

## Universally Designed Playgrounds: An Outdoor Play Place for All

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This project, submitted by Mary Emmett, has been approved and accepted in partial fulfillment of the requirements for the degree of Master of Occupational Therapy from the University of Puget Sound.

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### **Disclaimer**

The concepts for this paper and manual are suggestions for the Lutheran Church of the Good Shepherd when they begin building their new playground on their campus. The author who made these suggestions will not be held liable for any problems that they may have with the playground itself during or post construction.

The Principles of Universal Design were conceived and developed by The Center for Universal Design at North Carolina State University. Use or application of the Principles in any form by an individual or organization is separate and distinct from the Principles and does not constitute or imply acceptance or endorsement of the use or application by The Center for Universal Design.

### Abstract

A fundamental part of a child's development is the ability to participate in physical, social, and emotional play. However, play can be limited for children with certain disabilities because of environmental barriers, especially on the playground. This project provided an educational manual for the Lutheran Church of the Good Shepherd building committee and church council which will enable them to learn about, appreciate and implement universal design principles when creating a playground that meets the needs of all children, including those with disabilities affected by environmental barriers. The manual provides information about the impact of mental and physical disabilities on play and gives an overall background on universal design principles and how those principles might be applied to a playground setting to encourage play for children with and without disabilities.

### **Context of the Problem**

An essential part each child's development is play. Play helps to enhance skills in social, emotional, cognitive, and physical realms (Stagnetti, 2004). Play is fundamental to occupational therapy because, for children, play is a meaningful activity and their primary occupation. Indoor and outdoor play promotes important developmental skills and is therefore used as a primary component of occupational therapy intervention for all children. However, the physical environment that many playgrounds provide can be limiting for children with disabilities and may hinder, rather than promote play (Tamm & Skar, 2000). Research has shown that children with disabilities usually experience limited accessibility to playgrounds (Prellwitz & Skar, 2007). In addition, peer interaction between children with and without disabilities is not supported with typical playground design (Prellwitz & Skar, 2007). Studies have also shown an increase of group play and imaginative play in playgrounds with universal design principles for children with and without disabilities (Yuill, Strieth, Roake, Aspden, & Todd, 2007).

In 2007 estimates indicated that approximately four million children, or 1 in every 14 children, in the United States experienced disability (Bennett, 2007). As the survival rates of children with disabilities trend upward, the importance of playgrounds that offer easy access and full participation also increases. The more children there are with disabilities, the more places should be available to serve the needs of that particular population. Therefore, playgrounds should be built to address the needs of children with disabilities, an ever-growing population. Although research has shown the positive aspects of universally designed playgrounds, they are less common than one might expect. One successful universally designed playground is the barrier-free Boundless

playground built in Auburn, Washington. This playground has given children with disabilities a chance to fully participate in social and physical play (M. Miller, personal communication, November 13, 2010). Because of its success in giving children with disabilities a more usable place to play that is positively recognized by the community, the Auburn Boundless playground illustrates the importance of a universal design playground and may serve as a model for building similar playgrounds in other states, such as Montana.

Although there are accessible playgrounds in Montana as required by the Americans with Disabilities Act (ADA), there are no known universally designed playgrounds in the state. The Lutheran Church of the Good Shepherd (LCGS) in Billings, Montana is building a new playground to serve the members of the church and the children who attend the associated school, including those with physical and cognitive disabilities. This organization has expressed interest in learning more about universal design and how it applies to playgrounds so they can consider incorporating at least some of these principles into their playground project.

The building committee and church council were informed of the importance of universally designed playgrounds through the occupational therapy lens. The author of this paper, an occupational therapy student, shared with them the link between independent play, development of important life skills, and meaningful activities to children. In addition, the author developed an educational manual about universal design principles and universally designed playgrounds, which was distributed to the LCGS building committee. This manual included ideas and advice on the importance of a universally designed playground and elements that could be incorporated into the design

of their new playground. The manual included sections on the importance of play for children with disabilities, the seven principles of Universal Design, and application of the universal design principles to playgrounds. Support by the building committee and church councils of universal design of the playground at LCGS is key to creating and endorsing a playground of this type on their campus.

### **Purpose**

The purpose of this project was to provide an educational manual for the Lutheran Church of the Good Shepherd building committee and church council that allows them to understand the importance of universal design for enhancing the playground play of children with disabilities and enables them to implement universal design principles when creating a playground to meet the needs of all children, including those with disabilities.

### **Overview of the Project**

An educational manual on universal design for playgrounds was created to provide information about the impact of mental and physical disabilities on play, as well as give a background on universal design principles and how those principles could be applied to a playground setting to encourage play for children with and without disabilities. This manual informed, instructed, and provided examples of universal design of playgrounds and suggested ways in which the LCGS building committee could incorporate elements of universal design into the playground.

