrations? • Cultural practices, celebrations, and/or customs that the child's family participates in • Social norms of children
Institutional	• Federal/State Regulations for home daycares • Home capacity regulations • Federal/state policies for school readiness
Physical	• Size of home • Describe the daycare environment • Stairs within the home • Home space available for the children to "calm down" or quiet space to use when frustrated • Home space available for the children to play with each other • Space allocated within the home for the daycare

Social	• Amount of children within the home • Ratio of daycare providers/caregivers to children within the home • The age difference between the children who attend the daycare • Children who have siblings within the daycare • Number of children in groups for activities
Virtual	• Access to electronics for the children throughout the day • Amount of screen time allotted during the day • Portrayal of positive/negative emotional expression in media viewed • Portrayal of positive/negative social interactions in media viewed • Use of electronics as a reward/punishment system

Occupation

The tasks listed below are associated with social-emotional regulation. They are categorized by self-care, productive, and leisure tasks. Noted difficulties in any of these tasks may indicate issues with a child's social-emotional regulation skills.

Self-care (Dressing, Grooming, Bathing, Toileting, Eating)

Self-Care Tasks	• Dealing with frustrations when completing tasks • Coping with frustrations appropriately • Feelings about ability to complete task • Pride in ability to complete task • Asking for help from other children or caregiver • Helping other children complete task

Productivity

Household Chores	• Asking for help from other children or caregiver • Helping other children complete task • Feelings about ability to complete task • Following directions from caregivers
School-Based Tasks	• Sharing materials with other children (such as crayons, markers, scissors, glue, etc.). • Feelings about ability to complete task • Asking for help from other children or caregiver • Helping other children complete task • Participating in singing songs/dancing with other children • Engaging in circle time with other children

Leisure

Onlooker Play
Games with Rules • Watching other children play games • Watching how other children cope with frustrations when losing **Dramatic/Imaginary Play** • Watching other children role playing (such as house, dress up, or kitchen) • Watching other children cope with frustrations when playing with other children

Parallel Play
Games with Rules • Playing with game pieces by self near other children • Coping with losing individually played game appropriately **Dramatic/Imaginary Play** • Playing imaginary games by self with other children nearby • Portrays multiple characters with various feelings

Associative Play
Games with Rules • Sharing game pieces with other children though not following set rules • Playing with game pieces with other children though not playing formal game **Dramatic/Imaginary Play** • Children sharing toys/objects while playing imaginary games by self • Playing with dramatic play toys with other children though not having formal plan on what they are playing

Cooperative Play
Games with Rules • Playing games with other children (board game or card game) • Taking turns with peers **Dramatic/Imaginary Play** • Role playing imaginary situations with other children (such as playing house, dress up, or kitchen) • Compromising with other children when conflict arises • Understanding the feelings of other children (feelings of other children when they are hurt, happy, etc.)

Language Development

Figure 5: Children sitting on a bench talking (Syaibatulhamdi, 2020).

Description

Language development is essential for a child to meaningful communicate with those around them through gestures, speech, symbols, and/or writing. Children who experience difficulty with this skill may be unable to communicate their thoughts and needs with others, leading to social isolation and decreased quality of life. To view examples on how language development may be targeted in various activities, refer to appendix B.

Involves
Expressive Language • Speaking • Writing Receptive Language • Listening • Reading • Inferencing

Person

The information below is intended to help you examine the influencing factors related to the unique personal characteristics of the children you care for. This includes their values, interests, previous experiences, and skills. The factors noted below may impact a child's performance in tasks related to language development.

Influencing Factors within the Person
Interests/Values • Interest and/or willingness to participate in particular activity • General preference for communicating through words or actions • Native language(s) **Previous Experiences** • Current and/or previous services for speech-language, hearing, vision, etc. • Current and/or previous emotional, physical, or sexual abuse • Familiarity with words/vocabulary used **Skills** • Absence/presence of hearing disorders, including central auditory processing disorder and conducive/sensorineural/mixed hearing loss • Absence/presence of speech disorders, including apraxia, dysarthria, mutism, or secondary limitations from autism, brain injury, strokes, cerebral palsy, etc. • Achievement of typical developmental milestones for their age (See appendix A).

Environment

The information below is intended to help you examine the influencing factors of the surrounding environments in which the children you care for are participating daily. This includes the cultural, institutional, physical, social, and virtual environments. The factors noted below may impact a child's performance in tasks related to language development.

Influencing Factors within each aspect of the Environment	
Cultural	• Behavioral expectations of the family • The value of school success within each child's family • The value of general independence within each child's family • Cultural practices, celebrations, and/or customs that the child's family participates in • Native language spoken at home vs at daycare
Institutional	• Federal/State Regulations for home daycares • Home capacity regulations • Federal/state policies for school readiness
Physical	• Size of home • Describe the daycare environment • Stairs within the home • Home space available for the children • Availability of local parks nearby • Closeness of local parks compared to the location of the home daycare • Space allocated within the home for the daycare

Social	• Amount of children within the home • Ratio of daycare providers/caregivers to children within the home • The age difference between the children who attend the daycare • Children who have siblings within the daycare
Virtual	• Access to electronics for the children throughout the day • Amount of screen time allotted during the day • Do the shows/videos you use with the children demonstrate different languages?

Occupation

The tasks listed below are associated with language development. They are categorized by self-care, productive, and leisure tasks. Noted difficulties in any of these tasks may indicate issues with language development.

Self-care

Self-Care Tasks	• Correctly naming different items within task • Showing understanding of meaning of common words for self-care • Asking for help • Following simple directions of task from caregiver • Expressing concern when having trouble completing task • Communicating needs to caregiver during task • Understanding simple instructions from caregiver • Responding to simple questions about self-care tasks

Productivity

Household Chores	• Understanding simple instructions of task from caregiver • Showing understanding of meaning of common words during household chores • Asking for help • Expressing concern when having trouble completing task
School-Based Tasks	• Naming letters/numbers • Identifying letters/numbers • Answering simple questions • Correctly identifying materials for task • Describes own drawn pictures

	• Singing simple songs/rhymes with other children • Responding to simple questions during circle time • Asking simple questions during circle time

Leisure

Onlooker Play
Dramatic/Imaginary Play • Listening to other children tell stories • Watching other children role play (such as while playing kitchen, house etc.) **Games with Rules** • Hearing other children talk while playing game • Watching other children's facial expression and gestures during game play

Parallel Play
Dramatic/Imaginary Play • Listening to other children role play while playing by self • Tells and/or sequences an imaginative story individually **Games with Rules** • Listening to other children play board game while playing by self • Hears and/or verbalizes instructions for games

Associative Play
Dramatic/Imaginary Play • Asking to share dramatic play toys with other children • Responding to other children when they if they can share a toy **Games with Rules** • Asking to share game pieces with other children • Responding to other children when they ask if they can share a game piece

Cooperative Play
Dramatic/Imaginary Play • Role playing with other children • Listening to other children while role playing **Games with Rules** • Asking questions while playing game with other children • Talking to other children while playing game

Cognition

Figure 6. Young boys with school supplies (Canon EOS 60D, 2017).

Description

Cognition skills are essential for a child to use their current knowledge to learn about new and often more complex things. These skills are used while children actively explore their surroundings to gain a better understanding of how and why things occur. This school readiness skill is often the most variable from child to child, especially in early childhood. Children experiencing difficulties with this school readiness skills may require extra support, instructions, or opportunities to develop strong cognitive skills. To view examples on how cognition may be targeted in various activities, refer to appendix B.

Involves
Mathematics development • Counting • Operations • Algebraic Thinking • Measurement • Geometry • Spatial Awareness **Scientific reasoning** • Scientific inquiry • Problem-solving • Reasoning **Other** • Memory

Person

The information below is intended to help you examine the influencing factors related to the unique personal characteristics of the children you care for. This includes their values, interests, previous experiences, and skills. The factors noted below may impact a child's performance in tasks related to cognition.

Influencing Factors within the Person
Interests/Values • Interest and/or willingness to participate in particular activity • General preference for brain teasers/puzzles • General preference for exploring new situations and information, willingness to ask questions to learn more **Previous Experiences** • Current and/or previous services for cognition and/or executive functioning skills • Previous exposure and/or education on basic cognitive skills such as counting, cause-and-effect, measuring, etc. • Current and/or previous emotional, physical, or sexual abuse • Familiarity with a particular activity **Skills** • Absence/presence of structural deformities of the brain • Absence/presence of intellectual disabilities • Achievement of typical developmental milestones for their age (See appendix A).

Environment

The information below is intended to help you examine the influencing factors of the surrounding environments in which the children you care for are participating daily. This includes the cultural, institutional, physical, social, and virtual environments. The factors noted below may impact a child's performance in tasks related to cognition.

Influencing Factors within each aspect of the Environment	
Cultural	• Behavioral expectations of the family • The value of school success within each child's family • The value of general independence within each child's family • Cultural practices, celebrations, and/or customs that the child's family participates in
Institutional	• Federal/State Regulations for home daycares • Home capacity regulations • Federal/state policies for school readiness
Physical	• Size of home • Describe the daycare environment • Stairs within the home • Backyard/outdoor space available • Home space available for the children to participate in learning activities • Availability of variety of toys • Closeness of local parks compared to the location of the home daycare • Space allocated within the home for the daycare

Social	• Amount of children within the home • Ratio of daycare providers/caregivers to children within the home • The age difference between the children who attend the daycare • Children who have siblings within the daycare
Virtual	• Access to electronics for the children throughout the day • Amount of screen time allotted during the day • Access to educational based shows that utilize basic math and science skills, such as counting, problem-solving, memory, cause-and-effect, etc.

Occupation

The tasks listed below are associated with cognition. They are categorized by self-care, productive, and leisure tasks. Noted difficulties in any of these tasks may indicate issues with cognition.

Self-care

Self-Care Tasks	• Correctly identifying different items within task • Properly sequencing each task • Attempting to solve problems as they arise

Productivity

Household Chores	• Sequencing steps to completing chore • Recalling simple rules/ daily household chores • Following simple routines for household chores • Cleaning up toys in correct spot
School-Based Tasks	• Identifying letters, numbers, shapes, and colors • Writing letters in name • Counting objects • Completing puzzles • Sorting toys by color, shape, or size • Making predictions on what will happen next in story during circle time

Leisure

Onlooker Play
Dramatic/Imaginary Play • Watching other children imitate adult actions during role play with others • Watching other children use objects to represent something else during pretend play

Constructive Play

- Watching other children problem solve through puzzles
- Watching other children successfully complete

Games with Rules

- Watching other children follow rules of a game
- Watching other children problem-solve issues or confusion that arises during a game

Parallel Play

Dramatic/Imaginary Play

- Using objects to represent something else during pretend play while near other children
- Incorporating a larger variety of behaviors and emotions into individual play

Constructive Play

- Problem-solving while playing with blocks or puzzles near other children
- Recalling which methods have already been attempted and whether they were successful or not when building something

Games with Rules

- Playing with game pieces by self near other children
- Recalling instructions/rules of game while playing alone

Associative Play

Dramatic/Imaginary Play

- Sharing objects with others to represent something else during pretend play
- Copying actions of another child while role playing by self

Constructive Play

- Copying actions of another child while playing with blocks by self
- Building with other children though not having formal plan

Games with Rules

- Copying actions of other children while playing with game pieces by self
- Playing with games pieces with other children though not having formal plan

Cooperative Play
Dramatic/Imaginary Play • Imitating adult actions during role play (such as imitating someone else's conversation) with others • Using objects to represent something else during pretend play (making a cookie out of play dough) with others • Inviting other children to participate in pretend play **Constructive Play** • Problem solving to complete puzzles or while building a structure with blocks • Plan with other children on how to build a certain structure with blocks **Games with Rules** • Recalling simple rules while playing with other children during games • Plan with other children on playing game correctly

Approaches to play and learning

Figure 7. Two Caucasian, two African American children play together (Martin & Arlotta, 2016).

Description

A child's approaches to play and learning are influenced by a wide number of factors, which predict their willingness to engage in both new and familiar tasks. This school readiness skills focuses on the self-regulation of emotions, behaviors, and cognition, and how these unique skills impact how one learns. Different aspects of learning include creativity, curiosity, and enthusiasm. It also determines how a child may navigate experiences that are challenging, frustrating, or take more time to complete. Children experiencing difficulties with this skill may be hesitant to try new things, give up on new activity quickly, or become upset that they are unable to perform well. To view examples on how approaches to play and learning may be targeted in various activities, refer to appendix B.

Involves
Emotional and behavioral self-regulation • Managing feelings/emotions • Managing actions/behaviors **Cognitive self-regulation** • Executive functioning • Flexible thinking • Impulse control • Sustained attention • Working memory **Other** • Creativity • Curiosity • Initiative

Person

The information below is intended to help you examine the influencing factors related to the unique personal characteristics of the children you care for. This includes their values, interests, previous experiences, and skills. The factors noted below may impact a child's performance in tasks related to play and learning.

Influencing Factors within the Person
Interests/Values • Interest and/or willingness to participate in particular activity • General preference for being a risk-taker or observer of activities • Preferred play activities • General tendency to persevere, request help, or give up when presented with challenging and unfamiliar activities Previous Experiences • Current and/or previous services for cognition and/or executive functioning skills • Current and/or previous services for social-emotional skills • Previous education/modeling of various coping strategies (positive or negative) • Current and/or previous emotional, physical, or sexual abuse • Familiarity with a particular activity Skills • Absence/presence of structural deformities of the brain • Absence/presence of intellectual disabilities • Absence/presence of social disorders/diagnoses, such as autism, attention deficit hyperactive disorders, • Absence/presence of specific mental illnesses/disorders, such as oppositional defiant disorder, conduct disorders, anxiety, post-traumatic stress disorder, etc. • Achievement of typical developmental milestones for their age (See appendix A).

Environment

The information below is intended to help you examine the influencing factors of the surrounding environments in which the children you care for are participating daily. This includes the cultural, institutional, physical, social, and virtual environments. The factors noted below may impact a child's performance in tasks related to play and learning.

Influencing Factors within each aspect of the Environment	
Cultural	• Behavioral expectations of the family • The value of school success within each child's family • The value of general independence within each child's family • Cultural practices, celebrations, and/or customs that the child's family participates in
Institutional	• Federal/State Regulations for home daycares • Home capacity regulations • Federal/state policies for school readiness
Physical	• Size of home • Describe the daycare environment • Stairs within the home • Backyard/outdoor space available • Home space available for the children to participate in activities • Availability of toys in home • Variety of toys in home • Availability of local parks nearby • Closeness of local parks compared to the location of the home daycare • Space allocated within the home for the daycare

Social	• Amount of children within the home • Ratio of daycare providers/caregivers to children within the home • The age difference between the children who attend the daycare • Children who have siblings within the daycare
Virtual	• Access to electronics for the children throughout the day • Amount of screen time allotted during the day • Access to educational based shows that utilize basic math and science skills, such as counting, problem-solving, memory, cause-and-effect, etc. • Portrayal of positive/negative emotional expression in media viewed

Occupation

The tasks listed below are associated with approaches to play and learning. They are categorized by self-care, productive, and leisure tasks. Noted difficulties in any of these tasks may indicate issues with a child's approach to play and learning.

Self-care

Self-Care Tasks	• Expressing preferences, such as what they want to wear, eat, etc. • Asking questions self-care tasks • Attending to complete self-care tasks

Productivity

Household Chores	• Asking questions about household chores • Attending to complete full household chore
School-Based Tasks	• Showing curiosity for new activities • Asking questions about school-based tasks • Attending to complete school-based task

Leisure

Onlooker Play
Dramatic Play • Demonstrating curiosity while watching other children role play (such as house, kitchen, etc.) • Attending to other children playing • Watching other children demonstrate imagination during role play **Constructive Play** • Demonstrating curiosity through watching other children build structures, engage in art projects, or complete puzzles • Attending to other children playing

Games with Rules

- Demonstrating curiosity through watching other children play games (board or card games)
- Attending to other children playing

Parallel Play

Dramatic Play

- Attending to role play toys while playing by self near other children
- Demonstrating imagination while playing by self near other children

Constructive Play

- Expressing preferences on puzzles, blocks, or color materials when playing near other children
- Demonstrating curiosity of other children nearby while playing by self

Games with Rules

- Demonstrating curiosity of other children playing a game nearby while playing by self
- Attending to playing with game pieces while near other children

Associative Play

Dramatic Play

- Attending to sharing toys with other children
- Demonstrating curiosity of what another child is playing while sharing dramatic play toys

Constructive Play

- Demonstrating curiosity of what another child is building while sharing materials
- Attending to sharing art materials, puzzles, and/or blocks with other children

Games with Rules

- Demonstrating curiosity of what other children are playing while sharing game materials
- Attending to sharing game pieces with other children

Cooperative Play
Dramatic Play • Establishing roles for play with other children (who is playing "mom" or "sister" during house) • Demonstrating creativity through role playing different scenarios (such as during house, kitchen, or doctor) • Taking initiative to play with other children during role play **Constructive Play** • Demonstrating creativity through building structures with various materials or completing art projects with various materials • Attending to building a block structure or putting a puzzle together with other children **Games with Rules** • Attending to play game with others • Taking initiative to play a game with other children

Recommendations

Each child is unique in how they develop and start to demonstrate developmental milestones. There is variability to what each child can do at each age. It is important to recognize if a child is not displaying age-appropriate developmental milestone to determine if it is a concern. If a child is not displaying one or two developmental milestones at a certain age, it may not be an immediate concern. However, if there are multiple developmental milestones that a child is not displaying at a certain age, it could be a red flag. Appendix A provides an overview of age-appropriate developmental milestones for preschool-age children. The earlier that delays or difficulties are identified, the earlier children can receive interventions and services to address the concerns. If developmental concerns are not addressed, the child may struggle with academic performance in school later on in life.

Once parents have met with their child's pediatrician to discuss developmental concerns, the pediatrician is able to refer the child to certain professionals that can address the specific developmental delays or difficulties that a child may have. These professionals are able to address a variety of skills. The following page contains a table with basic information regarding what each profession can assist with, as well as types of facilities they may work in.

Early Childhood Professionals

Professional	**Areas of development this profession can address**	**Places of work**
Occupational Therapist	Gross motor skills, fine motor skills, visual motor skills, oral motor skills, cognition, sensory processing, social-emotional development, environmental modifications, adaptive and/or assistance technology, play, self-cares	Hospitals, inpatient facilities, outpatient clinics, schools, daycares, and family homes
Physical Therapist	Gross motor skills, strength building, mobility, balance, and endurance	Hospitals, inpatient facilities, outpatient clinics, school, daycares, and family homes
Speech-Language Pathologist	Communication, speech, social skills, and cognition	Hospitals, inpatient facilities, outpatient clinics, school, daycares, and family homes
Counselor	Social-emotional development, self-regulation, healthy coping strategies, family therapy	Hospitals, inpatient facilities, outpatient clinics, schools, family homes

Resources

The following worksheets are intended to help you identify local resources in your community that may assist with providing high quality care to the children and families you serve. Resource topics include early intervention, pediatric therapy, school districts, advocacy, and low-cost materials and activities. Each type of resource includes a brief description regarding benefits to you as a caregiver, as well as how to access them. It is recommended that you complete these worksheets, filling out pertinent information for your community to use as a quick reference. If you, parents, or other caregivers have questions or concerns regarding a child's development, it may be beneficial to provide parents and/or caregivers with a copy of these worksheets to help them find more information about services in the area. Having general awareness and information about these resources will help you feel more confident in making recommendations to families, as you have the resources to back them up.

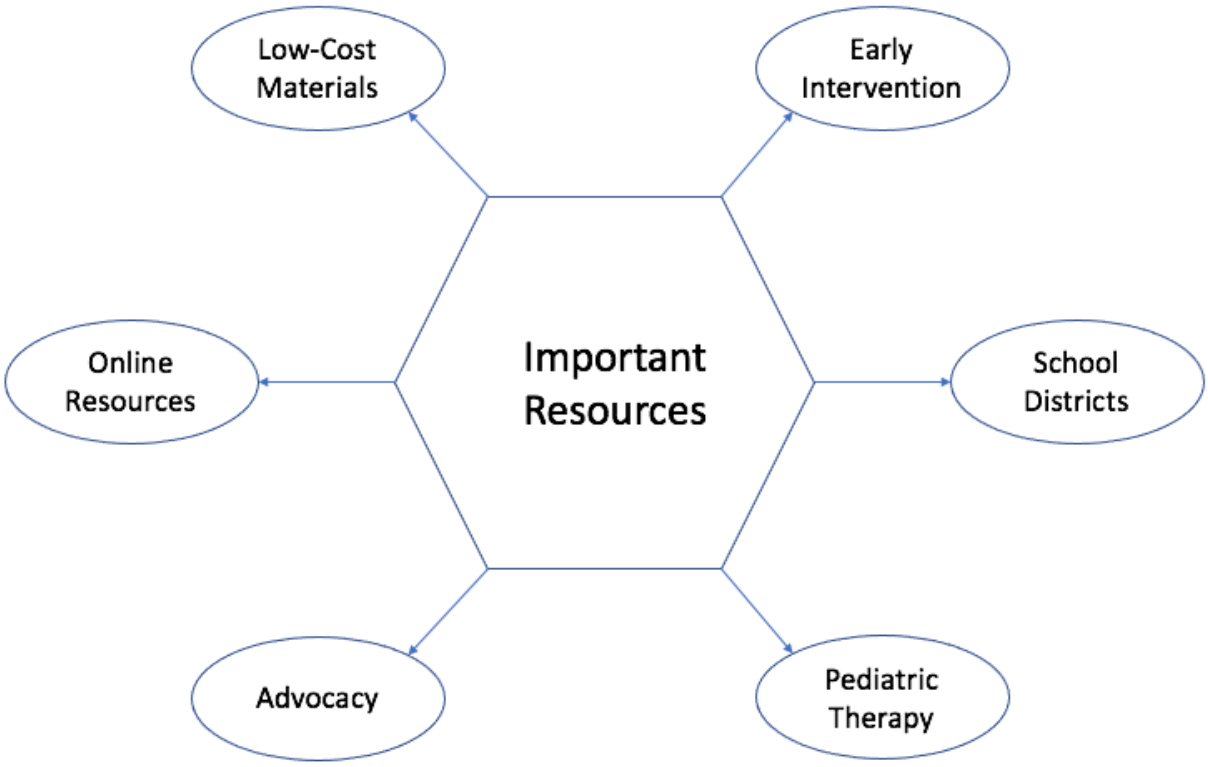


Figure 8. Important Resources

Early Intervention

Early intervention services are provided to children under the age of 3 years-old with developmental delays or disabilities and their families under Part C of Individuals with Disabilities Education Act (IDEA), a national law that ensures children have access to special education and related services necessary to be successful in public education settings. Early intervention services are provided based on a child's needs, and may include speech, physical and occupational therapy. Due to the rapid ability of a child's brain to learn and grow, providing specialized services early can lead to improvements in abilities, making them more prepared for success in the future**.** A doctor's referral is typically not necessary, rather families are encouraged to contact their state's early intervention program to determine if they are able to qualify for services. To find your state's available programs and services, please visit https://www.cdc.gov/ncbddd/actearly/parents/states.html and choose your corresponding state.

State Program

Company/program name: _____

Address: _____

_____

Phone number: _____

City Program

Company/program name: _____

Address: _____

_____

Phone number: _____

Pediatric Therapy

Pediatric therapy services are typically provided by privately owned or hospital associated clinics. Professionals at these clinics can include speech therapists, occupational therapists, physical therapists, counselors, and others. Services are individualized, client-centered, and focus on addressing developmental concerns with treatments that are supported in research and fit with the families values and beliefs. Pediatric therapists may be able to come to your home and complete large group screenings or consultative services if it's a service they/their company provides.

Company/program name: _____
Phone number: _____

Company/program name: _____
Phone number: _____

Company/program name: _____
Phone number: _____

Company/program name: _____
Phone number: _____

Company/program name: _____
Phone number: _____

Company/program name: _____
Phone number: _____

Company/program name: _____
Phone number: _____

School District

Part B of IDEA includes information regarding special education services for children aged 3-21 years old. Children can either transition from Part C to Part B services, or begin services in Part B. For preschool-age children, this is often deemed early childhood special education (ECSE) services. ECSE services help to establish plans for children to be successful in public schools, called individualized education plans (IEPs). Through an IEP, preschool-age children are able to receive specialized services including speech therapy, physical therapy, occupational therapy, etc. within a wide variety of setting, such as special education preschools, community-based preschools, home, or other natural environments. These services can address developmental concerns and help children to prepare for and adjust to expectations of public school, with the goal of making the transition to school a successful one. These services are typically funded by federal and state policies for those who are deemed eligible.

City: _____
School District: _____
Main address: _____
Main phone number: _____

Special Education Preschool: _____
Address: _____
Phone number: _____

Special Education Preschool: _____
Address: _____
Phone number: _____

Advocacy

Advocacy may occur in many ways, depending on what an organization offers. This can include providing respite care, service management, connection to support groups, arranging transportation to and from appointments, finding ways to cover costs, education on how to become stronger self-advocates, etc. These organizations can help to lessen stress and financial loads for families/caregivers, as well as provide education and resources to ensure that each child and family can access necessary services to help them succeed and thrive.

Organization name: _____
Phone number: _____
Services provided: _____

Organization name: _____
Phone number: _____
Services provided: _____

Organization name: _____
Phone number: _____
Services provided: _____

Organization name: _____
Phone number: _____
Services provided: _____

Organization name: _____
Phone number: _____
Services provided: _____

Online Resources

Childcare.gov: Provides information regarding developmental milestone, best practices, special education, and parent support within North Dakota.
Website: https://childcare.gov/state-resources?state=39&type=204

National Association for Education of Young Children: Provides numerous free blog posts about early childhood topics, including development, creative arts, literacy, math, outdoors, play, school readiness, nutrition, etc.
Website: https://www.naeyc.org/our-work/families/school-readiness

Pinterest: Allows you to search for a wide variety of activities and information with key terms. Contains links to other websites/blogs as well.
Website: https://www.pinterest.com/

OT Toolbox: Offers free activities, resources, and tools to use with children. Written for pediatric therapists, these activities are intended to target specific developmentally skills.
Website: https://www.theottoolbox.com/category/free-resources/

Teacher Vision: Offers free activities and small lesson plans to complete with children. This resource provides in-depth explanations about each activity, what language to use, and how to intentionally observe a child's abilities.
Website: https://www.teachervision.com/teaching-strategies/school-readiness

Tools to Grow: Offers free activities, resources, and tools to use with children. Written for pediatric therapists, these activities are intended to target specific developmentally skills.
Website: https://www.toolstogrowot.com/free-therapy-resources/sort/date-new

Zero to Three: Provides access to blogs, activities, videos, and background information that may help understand where children are expected to be based on their age, as well as how to develop these skills.
Website: https://www.zerotothree.org/espanol/school-readiness

Low-Cost Materials

Keeping young children entertained and engaged can be a large task that can quickly become expensive and overwhelming. Listed below are tips to help keep costs low, while still allowing you to be creative with available options and resources to complete a wide variety of activities.

- Recycle old containers/papers for crafts (i.e. sauce jars as vases, magazine clip outs for collages, etc.)
- Use nature to your advantage! (i.e. paint rocks, catch bugs/butterflies, grow a seed in a cup, press leaves or flowers)
- Subscribe to online resources that provide free printable resources/activities
- Look at garage sales and thrift shops for low-priced second hand items
- Look online (Craigslist, Facebook Marketplace, etc.) for any free or giveaway items
- Ask parents to donate items they no longer want to you first! So many families outgrow books and toys that are in good condition, give them a second life with the other young kids you will serve
- Have a crafts box for each child furbished by family (i.e. markers, scissors, crayons, etc.). Children may feel more responsibility to take care of items with their names on them, while saving you money on having to buy a new pack of markers every month!
- Check out the dollar store or target dollar spot
- After holiday/seasonal clearance sections
- Let the kids choose/plan activities - children are often more imaginative and creative than adults. Allow them to take charge once in a while and see how much they can do with so little!

References

1. American Addiction Centers. (2019). Impulse control disorders and substance abuse. Retrieved from https://americanaddictioncenters.org/co-occurring-disorders/impulse-control-disorder
2. ASQ. (n.d.). What is problem-solving? Retrieved from https://asq.org/quality-resources/problem-solving#:~:text=Problem%20solving%20is%20the%20act,Problem%20solving%20resources
3. Camknows. (2013). Playing musical chairs [Image]. Retrieved from https://www.flickr.com/photos/camknows/10193212223
4. Canon EOS 30D. (2017). Playing a card game. [Image]. Retrieved from https://pxhere.com/en/photo/270789
5. Canon EOS 60D. (2017). Young boys with school supplies [Image]. Retrieved from https://pxhere.com/en/photo/1343130
6. Canon EOS Digital Rebel XS. (2017). Crayons in a jar [Image]. Retrieved from https://pxhere.com/en/photo/608275
7. Canon EOS Digital Rebel XSi. (2017). Young boys laughing [Image]. Retrieved from https://pxhere.com/en/photo/982278
8. Centers for Disease Control and Prevention [CDC]. (n.d.a.). 3 years. Retrieved from https://www.cdc.gov/ncbddd/actearly/milestones/milestones-3yr.html
9. Centers for Disease Control and Prevention [CDC]. (n.d.b.). 4 years. Retrieved from https://www.cdc.gov/ncbddd/actearly/milestones/milestones-4yr.html
10. Centers for Disease Control and Prevention [CDC]. (n.d.c.). 5 years. Retrieved from https://www.cdc.gov/ncbddd/actearly/milestones/milestones-5yr.html
11. Centers for Disease Control and Prevention. (2020). About child & teen BMI. Retrieved from https://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html#:~:text=Top%20of%20Page-,How%20is%20BMI%20used%20with%20children%20and%20teens%3F,excess%20fat%20is%20a%20problem.
12. Centers for Disease Control and Prevention. (2021). Why act early? Retrieved from https://www.cdc.gov/ncbddd/actearly/whyActEarly.html
13. Community Therapy Services. (n.d.). Sensory motor skills. Retrieved from https://ctspediatrics.com/treatment-areas/occupational-therapy/sensory-motor-disorders/
14. Community Tool Box. (n.d.). Training for conflict resolution. Retrieved from https://ctb.ku.edu/en/table-of-contents/implement/provide-information-enhance-skills/conflict-resolution/main

15. Compromise. (n.d.). In *Cambridge* online dictionary. Retrieved from https://dictionary.cambridge.org/us/dictionary/english/compromise
16. Cooperation. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/cooperation#:~:text=Kids%20Definition%20of%20cooperation,together%20to%20get%20something%20done
17. Cottonbro. (2020). Photo of girls dancing [Image]. Retrieved from https://www.pexels.com/photo/photo-of-girls-dancing-3662824/
18. Count. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/count
19. Creative. (n.d.). In *Cambridge* online dictionary. Retrieved from https://dictionary.cambridge.org/us/dictionary/english/creative
20. Curiosity. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/curious
21. DannyBazaBlas. (2008). Duck, Duck, Goose [Image]. Retrieved from https://www.flickr.com/photos/pesotum/2818406549/
22. Development and Research in Early Math Education (DREME) Network. (n.d.). The mathematics of measurement. Retrieved from http://prek-math-te.stanford.edu/measurement-data/mathematics-measurement
23. DMC-FZ8. (2017). Children playing on carousal [Image]. Retrieved from https://pxhere.com/en/photo/1339131
24. Early Learning Coalition of Duval. (2013). Families as advocates and leaders. Retrieved from https://www.elcduval.org/wp-content/uploads/2017/08/advocates_leaders.pdf
25. Eaton, W. O. (n.d.). Physical maturation. Retrieved from https://home.cc.umanitoba.ca/~eaton/child-development-physical-maturation.htm
26. Emotional Processing. (n.d.). Emotional expression. Retrieved from http://emotionalprocessing.org/emotional-expression/
27. Empathy. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/empathy
28. Energy. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/energy
29. FeeLoona. (2016). Child building with blocks [Image]. Retrieved from https://pixabay.com/photos/child-tower-building-blocks-blocks-1864718/
30. Healthy Children. (2009). Developmental milestones: 4-5 years old. Retrieved from https://www.healthychildren.org/English/ages-stages/preschool/Pages/Developmental-Milestones-4-to-5-Year-Olds.aspx

31. HelpGuide. (2020). Improving emotional intelligence (EQ). Retrieved from https://www.helpguide.org/articles/mental-health/emotional-intelligence-eq.htm
32. Houtrow, A., & Murphy, N. (2019). Prescribing physical, occupational, and speech therapy services for children with disabilities. *American Academy of Pediatrics, 143*(4), 1-14. doi:10.1542/peds.2019-0285
33. IgorVetushko. (2018). Multicultural preschoolers drawing pictures with pencils in classroom [Image]. Retrieved from https://depositphotos.com/205523382/stock-photo-multicultural-preschoolers-drawing-pictures-pencils.html
34. Inferencing. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/inference
35. Initiative. (n.d.). In *Cambridge* online dictionary. Retrieved from https://dictionary.cambridge.org/us/dictionary/english/initiative
36. iPhone 4s. (2017). Monopoly junior board game [Image]. Retrieved from https://pxhere.com/en/photo/761660
37. Kaviaka, L. (2018). Women reading book to toddler. Retrieved from https://www.pexels.com/photo/woman-reading-book-to-toddler-1741231/
38. Kidsense. (n.d.). Stages of language development checklist. Retrieved from https://childdevelopment.com.au/resources/child-development-charts/stages-of-language-development-checklist/
39. LMoonlight. (2018). Playdough [Image]. Retrieved from https://pixabay.com/photos/play-doh-play-dough-creative-3308887/
40. Lumen. (n.d.). Introduction to arithmetic operations. Retrieved from https://courses.lumenlearning.com/boundless-algebra/chapter/introduction-to-arithmetic-operations/
41. Martin, C., & Arlotta, D. (2016). Two Caucasian, two African American children play together [Image]. Retrieved from https://pixnio.com/people/children-kids/two-caucasian-and-two-african-american-children-playing-together
42. Maslow, A. (1954). *Motivation and personality.* New York: NY: Harper & Brown.
43. Memory. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/memory
44. Morin, A. (n.d.). Developmental milestones for 3-year-olds. Retrieved from https://www.understood.org/en/learning-thinking-differences/signs-symptoms/developmental-milestones/developmental-milestones-for-typical-3-year-olds
45. National Center for Learning Disabilities. (n.d.). Parent advocacy brief: Preschool services under IDEA. Retrieved from https://dredf.org/wp-content/uploads/2014/04/preschool_brief.pdf

46. National Education Goals Panel [NEGP]. (1995). Reconsidering children's early development and learning: Toward common views and vocabulary. Retrieved from https://govinfo.library.unt.edu/negp/reports/child-ea.htm
47. National Health Services. (2019). Sense-able ideas: Activities to improve oral motor skills. Retrieved from https://www.nhsaaa.net/publications/information-leaflets/sense-able-ideas-activities-to-improve-oral-motor-skills/#:~:text=Oral%20motor%20skills%20include%20awareness,a%20child%20or%20young%20person.
48. National Research Council. (2000). Inquiry and the national science education standards: A guide for teaching and learning. Retrieved from https://www.nap.edu/catalog/9596/inquiry-and-the-national-science-education-standards-a-guide-for
49. Neurological and Physical Abilitation Center [NAPA Center]. (2020). The difference between expressive and receptive language. Retrieved from https://napacenter.org/receptive-vs-expressive-language/#:~:text=Receptive%20language%20is%20the%20understanding,language%20faster%20than%20expressive%20language.
50. North Dakota Department of Public Instruction [NDDPI]. (2018). North Dakota early learning standards: Birth to kindergarten. Retrieved from https://www.nd.gov/dpi/sites/www/files/documents/Academic%20Support/EL2018.pdf
51. Parent Companion. (n.d.). Public school special education. Retrieved from https://www.parentcompanion.org/article/ppcd-public-school-services-for-children-ages-3-through-5
52. Pathways. (n.d.a.). How kids learn to play: 6 stages of play development. Retrieved from https://pathways.org/kids-learn-play-6-stages-play-development/
53. Pathways. (n.d.b.). Motor skills. Retrieved from https://pathways.org/topics-of-development/motor-skills/
54. Quincey, A. (2017). What is spatial awareness and why is it important to children? Retrieved from https://www.moduplay.com.au/spatial-awareness-important-children/
55. Raising Children. (2020). 5-6 years: Child development. Retrieved from https://raisingchildren.net.au/school-age/development/development-tracker/5-6-years#:~:text=At%20this%20age%2C%20children%20can,outbursts%20of%20anger%20and%20sadness.
56. Reasoning. (n.d.). In *Merriam-Webster.com* dictionary. Retrieved from https://www.merriam-webster.com/dictionary/reasoning.
57. Rosen, P. (n.d.). Working memory: What it is and how it works. Retrieved from https://www.understood.org/en/learning-thinking-differences/child-learning-

disabilities/executive-functioning-issues/working-memory-what-it-is-and-how-it-works
58. Russell, D. (2018). What is geometry? Retrieved from https://www.thoughtco.com/what-is-geometry-2312332
59. Seely, C. (2004). A journey in algebraic thinking. Retrieved from https://www.nctm.org/News-and-Calendar/Messages-from-the-President/Archive/Cathy-Seeley/A-Journey-in-Algebraic-Thinking/#:~:text=Algebraic%20thinking%20includes%20recognizing%20and,applying%20algebra%20to%20solve%20problems.
60. Share. (n.d.). In *Merriam-Webster.com* dictionary. Retrieved from https://www.merriam-webster.com/dictionary/share
61. Stamina. (n.d.). In *Merriam-Webster.com* dictionary. Retrieved from https://www.merriam-webster.com/dictionary/stamina
62. Syaibatulhamdi. (2020). Children sitting on a bench talking [Image]. Retrieved from https://pixabay.com/photos/children-bench-sunset-village-5537106/
63. UC Davis Sports Medicine. (n.d.). Flexibility. Retrieved from https://health.ucdavis.edu/sportsmedicine/resources/flexibility_descriprion.html#:~:text=Flexibility%20is%20the%20ability%20of,pain%20free%20range%20of%20motion.&text=The%20range%20of%20motion%20will,%2C%20joint%20capsules%2C%20and%20skin
64. Understood (n.d.a.). What is executive function? Retrieved from https://www.understood.org/en/learning-thinking-differences/child-learning-disabilities/executive-functioning-issues/what-is-executive-function
65. Understood. (n.d.b.). Trouble with flexible thinking: why some kids only see things one way. Retrieved from https://www.understood.org/en/learning-thinking-differences/child-learning-disabilities/executive-functioning-issues/flexible-thinking-what-you-need-to-know
66. U.S. Department of Education. (n.d.). About IDEA. Retrieved from https://sites.ed.gov/idea/about-idea/
67. Wake Forest University. (n.d.). The difference between feelings and emotions. Retrieved from https://counseling.online.wfu.edu/blog/difference-feelings-emotions/
68. Williams, P. G., & Lerner, M. A. (2019). School readiness. *Pediatrics, 144*(2), e201-1766. doi:10.1542/peds.2019-1766.
69. Zoltan, B. (2007). Orientation and attention. In *Vision, perception, and cognition* (pp 189-206). Thorofare, NJ: SLACK Incorporated.

Appendix A - Milestones

Typical Physical/Motor Development Milestones by Age Range

3-4 years old milestones
Fine Motor • Hand dominance established • Uses a tripod grasp • Traces a line/colors within lines • Copies simple shapes (horizontal line, circle, imitates H and V strokes) and some letters • Uses scissors to cut simple designs • Cuts 6 inch paper on line • Constructs 3 dimensional designs • Manipulates objects within the hand, able to shift object from palm up to fingers, may needs occasional assistance from external surface/objects • Strings ½ inch beads, following shape pattern **Gross Motor** • Walks heel-toe 10 feet • Walks upstairs alternating feet, downstairs with both feet on same step • Runs with good coordination and stops without falling • Begins to skip and hop • Jumps for height, but may demonstrate inconsistency • Balances for short periods of time with some assistance • Catches large bounce ball with hands • Kicks moving ball • Rides tricycle • Engages in physical activity that requires strength and stamina for brief periods of time

4-5 years old milestones
Fine Motor • Dominant hand used in more varied tasks • Uses a dynamic tripod grasp • Traces own non-dominant hand • Copies own name, simple shapes (cross, square, H/V, X, left to right and right to left diagonal) • Draws stick figures, may being to draw more detailed body parts • Uses scissors to cut out squares and other simple shapes or curves/lines within ¼ of an inch, with shape remaining generally intact • Uses two hands together well, one stabilizing and one using • Opposes thumb to fingers • Repositions object in hand without use of external surface/object • Completes puzzles of up to 10 pieces • Glues paper to second piece of paper **Gross Motor** • Walks forward/backwards on beam, up/down stairs alternating feet • Skips/hops for longer distances, gallops • Jumps down from high step; jumps forward • Throws ball and hits target • Balances for longer periods of time both when standing still and when moving from one position to another • Catches tennis ball with both hands • Pedals tricycle smoothly • Somersaults forward • Climbs on playground equipment, swinging from arms or legs • Engages in physical activities of increasing levels of intensity for sustained periods of time

5-6 years old milestones
Fine Motor • Dominant hand used effectively in most tasks • Mature grasp pattern established • Copies triangles/rectangles; traces diamond • Draws 3 recognizable objects as part of whole picture, human figure with greater detail (i.e. body, head, and extremities • Cuts diamond, detailed pictures on line accurately • Manipulates tiny objects in fingertips without dropping • Uses shift and complex rotation to position object for functional use • Uses two hands together in complementary movement • Completes puzzles of up to 20 pieces **Gross Motor** • Smoothly transitions (walking forward, backwards, sideways) • Hops/skips well for longer distances without help • Balances on one foot for 8-10 seconds with eyes open, 5 seconds with eyes closed • Catches ball with two hands • Dribbles ball while walking forward • Rides bike with training wheels and sometimes without • Kicks with accuracy • Swings independently • Rollers skates with assistance and sometimes without • Engages in physical activities of increasing levels of intensity, duration, and complexity

Oral Motor Skills

By the age of 3 years old, children should have well-developed oral motor skills. This includes good articulation of speech and the ability to chew and swallow most liquid and solids foods. If you have concerns about a child's oral motor skills, it is recommended that you encourage the parents to seek guidance from either the child's primary doctor, an occupational therapist (OT), or a speech-language pathologist (SLP).

Typical Social-Emotional Development by Age Range

3-4 years old milestones
Social • Copies others social skills • Takes turns in games • May initiate play with others • Understands “mine” vs. “theirs” • Incorporates roles into play (i.e. “mom”, “dad”, “teacher”) • Begins to find simple ways to solve arguments/disagreements with others **Emotional** • Shows concern/affections for others without prompting • Demonstrates a wide range of emotions (i.e. happy, sad, anger, fear) • Separately easily from parents/guardians • May demonstrate some defiance, especially towards parents

4-5 years old milestones
Social • Would rather play with peers than by self • Cooperates well with other children • Talks about personal interests/likes • Shows understanding of right vs. wrong • Incorporates fantasy and reality **Emotional** • May demonstrate some defiance, especially towards parents • Becomes more aware of other people’s feelings • Can work on difficult task for longer period, able to cope with frustration/anger a little better • May become less defiant, more even-tempered

5-6 years old milestones
Social • Wants to please others • Wants to relate with or be like peers • Interacts with a wide variety of people (peers, family, unfamiliar people) • More likely to agree with and follow the rules **Emotional** • Able to control emotions/behaviors well • Begins to understand complex emotions better (i.e. jealousy, regret, worry, etc.) • May begin to demonstrate fear of more abstract things (i.e. failure, potential for harm/injury, etc.)

Typical Language Development by Age Range

3-4 years old milestones
Expressive • Name familiar things • Can communicate basic personal information (first name, age, sex, etc.) • Can use 2-3 sentences in conversations • Can follow basic rules of grammar with words, but may make mistakes with words that don't follow the rules (i.e. saying gooses instead of geese) **Receptive** • Follows 1-2 step directions • Understands most prepositions (i.e. on, behind, next, etc.) • Responds when you call from another room

4-5 years old milestones
Expressive • Can communicate first and last name • Tells stories • Sings songs or poems (i.e. Twinkle Twinkle Little Star, Wheels on the Bus) **Receptive** • Recalls part of a story • Understands word for order, such as first, next, and last • Follows longer directions accurately (3-4 steps)

5-6 years old milestones
Expressive • Speaks very clearly, using full and complex sentences • Can use future tense • Can communicate name and address **Receptive** • Understands relationships between objects • Begins to understand jokes and riddles • Understands size concepts (I.e. tall, short, fat, thing, etc.)

Typical Cognitive Development by Age Range

3-4 years old milestones
• Knows the name of some numbers and can count up to 10 • Understands whole numbers • Can recognize a simple pattern, fill in missing piece with assistance • Sort objects by characteristics (shape, color, etc.)

4-5 years old milestones
• Knows name of more numbers and colors • Understands the idea of counting • Completes, copies, and creates simple repeating patterns • Can guess what may happen next in a story • Begins to copy basic shapes (circle, lines, etc.)

5-6 years old milestones
• Understands basic concepts of time • Knows their address and phone number • Recognize all letters of alphabet • Begins to copy more complex geometric shapes

Appendix B – Activities

Blocks

Figure 9. Child building with blocks (FeeLoona, 2016).

Physical & motor development

- Picking up blocks with different grasps (full fist, 2-4 fingers)
- Stacking blocks
- Picking up blocks on side of body with opposite hand
- Playing with blocks in different positions (on stomach, side, sitting with legs crossed, sitting on chair, standing, etc.)

Social-emotional regulation

- Working with other children to build a structure
- Coping with disappoint/frustration if structure(s) fall or get knocked over
- Sharing materials from same box while playing independently

Language development

- Naming shape or color of block
- Counting number of blocks out load while building
- Associating built items with similar looking things (i.e. wall, train, house, bridge, stairs, etc.)

Cognition

- Sorting blocks by color or shape
- Replicate various patterns from picture or physical models (i.e. ABABAB, ABCABC, ABBABBA, etc.)
- Understanding of spatial relations (on top of, under, behind, in front, next to, etc.)

Approaches to Play & Learning

- Using imagination to build and use structures (i.e. tower, parking garage, house, etc.)
- Ability to learn (via trial and error) from previous attempts to know whether new ways must be tried make future attempts more successful.
- Willingness to continue trying if unsuccessful (i.e. knocked over built structure) in several previous trials.

Grading the activity

- Present less or more blocks
- Use of smaller or bigger blocks
- Use various shapes of blocks
- Build alongside the child or present them with an already completed model and ask them to replicate

Go Fish

Figure 10. Playing a card game (Canon EOS 30D, 2017).

Physical & motor development

- Ability to maintain a seated position on chair or floor for period of time with or without support (i.e. leaning on table)
- Ability to manipulate cards (hold in hand, pick up from table, set down on table, etc.)
- Ability to move eyes back and forth between cards

Social-emotional regulation

- Coping with losing the game
- Taking turns to play
- Maintaining appropriate personal space during game play

Language development

- Understanding verbal directions
- Ability to ask other players for a particular card and hear what card other players are asking you about
- Being able to say “go fish”

Cognition

- Recognizing match/pair
- Counting number of pairs to determine winner
- Planning who to ask and for what card

Approaches to play & learning

- Willingness to keep trying if they do not get a match
- Remembering what has already been asked
- Ability to stay engaged throughout the game

Grading the activity

- Give more or less cards to look at
- Use a card holder
- Ask for similar colors/suites rather than numbers
- Ask more than one player for a card
- Continue asking until you get a card

Drawing/Coloring

Figure 11. Crayons in a jar (Canon EOS Digital Rebel XS, 2017).

Physical & motor development

- Managing different writing utensils (uncapping markers, sharpening pencils, etc.)
- Remaining within the lines or staying on the paper
- Ability to sit upright in chair for sustained period of time with or without supporting self (leaning on table, head down, etc.)

Social-emotional regulation

- Sharing materials with others
- Taking pride in their completed work
- Able to cope with making mistakes or having difficulty making something
- Confidence to complete tasks vs. saying “I can’t”

Language development

- Naming colors used or shapes drawn
- Using their drawing to tell a story
- Using signs, symbols, and words

Cognition
• Recognition of colors and shapes • Able to distinguish between parts of a picture (i.e. hands vs. clothing, grass vs. flowers, etc.) • Length of time a child is able to maintain focus on coloring/drawing

Approaches to play & learning
• Approach to coloring/drawing (i.e. moving top to bottom/bottom to top, right to left/left to right, working outwards or inwards, etc) • Realistic or imaginative (coloring someone's skin purple, drawing basic shapes and labeling them as complex objects, etc.) • Uses materials appropriately, takes care of them

Grading the activity
• Increase or decrease choices (type/color of paper, type/color of medium, etc.) • Use less or more detailed pictures for coloring • Provide instructions for how to draw something (can be one, two, three or more steps at a time) • Complete task alongside child or present an already completed task and ask them to replicate

Laser Maze

Figure 12. Laser maze with streamers (own photo).

Physical & motor development

- Climbing over lasers
- Crawling and/or rolling underneath lasers
- Ability to endure throughout entire course

Social-emotional regulation

- Waiting in line for your turn
- Coping with making a mistake
- Confidence to complete tasks vs. saying “I can’t”

Language development

- Following verbal directions
- Being able to request help if needed
- Verbally encouraging others

Cognition
• Planning how to get from one side to the another • Understanding where body parts are in relation to lasers • Problem-solving when stuck in a spot

Approaches to play & learning
• Able to stop and analyze next moves to identify if a change in approach may be (body position, path, etc.). • Willingness to attempt/participate in activity • Ability to learn (via trial and error) from previous attempts to know whether new ways must be tried make future attempts more successful.

Grading the activity
• Putting up more or less lasers • Placing a time limit on activity • Verbalize movements for children (go over, go under) • Have kids race against one another • Make the course longer or shorter in distance

Musical chairs

Figure 13. Playing musical chairs (Camknows, 2013).

Physical & motor development

- Walking safely/slowly in a circle
- Being able to anticipate where to place body correctly to sit on a chair
- Using core strength to remain in an upright position when sitting quickly on a chair

Social-emotional regulation

- Coping with losing appropriately
- Maintaining appropriate personal boundaries/space for game play (i.e. not shoving/pushing, following too closely, etc.)
- Resolving conflict if two kids are sitting on one chair

Language development

- Understanding/following verbal directions
- Identifying that music has been paused
- Singing along to familiar songs

Cognition
• Speed of reaction time after music is shut off • Anticipating how to move in circle to be prepared to sit in chair • Understands difference in number of chairs vs. number of players

Approaches to play & learning
• Whether the child is engaging at h • Willingness to play another round if lost in previous one • Looking for other open chairs if the one right in front of them is already taken

Grading the activity
• Removing more than one chair at a time • Walking closer or further away from the chairs • Varying how children move about in circle around chairs (walking, crawling, skipping, jumping, etc.)

Dancing

Figure 14. Photo of girls dancing (Cottonbro, 2020).

Physical & motor development

- Moving body parts around
- Holding objects while dancing (shaky egg, scarf, etc.)
- Moving around space

Social-emotional regulation

- Coping with frustrations if unable to complete certain dance move or if dance is too fast
- Being aware of space around them while dancing with other children
- Maintaining personal boundaries (not pushing, hitting, etc.)

Language development

- Singing simple songs while dancing
- Recognizing directions of song
- Responding to simple questions in songs while dancing

Cognition
• Copying caregiver/other children while dancing to song • Following directions of song • Sequencing what dance move comes next in song

Approaches to play & learning
• Attending to dancing to full song • Ability to learn movements in the moment, increasing success with each attempt • Taking initiative to complete dance moves

Grading the activity
• Dancing to songs with certain dance moves vs own dance moves • Dancing to songs with simple moves vs complex moves • Dancing with less vs more children

Duck, Duck, Goose

Figure 15. Duck, Duck, Goose (DannyBazaBlas, 2008).

Physical & motor development

- Running around circle
- Gently tapping each child's head
- Accurately tapping child's head/shoulder

Social-emotional regulation

- Waiting turn to be the "goose"
- Dealing with frustrations when losing
- Feeling confident in being able to follow rules of game

Language development

- Listening to what other children are saying when tap head (Are they saying "duck" or "goose?")
- Stating either "duck" or "goose" for each child while walking around
- Following verbal directions (Running when you are "goose")

Cognition
• Following rules of game • Understanding rules of game • Sequencing steps of game

Approaches to play & learning
• Attending to game (whose turn is it, who is running, etc) • Taking initiative to play game with other children • Willingness to continue playing if you are unsuccessful (get tagged or don't tag the other person)

Grading the activity
• Playing with more vs less children • Making the circle closer together or more spread out • Playing in larger vs smaller space

Story Time

Figure 16. Women reading book to toddler (Kaviaka, 2018).

Physical & motor development
• Maintaining sitting down while hearing story • Turning pages of book • Holding book

Social-emotional regulation
• Taking turns with other children with reading book/picking book with caregiver • Recognizing feelings of characters in story • Maintaining personal boundaries/space with other children

Language development
• Listening to story being told • Asking questions about story • Reading parts of or whole story to others

Cognition
• Predicting what will happen next in story • Imitating adults telling stories (reading books by self or to other children) • Recalling specific information from story (i.e. character's names, actions, etc.)

Approaches to play & learning
• Attending to story • Curious about what will happen next • Willingness to continue with difficult words or higher reading levels

Grading the activity
• Reading shorter or longer books • Reading books with more pictures vs more words • Reading to less vs more children • Reading books at lower or higher reading level

Playdough

Figure 17. Playdough (LMoonlight, 2018).

Physical & motor development

- Rolling, grasping, squishing, manipulating playdoh with hand/fingers
- Reaching for materials
- Holding utensils (rolling pin, tweezer, cutters, etc.)

Social-emotional regulation

- Sharing play dough/utensils with other children
- Coping with frustrations (not being able to create desired item, play doh structure falling apart, etc.)
- Feeling of accomplishment after creating objects with play doh

Language development

- Naming color of play doh
- Describing structure/creation out of play doh
- Knowing simple shapes/animals out of play doh

Cognition
• Understanding how to create various objects/shapes • Recognition of colors and shapes • Copying how to make a similar object/items of another child or caregiver

Approaches to play & learning
• Being creative while making various pretend objects/items • Attending to playing with play doh • Curious about what other children are creating

Grading
• Playing with more vs less play doh • Playing with playdoh that has more resistance (hard vs soft play doh) • Build alongside the child or present them with an already completed model and ask them to replicate

Board Games

Figure 18. Monopoly junior board game (iPhone 4s, 2017).

Physical & motor development

- Gripping small pieces to move to various spaces on board
- Sitting in chair/on floor to play game
- Being able to set up game board & pieces

Social-emotional regulation

- Waiting for turn to play
- Coping with losing game
- Maintaining personal boundaries/space with other children

Language development

- Counting out loud (such as when counting out spaces)
- Verbalizing whose turn it is
- Following verbal directions of others during game

Cognition
• Following rules of game • Understanding rules of game • Sequencing steps of game

Approaches to play & learning
• Attending to game • Taking initiative to play with other children • Willingness to participate even when losing

Grading the activity
• Playing game with less vs more rules • Playing with less vs more children • Playing with larger vs smaller game pieces

Appendix C – Glossary

- *Algebraic thinking*: The ability to recognize and analyze patterns and relationships to make generalizations and determine how things may change.[59]
- *Associative play*: When a child begins to interact with other more during play, but still working toward individual-based purpose or goal. Often shares materials or area with other children.[52]
- *Body mass index*: Used to assess someone's potential risk for increase health issues associated with high weight/fat levels based on characteristics of weight, height, age, and sex. In children, this is most often used as a screening measure to flag for potential future difficulties rather than determining if one is considered obese or not.[11]
- *Body physiology and structure*: Assesses how one's body is able to naturally perform.[50]
- *Compromise:* An agreement between two sides who have differing opinions, with each side giving up something it wanted.[15]
- *Conflict resolution*: How two or more parties to find a peaceful solution to a disagreement between them.[14]
- *Cooperation:* The ability to work and play well with others.[16]
- *Cooperative play:* When a child begins to play together with others, working towards a common goal.[52]
- *Counting:* to name numbers in order up.[18]
- *Creativity:* The ability to produce original or unusual ideas.[19]
- *Curiosity:* One's desire to explore and learn new things.[20]
- *Emotions:* The internal state of a person; typically over a long duration; usually considered unconscious experience.[67]
- *Emotional expression:* How one verbally and nonverbally communicates internal emotions, can occur with or without intention.[26]
- *Emotional Intelligence:* How someone understands and manages their emotions for themselves and when interacting with others.[31]
- *Empathy:* A child's ability to understand and share the feelings of someone else.[27]
- *Energy:* The ability to complete activities with varying levels of vigor.[28]

- *Expressive language:* Assesses how a child is able to communicate their thoughts and feelings with others.[49]
- *Executive functioning:* A particular set of mental skills, including working memory, flexible thinking, attention, etc. Allows for one to focus, follow directions, and complete tasks efficiently and effectively.[64]
- *Feelings:* Includes emotional experiences and the associated physical sensations; typically of shorter duration; considered a conscious experience.[67]
- *Flexible thinking:* The ability to see things from another perspective or viewpoint and to use different strategies to solve problems.[65]
- *Flexibility:* The ability of one's joints to move smoothly and freely, influenced by muscles, tendons, skin, etc.; varies from person to person greatly; lack of activity/stretching over a long period of time can lead to shortening of body tissues and decreased flexibility.[63]
- *Fine motor skills*: Movements that require the use of smaller muscles, specifically those of the forearm, wrist, and hand.[53]
- *Geometry:* Study of the size, shapes, positions, angles, and dimensions of things.[58]
- *Gross motor skills*: Movements that require the use of large muscles, including the legs, arms, and trunks.[53]
- *Impulse control:* The ability to resist sudden desires to partake in certain behaviors, especially those that are potentially risky and dangerous.[1]
- *Inferencing:* The process of reaching a conclusion about something using known facts.[34]
- *Initiative:* The ability to use judgement to make decisions and do things without being told to.[35]
- *Mathematics development:* Understanding characteristics of numbers/quantities (relationships, operations, subtraction/addition) and of shapes/structures (classification, patterns, measurement).[50]
- *Measurement:* A number that shows the amount or size of something.[22]
- *Memory:* How one recalls past experiences/knowledge to use at a later time.[43]
- *Onlooker play:* When a child watches other children playing, but does not play with them.[52]

- *Oral motor skills*: Movements of the mouth (jaw, tongue, cheeks, and lips) that require strength, coordination, and awareness.[47]
- *Operations:* Mathematical processes, with the most common being addition, subtraction, multiplication, division. Typically represented with a symbol.[40]
- *Parallel play:* When a child plays alongside others, but not with them. Does not share materials or specific space, has little interactions with others.[52]
- *Physical abilities:* Assesses fine, gross, and oral motor skills, and the child's ability to use these skills in functional tasks.[50]
- *Physical maturation:* How one's body naturally grows and changes as they age.[25]
- *Problem-solving:* How one goes about solving problems. Includes defining the problem, determining the cause, finding alternative solutions, implementing a solution.[2]
- *Rate of growth*: Assesses a child's height, weight, and physical maturation compared to what is considered typical for their age. [50]
- *Reasoning:* How one thinks about things in a logical way to form a conclusion and/or judgement.[56]
- *Receptive language:* Assesses how a child understands information that is provided to them.[49]
- *Scientific inquiry*: Ways in which one studies/explores the natural world and offers possible explanations for how and why things work, using evidence from their experiences.[50]
- *Scientific reasoning*: Ability to increase understanding and gain information about the things around them using the scientific process/methods. Includes making, recording, analyzing, and sharing observations.[50]
- *Self-concept*: Assesses a child's feelings and view of themselves based on their values, beliefs, and abilities.[50]
- *Self-efficacy*: Assesses a child's belief in their abilities to aid in accomplishing the things they set out to do.[50]
- *Self-esteem*: Assesses how a child feels about themselves, including feelings of worth, value, and purpose in life. Can be viewed as either positive or negative.[50]
- *Sensorimotor skills*: How one takes information in through various senses and how one's body responds to that information.[13]

- *Sharing*: The ability to use, occupy, or enjoy things/spaces with others.[60]
- *Spatial awareness*: Ability to understand where objects are in relation to each other.[54]
- *Stamina*: The ability to sustain a prolonged stressful activity.[61]
- *Sustained attention*: Maintaining attention for a long time.[50]
- *Working memory*: The ability to retain new information to use it in some way, such as completing a task, answering a question, making a decision, etc.[57]

CHAPTER V

Summary

Project Overview

This scholarly project explored the impact that early childhood care can have on a child's development and potential success in future educational environments. Research was conducted regarding federal and state specific school readiness skills, benefits and drawbacks of various early childhood care arrangements, and the role of occupational therapy in promote school readiness skills. This exploration led to the development of a resource guide, specifically geared towards home-based daycare providers, to help increase the perceived quality of these settings and make them stronger competitors in the field of early childhood care. The Person-Environment-Occupation Model was used as a guiding framework to include information regarding school readiness skills, influencing factors of each unique individual and their environments, as well as skill requirements within daily life tasks. Common activities completed with preschool age children were included, with specific examples of how to target each school readiness skill within that activity. Recommendations and resources were also listed to assist with the process of addressing potential concerns regarding development with families.

Possible Implementation

Ideally, the product will be distributed to home-based daycare providers within North Dakota, which may be achieved in several ways. First, it may prove beneficial to

partner with pediatric occupational therapists throughout North Dakota to provide a brief overview of the product and intentions. Pediatric therapy clinics often have established relationships with childcare facilities in their communities. By increasing awareness and understanding of this resource with occupational therapists, they may make recommendations to childcare facilities based upon information provided to them by the authors. Second, the authors could contact Childcare Aware ND to inquire about partnering to further distribution of the guide throughout the state. Third, licensed home-based daycare providers could be sought out using online searching, including social networking websites, online support groups, etc. The providers would be contacted by the authors of this project to determine interest in the resource, at which point a digital copy could be provided to them. Finally, daycare providers could download this document online if independently searching resources regarding school readiness.

Conclusion

It is anticipated that this guide will assist home-based daycare providers in promoting school readiness within their home-based daycares with children ages 3-6. The resource guide allows home-based daycare providers to gain a better understanding of school readiness skills and how to implement it into age-appropriate activities. Through the use of a universal approach, children of all abilities will benefit from the recommendations made within the resource guide. It is important to utilize this resource guide to be able to improve the quality of the home-based daycares and better prepare children for school, so they do not fall behind developmentally or academically.

Limitations

There are several limitations that may impact the implementation of the product. One limitation to the product is it is only viewed through one state's school readiness guidelines. However, many states have similar school readiness guidelines and follow the national recommendations, which would allow the resource guide to be adapted to meet other state's guidelines. Another limitation is that the resource guide was created for home-based daycare providers, though could be adapted to be given to others, including nannies, relatives, and parents who may benefit. This product has also not been implemented, which makes it difficult to realize the strengths and weakness when utilizing the guide. Finally, since the guide was created using an occupational therapy based model, the home-based daycare providers may not understand the PEO model that is utilized.

Recommendations

One recommendation is to ask home-based daycare providers to distribute a survey regarding ease of use, readability, and effectiveness to ensure that the product is meeting the intended need of these daycare providers. In addition, it might be beneficial to implement an independent study that determines the effectiveness of the resource guide to help improve school readiness skills within home-based daycare settings. Another recommendation is to develop an in-service for home-based daycare providers to further apply their knowledge about targeting school readiness for preschool-age children. Finally, it may prove beneficial to broaden the scope of the resource guide to include guidelines for neighboring states, such as Minnesota, Wyoming, South Dakota, and Montana.

References

American Academy of Pediatrics [AAP]. (2014). Literacy promotion: An essential component of primary care pediatric practice. *Pediatrics, 134*(2), 404-409. doi:10.1542/peds.2014-1384.

American Addiction Centers. (2019). Impulse control disorders and substance abuse. Retrieved from https://americanaddictioncenters.org/co-occurring-disorders/impulse-control-disorder

American Occupational Therapy Association [AOTA]. (n.d.a). AOTA practice advisory on therapy in response to intervention. Retrieved from https://www.aota.org/-/media/corporate/files/practice/children/browse/school/RtI/AOTA%20RtI%20practice%20Adv%20final%20%20101612.pdf

American Occupational Therapy Association [AOTA]. (n.d.b). What is occupational therapy? Retrieved from https://www.aota.org/Conference-Events/OTMonth/what-is-OT.aspx

American Occupational Therapy Association [AOTA]. (2012). Learning through play. Retrieved from https://www.aota.org/-/media/Corporate/Files/Practice/Children/Browse/Play/Learning%20Through%20Play%20tip%20sheet.pdf

American Occupational Therapy Association [AOTA]. (2013). Social and emotional learning. *Occupational Therapy's Role in Mental Health Promotion, Prevention, & Intervention With Children & Youth.* Retrieved from https://www.aota.org/-/media/Corporate/Files/Practice/Children/SchoolMHToolkit/Social-and-Emotional-Learning-Info-Sheet.pdf

American Occupational Therapy Association [AOTA]. (2015). Fact sheet: Occupational therapy's role with children and youth. Retrieved from https://www.aota.org/-/media/Corporate/Files/AboutOT/Professionals/WhatIsOT/CY/Fact-Sheets/Children%20and%20Youth%20fact%20sheet.pdf

American Occupational Therapy Association [AOTA]. (2017). The practice of occupational therapy in feeding, eating, and swallowing. *American Journal of Occupational Therapy, 71*,(Suppl. 2),7112410015. doi:10.5014/ajot.2017.716S04

American Occupational Therapy Association [AOTA]. (2018). 2018 accreditation council for occupational therapy education (ACOTE) standards and interpretive guide. *American Journal of Occupational Therapy, 72*, 7212410005. doi:10.5014/ajot2018.72S217

American Occupational Therapy Association [AOTA]. (2019). Cognition, cognitive rehabilitation, and occupational performance. *American Journal of Occupational Therapy, 73*(Suppl. 2), 7312410010. doi:10.5014.ajot.2019.73S201

Anderson, M., & Grinder, S. (2017). Occupational therapy's role in social-emotional development through childhood. *OT Practice, 22*(7), 1-8. Retrieved from https://www.aota.org/Publications-News/otp/Archive/2017/04-24-17-caring-for-the-caregiver.aspx.

ASQ. (n.d.). What is problem-solving? Retrieved from https://asq.org/quality-resources/problem-solving#:~:text=Problem%20solving%20is%20the%20act,Problem%20solving%20resources

Baptiste, S. (2017). The person-environment-occupation model. In J. Hinojosa, P. Kramer, & C. B. Royeen (Eds.), *Perspectives on human occupation: Theories underlying practice* (pp. 137-159). Philadelphia, PA: F. A. Davis Company.

Bassok, D., Greenberg, E., Fitzpatrick, M., & Loeb, S. (2016). Within- and between-sector quality difference in early childhood education and care. *Child Development, 87(*5), 1627-1645. doi:10.1111/cdev.12551

Bastable, S., & Dart, M. (2011). Developmental stages of the learner. In S. B. Bastable, P. Gramet, K. Jacobs, & D. L. Sopczyck (Eds.), *Health professional as educator: Principles of teaching and learning* (pp. 151-195). Jones & Bartlett Learning.

Bazyk, S., Muchaud, P., Goodman, G., Papp, P., Hawkins, E., & Welch, M. (2009). Integrating occupational therapy services in a kindergarten curriculum: A look at the outcomes. *American Journal of Occupational Therapy, 63,* 160-171. doi:10.5014/ajot.63.2.160

Brown, C. (2014). Ecological models in occupational therapy. In B. A. Boyt-Schell, G. Gillen, & M. E. Scaffa (Eds.), *Willard & Spackman's occupational therapy* (pp. 494-504). Baltimore, MD: Lippincott Williams & Wilkins.

Buskirk, S., & Slone, K. (n.d.). Sensorimotor theme groups: A review of literature. Retrieved from https://ot.eku.edu/sites/ot.eku.edu/files/files/Sensorimotor%20Literature%20Review.pdf

Capizzano, J., & Adams, G. (2000). The hours that children under five spend in childcare: variation across states. *Urban Institute.* Retrieved from

https://www.urban.org/sites/default/files/publication/62106/309439-The-Hours-That-Children-Under-Five-Spend-in-Child-Care.PDF

Camknows. (2013). Playing musical chairs [Image]. Retrieved from https://www.flickr.com/photos/camknows/10193212223

Canon EOS 30D. (2017). Playing a card game. [Image]. Retrieved from https://pxhere.com/en/photo/270789

Canon EOS 60D. (2017). Young boys with school supplies [Image]. Retrieved from https://pxhere.com/en/photo/1343130

Canon EOS Digital Rebel XS. (2017). Crayons in a jar [Image]. Retrieved from https://pxhere.com/en/photo/608275

Canon EOS Digital Rebel XSi. (2017). Young boys laughing [Image]. Retrieved from https://pxhere.com/en/photo/982278

Case-Smith, J. (2000). Effects of occupational therapy services on fine motor and functional performance in preschool children. *American Journal of Occupational Therapy, 54,* 372–380. doi:10.5014/ajot.54.4.372

Case-Smith, J. (2013). Systematic review of interventions to promote social-emotional development in young children with or at risk for disability. *American Journal of Occupational Therapy, 67,* 395-404. doi:10.5014/ ajot.2013.004713

Centers for Disease Control and Prevention [CDC]. (n.d.a.). 3 years. Retrieved from https://www.cdc.gov/ncbddd/actearly/milestones/milestones-3yr.html

Centers for Disease Control and Prevention [CDC]. (n.d.b.). 4 years. Retrieved from https://www.cdc.gov/ncbddd/actearly/milestones/milestones-4yr.html

Centers for Disease Control and Prevention [CDC]. (n.d.c.). 5 years. Retrieved from https://www.cdc.gov/ncbddd/actearly/milestones/milestones-5yr.html

Centers for Disease Control and Prevention. (2020). About child & teen BMI. Retrieved from https://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html#:~:text=Top%20of%20Page-,How%20is%20BMI%20used%20with%20children%20and%20teens%3F,excess%20fat%20is%20a%20problem.

Centers for Disease Control and Prevention. (2021). Why act early? Retrieved from https://www.cdc.gov/ncbddd/actearly/whyActEarly.html

Childcare.gov. (n.d.). Child care options. Retrieved from https://www.childcare.gov/index.php/consumer-education/childcare-options

Clark, G., Fischbach, J., Crane, T., Nadolny, E., Corry, J. (2019). *Cognitive interventions implemented in preschool classrooms for children and youth 0-5 years: Systematic review of related literature from 2010 to 2017* [Critically Appraised Topic]. Bethesda, MD: American Occupational Therapy Association.

Clark, G., & Schlabach, T. (2013). Systematic review of occupational therapy interventions to improve cognitive development in children ages birth-5 years. *American Journal of Occupational Therapy, 67*(4), 425-430. doi:10.5014/ajot.2013.006163.

Community Therapy Services. (n.d.). Sensory motor skills. Retrieved from https://ctspediatrics.com/treatment-areas/occupational-therapy/sensory-motor-disorders/

Community Tool Box. (n.d.). Training for conflict resolution. Retrieved from https://ctb.ku.edu/en/table-of-contents/implement/provide-information-enhance-skills/conflict-resolution/main

Compromise. (n.d.). In *Cambridge* online dictionary. Retrieved from https://dictionary.cambridge.org/us/dictionary/english/compromise

Cooperation. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/cooperation#:~:text=Kids%20Definition%20of%20cooperation,together%20to%20get%20something%20done

Cottonbro. (2020). Photo of girls dancing [Image]. Retrieved from https://www.pexels.com/photo/photo-of-girls-dancing-3662824/

Count. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/count

Creative. (n.d.). In *Cambridge* online dictionary. Retrieved from https://dictionary.cambridge.org/us/dictionary/english/creative

Curiosity. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/curious

Dankert, H. L., Davies, P. L., & Gavin, W. J. (2003). Occupational therapy effects on visual-motor skills in preschool children. *American Journal of Occupational Therapy, 57*, 542–549. doi:10.5014/ajot.57.5.542

DannyBazaBlas. (2008). Duck, Duck, Goose [Image]. Retrieved from https://www.flickr.com/photos/pesotum/2818406549/

Development and Research in Early Math Education (DREME) Network. (n.d.). The mathematics of measurement. Retrieved from http://prek-math-te.stanford.edu/measurement-data/mathematics-measurement

DMC-FZ8. (2017). Children playing on carousal [Image]. Retrieved from https://pxhere.com/en/photo/1339131

Dockett, S., & Perry, B. (2009). Readiness for school: A relational construct. *Australiasian Journal of Early Childhood, 34*(1), 20-26. doi:10.1177/183693910903400104

Donoghue, E. A. (2017). Quality early education and child care from birth to kindergarten. *Pediatrics, 140*(2), e20171488. doi:10.1542/peds.2017-1488

Duncan, G. J., Claessens, A., Huston, A. C., Pagani, L. S., Engel, M., Sexton, H… & Duckworth, K. (2007). School readiness and later achievement. *Developmental Psychology, 43*(6), 1428-1446. doi:10.1037/0012-1649.43.6.1428

Early Learning Coalition of Duval. (2013). Families as advocates and leaders. Retrieved from https://www.elcduval.org/wp-content/uploads/2017/08/advocates_leaders.pdf

Eaton, W. O. (n.d.). Physical maturation. Retrieved from https://home.cc.umanitoba.ca/~eaton/child-development-physical-maturation.htm

Emotional Processing. (n.d.). Emotional expression. Retrieved from http://emotionalprocessing.org/emotional-expression/

Empathy. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/empathy

Energy. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/energy

FeeLoona. (2016). Child building with blocks [Image]. Retrieved from https://pixabay.com/photos/child-tower-building-blocks-blocks-1864718/

Foss, J. (2010). Models and process of service provision in early childhood. In B. E. Chandler (Ed.), *Early childhood: Occupational therapy services for children birth to five,* (pp.109-130). Bethesda, MD: The American Occupational Therapy Association.

Fram, M. S., Kim, J., & Sinha, S. (2012). Early care and prekindergarten care as influences on school readiness. *Journal of Family Issues, 33*(4), 478–505. doi:10.1177/0192513X11415354

Geoffroy, M.C., Côté, S. M., Giguère, C.É., Dionne, G., Zelazo, P. D., Tremblay, R. E.,… & Séguin, J. R. (2010). Closing the gap in academic readiness and achievement: The role of early childcare. *Journal of Child Psychology and Psychiatry, 51*(12), 1359–1367. doi:10.1111/j.1469-7610.2010.02316.x

Grajo, L. C., Candler, C., & Sarafin, A. (2020). Interventions within the scope of occupational therapy to improve children's academic participation: A systematic review. *American Journal of Occupational Therapy, 74*, 7402180030. doi:10.5014/ajot.2020.039016

Healthy Children. (2009). Developmental milestones: 4-5 years old. Retrieved from https://www.healthychildren.org/English/ages-stages/preschool/Pages/Developmental-Milestones-4-to-5-Year-Olds.aspx

HelpGuide. (2020). Improving emotional intelligence (EQ). Retrieved from https://www.helpguide.org/articles/mental-health/emotional-intelligence-eq.htm

High, P. C. (2008). School readiness. *American Academy of Pediatrics, 121*(4). e1008-e1016. doi:10.1542/peds.2008-0079

Houtrow, A., & Murphy, N. (2019). Prescribing physical, occupational, and speech therapy services for children with disabilities. *American Academy of Pediatrics, 143*(4), 1-14. doi:10.1542/peds.2019-0285

Husted, J. T., Buell, M. J., Hallam, R. A., & Pinder, W. M. (2018). While kindergarten has changed, some beliefs stay the same: Kindergarten teachers' beliefs about readiness. *Journal of Research in Childhood Education*, *32*(1), 52-66. doi:10.1080/02568543.2017.1393031

IgorVetushko. (2018). Multicultural preschoolers drawing pictures with pencils in classroom [Image]. Retrieved from https://depositphotos.com/205523382/stock-photo-multicultural-preschoolers-drawing-pictures-pencils.html

Inferencing. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/inference

Initiative. (n.d.). In *Cambridge* online dictionary. Retrieved from https://dictionary.cambridge.org/us/dictionary/english/initiative

iPhone 4s. (2017). Monopoly junior board game [Image]. Retrieved from https://pxhere.com/en/photo/761660

Jasmin, E., Gauthier, A., Julien, M., & Hui, C. (2018). Occupational therapy in preschools: A synthesis of current knowledge. *Early Childhood Education Journal, 46*, 73-82. doi:10.1007/s10643-017-0840-3.

Kadar, M., Yunus, F., Tan, E., Chai, S., & Razaob, N. (2020). A systematic review of occupational therapy intervention for handwriting skills in 4-6 year old children. *Australian Occupational Therapy Journal, 67*(1), 3-12. doi:10.1111/1440-1630.12626

Kaviaka, L. (2018). Women reading book to toddler. Retrieved from https://www.pexels.com/photo/woman-reading-book-to-toddler-1741231/

Ketchum, A., & Potvin, M. (2018). Occupational therapy's role in early language development of babies and young children. *Student Papers & Posters.* Paper 31. Retrieved from https://jdc.jefferson.edu/student_papers/31

Kidsense. (n.d.). Stages of language development checklist. Retrieved from https://childdevelopment.com.au/resources/child-development-charts/stages-of-language-development-checklist/

Keys, T. D., Farkas, G., Burchinal, M. R., Duncan, G. J., Vandell, D. L., Li, W., … & Howes, C. (2013). Preschool center quality and school readiness: Quality effects and variation by demographic and child characteristics. *Child Development, 84*(4), 1171-1190: doi:10.111/cdev.12048

Kuhaneck, H., Spitzer, S., & Miller, E. (2010). *Activity analysis, creativity and playfulness in pediatric occupational therapy: Making play just right.* Sudbury, MA: Jones and Bartlett Publishers.

Laughlin, L. (2013). *Who's minding the kids? Childcare arrangements: Spring 2011*(U.S. Census Bureau Report No. P70-135). Retrieved from https://www.census.gov/library/publications/2013/demo/p70-135.html

Law, M., Cooper, B., Strong, S., Stewart, D., Rigby, P., & Letts, L. (1996). The person-environment-occupation model: A transactive approach to occupational performance. *Canadian Journal of Occupational Therapy, 63*(1), 9-23. doi:10.1177/000841749606300103

Li, W., Farkas, G., Duncan, G. J., Burchinal, M. R., & Vandell, D. L. (2012). Timing of high-quality child care and cognitive, language, and preacademic development. *Developmental Psychology, 49*(8), 1440-1451. doi:10.1037/a0030613.

Lin, Y.C., & Magnuson, K. A. (2018). Classroom quality and children's academic skills in child care centers: Understanding the role of teacher qualifications. *Early Childhood Research Quarterly*, *42*, 215–227. doi:10.1016/j.ecresq.2017.10.003

LMoonlight. (2018). Playdough [Image]. Retrieved from https://pixabay.com/photos/play-doh-play-dough-creative-3308887/

Lumen. (n.d.). Introduction to arithmetic operations. Retrieved from https://courses.lumenlearning.com/boundless-algebra/chapter/introduction-to-arithmetic-operations/

Martin, C., & Arlotta, D. (2016). Two Caucasian, two African American children play together [Image]. Retrieved from https://pixnio.com/people/children-kids/two-caucasian-and-two-african-american-children-playing-together

Maslow, A. (1954). *Motivation and personality.* New York: NY: Harper & Brown.

Memory. (n.d.). In *Merriam-Webster* online dictionary. Retrieved from https://www.merriam-webster.com/dictionary/memory

Miller, M. M., & Kehl, L. M. (2019). Comparing parents' and teachers' rank-ordered importance of early school readiness characteristics. *Early Childhood Education Journal, 47,* 445-453. doi:10.1007/s10643-019-00938-4

Morin, A. (n.d.). Developmental milestones for 3-year-olds. Retrieved from https://www.understood.org/en/learning-thinking-differences/signs-symptoms/developmental-milestones/developmental-milestones-for-typical-3-year-olds

Morrissey, T. W. (2010). Sequence of child care type and child development: What role does peer exposure play? *Early Childhood Research Quarterly, 25*, 33-50. doi:10.1016/j.ecresq.2009.0.005.

Murata, N. M., & Tan, C. A. (2009). Collaborative teaching of motor skills for preschoolers with developmental delays. *Early Childhood Education Journal, 36,* 483–489. doi:10.1007/s10643-007-0212-5

National Center for Learning Disabilities. (n.d.). Parent advocacy brief: Preschool services under IDEA. Retrieved from https://dredf.org/wp-content/uploads/2014/04/preschool_brief.pdf

National Education Goals Panel [NEGP]. (1995). Reconsidering children's early development and learning: Toward common views and vocabulary. Retrieved from https://govinfo.library.unt.edu/negp/reports/child-ea.htm

National Education Goals Panel [NEGP]. (1997). Special early childhood report. Retrieved from https://govinfo.library.unt.edu/negp/page9-3.htm#child

National Health Services. (2019). Sense-able ideas: Activities to improve oral motor skills. Retrieved from https://www.nhsaaa.net/publications/information-

leaflets/sense-able-ideas-activities-to-improve-oral-motor-skills/#:~:text=Oral%20motor%20skills%20include%20awareness,a%20child%20or%20young%20person.

National Research Council. (2000). Inquiry and the national science education standards: A guide for teaching and learning. Retrieved from https://www.nap.edu/catalog/9596/inquiry-and-the-national-science-education-standards-a-guide-for

National Survey of Early Care and Education Team [NSECE Team]. (2013). *Number and characteristics of early care and education teachers (ECE) and caregivers: Initial findings from the national survey of early care and education (NSECE)* (OPRE Report No. 2013-38). Retrieved from https://www.norc.org/Research/Projects/Pages/national-survey-of-early-care-and-education.aspx

Neurological and Physical Abilitation Center [NAPA Center]. (2020). The difference between expressive and receptive language. Retrieved from https://napacenter.org/receptive-vs-expressive-language/#:~:text=Receptive%20language%20is%20the%20understanding,language%20faster%20than%20expressive%20language.

North Dakota Department of Health [NDDOH]. (n.d.). Licensing information and regulations. Retrieved from https://www.nd.gov/dhs/services/childcare/info/

North Dakota Department of Public Instruction [NDDPI]. (2018). North Dakota early learning standards: Birth to kindergarten. Retrieved from

https://www.nd.gov/dpi/sites/www/files/documents/Academic%20Support/EL2018.pdf

Parent Companion. (n.d.). Public school special education. Retrieved from https://www.parentcompanion.org/article/ppcd-public-school-services-for-children-ages-3-through-5

Pathways. (n.d.a.). How kids learn to play: 6 stages of play development. Retrieved from https://pathways.org/kids-learn-play-6-stages-play-development/

Pathways. (n.d.b.). Motor skills. Retrieved from https://pathways.org/topics-of-development/motor-skills/

Pianta, R. C., Whittaker, J. E., Vitiello, V., Ruzek, E., Ansari, A., & Hofkens, T. (2020). Children's school readiness skills across pre-k year: Associations with teacher-student interactions, teacher practices, and exposure to academic content. *Journal of Applied Developmental Psychology, 66*, 101084. doi:10.1016/j.appdev.2019.101084

Positive Behavioral Intervention & Supports. (n.d.). Tiered framework. Retrieved from https://www.pbis.org/pbis/tiered-framework

Puccioni, J., Froiland, J. M., & Moeyaert, M. (2020). Preschool teachers' transition practices and parents' perceptions as predictors of involvement and children's school readiness. *Children and Youth Services Review, 109*, 194742. doi:10.1016/j.childyouth.2019.10472

Quincey, A. (2017). What is spatial awareness and why is it important to children? Retrieved from https://www.moduplay.com.au/spatial-awareness-important-children/

Rathbun, A., & Zhang, A. (2016). *Primary early care and education arrangements and achievement at kindergarten entry* (NCES Report No. 2016-070). Retrieved from https://nces.ed.gov/pubs2016/2016070.pdf

Raising Children. (2020). 5-6 years: Child development. Retrieved from https://raisingchildren.net.au/school-age/development/development-tracker/5-6-years#:~:text=At%20this%20age%2C%20children%20can,outbursts%20of%20anger%20and%20sadness.

Reasoning. (n.d.). In *Merriam-Webster.com* dictionary. Retrieved from https://www.merriam-webster.com/dictionary/reasoning.

Reid, L. D., & Strobino, D. M. (2019). A population-based study of school readiness determinants in a large urban public school district. *Maternal and Child Health Journal, 23*, 325-334. doi:10.1007/s10995-018-2666-Z

Rosen, P. (n.d.). Working memory: What it is and how it works. Retrieved from https://www.understood.org/en/learning-thinking-differences/child-learning-disabilities/executive-functioning-issues/working-memory-what-it-is-and-how-it-works

Russell, D. (2018). What is geometry? Retrieved from https://www.thoughtco.com/what-is-geometry-2312332

Sandstrom, H., Giesen, L., & Chaudry, A. (2012). How contextual constraints affect low-income working parents' child care choices. *Urban Institute, 22,* 1-10. https://www.urban.org/sites/default/files/publication/32726/412511-How-Contextual-Constraints-Affect-Low-Income-Working-Parents-Child-Care-Choices.PDF

Schaaf, R. (1990). Play behavior and occupational therapy. *American Journal of Occupational Therapy, 44*(1), 68-75. doi:10.5014/ajot.44.1.68

Seely, C. (2004). A journey in algebraic thinking. Retrieved from https://www.nctm.org/News-and-Calendar/Messages-from-the-President/Archive/Cathy-Seeley/A-Journey-in-Algebraic-Thinking/#:~:text=Algebraic%20thinking%20includes%20recognizing%20and,applying%20algebra%20to%20solve%20problems.

Share. (n.d.). In *Merriam-Webster.com* dictionary. Retrieved from https://www.merriam-webster.com/dictionary/share

Son, S., & Chang, Y. E. (2018). Childcare experiences and early school outcomes: The mediating role of executive functions and emotionality. *Infant and Child Development, 27*(4), 1-24. doi:10.1002/icd.2087

Stagnitti, K., & Unsworth, C. (2000). The importance of pretend play in child development: An occupational therapy perspective. *British Journal of Occupational Therapy, 63*(3), 121-127. doi:10.1177/030802260006300306

Stamina. (n.d.). In *Merriam-Webster.com* dictionary. Retrieved from https://www.merriam-webster.com/dictionary/stamina

Strong, S., Rigby, P., Stewart, D., Law, M., Letts, L., & Cooper, B. (1999). Application of the person-environment-occupation model: A practical tool. *Canadian Journal of Occupational Therapy*, *66*(3), 122-133. doi:10.1177/000841749906600304

Syaibatulhamdi. (2020). Children sitting on a bench talking [Image]. Retrieved from https://pixabay.com/photos/children-bench-sunset-village-5537106/

Turpin, M., & Iwama, M. K. (2011). *Using occupational therapy models in practice*. China: Elsevier.

UC Davis Sports Medicine. (n.d.). Flexibility. Retrieved from https://health.ucdavis.edu/sportsmedicine/resources/flexibility_descriprion.html#:~:text=Flexibility%20is%20the%20ability%20of,pain%20free%20range%20of%20motion.&text=The%20range%20of%20motion%20will,%2C%20joint%20capsules%2C%20and%20skin.

Understood (n.d.a.). What is executive function? Retrieved from https://www.understood.org/en/learning-thinking-differences/child-learning-disabilities/executive-functioning-issues/what-is-executive-function

Understood. (n.d.b.). Trouble with flexible thinking: Why some kids only see things one way. Retrieved from https://www.understood.org/en/learning-thinking-differences/child-learning-disabilities/executive-functioning-issues/flexible-thinking-what-you-need-to-know

United Nations Children's Fund [UNICEF]. (2012). School readiness: A conceptual framework. Retrieved from https://www.unicef.org/earlychildhood/files/Child2Child_ConceptualFramework_FINAL(1).pdf

Wake Forest University. (n.d.). The difference between feelings and emotions. Retrieved from https://counseling.online.wfu.edu/blog/difference-feelings-emotions/

Williams, P. G., & Lerner, M. A. (2019). School readiness. *Pediatrics, 144*(2), e201-1766. doi:10.1542/peds.2019-1766.

Zoltan, B. (2007). Orientation and attention. In *Vision, perception, and cognition* (pp 189-206). Thorofare, NJ: SLACK Incorporated.

Zuckerman, B., & Halfon, N. (2003). School readiness: An idea whose time has arrived. *Pediatrics*, *111*(6), 1433-1436. doi:10.1542/peds.111.6.1433.