This manual had eight different chapters. Chapter 1 contained the purpose of this project and a short introduction to the manual itself. Chapter 2 contained background information on the importance of play as an occupation and as a means to enrich lives of

children with disabilities and their caregivers. This introduction gave evidence showing how participation in play benefits all children followed by evidence about play for children with disabilities. This section established play as an essential part of the developmental process and began to touch on why accessibility is important not only for those with disabilities, but for those without as well.

Chapter 3 provided pictures or photos of elements commonly used in universal design playgrounds. For instance, a picture of a wheelchair-friendly ramp and swing and different sensory tools used in a universal design playground were included. Under each picture, the relevant universal design principles were explained, and a description of how the playground element met that principle was provided. An approximate cost of each piece of equipment was also included.

Chapter 4 included names and websites of specific universal design playgrounds and where they are located. Emphasis was placed on the fact that there are no universally designed playgrounds in Montana and the closest universally designed playgrounds are in Brookings, South Dakota, Minot, North Dakota, and Spokane, Washington.

Chapter 5 included alternative methods of increasing participation and playfulness on the playground by discussing research by Bundy et al. (2008) on playground play with everyday items. This study showed how play for all can be enriched by adding inexpensive everyday items such as hay bales, bike or car tires, plastic barrels, and pieces of fabric to the playground setting in order to add opportunities for different play experiences without incurring extreme costs (Bundy et al, 2008). More ideas for materials and play opportunities each item could provide were also presented in this section, giving

a more affordable option to LCGS, but still ensuring the idea of equal and accessible play for all children who use the playground.

Chapter 6 included information on funding for a universal design playground. National and regional foundations with grant opportunities that LCGS can pursue were included. Websites, phone numbers, and email addresses were included for each grant opportunity if applicable. Local service group contact information was also provided.

Chapter 7 provided resources and references that could be helpful when the church begins planning and building a universally designed playground. It included contacts, email addresses, phone numbers, and websites of people and companies that would be able to provide the church with universal design products as well as resources for advice when considering building a universally designed playground.

In conclusion, Chapter 8 summarized and revisited the main theme of this project, that universal design playgrounds will benefit all people. This section expressed the importance and the need for inclusion not only for those with disabilities and their families, but the typically developing population. The goal of this section was to drive home the idea that the church needs to implement universal design principles to the playground to create a more inclusive environment.

### **Target Population**

The direct target population for this project was the building and church committee of the Lutheran Church of the Good Shepherd. The project indirectly served the children who are members of the church, or those who attend school at the LCGS. The stated mission of the church is to “respond to the needs of all people in all circumstances as a caring congregation of ministers who work diligently to foster



relationships with each other” (Lutheran Church of the Good Shepherd, n.d.). One of the visions of this agency is to “strive to be a center of innovative worship that remains true to our Lutheran heritage and theology” (Lutheran Church of the Good Shepherd, n.d.). The manual developed for this project helped to educate members of the building and church committees about universal design playgrounds and the manner in which these would further help create healthy opportunities for children in the church to play, learn, and grow. It also outlined ways to allow the church to fulfill their mission by fostering relationships and responding to the needs of all people, including those with disabilities. By building a universally designed playground this church will truly continue to be innovative in ways that they can serve the church and outside community, which supports their mission and vision.

Currently there are 22 elementary schools in Billings with 8,129 students enrolled for the 2010-2011 school year. In Billings public schools, 1,679 of 15,714 students in grades kindergarten through 12<sup>th</sup> grade (or 10.68% of all students) are receiving IDEA disability services (Billings Public Schools, 2010). Building a universally designed playground in Billings could benefit these children as well as the community as a whole.

## **Background**

### **The Importance of Play**

Play has been described as “a minimally-scripted, open-ended exploration in which the participant is absorbed in the spontaneity of the experience” (Huizinga, 1930 p. 6). Certain characteristics make play what it is. These characteristics include: play is fun, involves participation, involves free choice, involves control for the player, is focused on the means not the end, and often involves the imagination (Mulligan, 2003). These

descriptions by Huizinga and Mulligan help to define what play may look like and begin to explain why play is essential for the development of a child.

Play is considered an essential part of a child's development, because it helps to enhance skills in social, emotional, cognitive, and physical realms (Stagnetti, 2004). Play also allows children to learn to adapt in different environments (Mulligan, 2003). The skills learned through play are important as a child grows up. The occupation of play transitions into the occupations of adulthood including work, leisure, and activities of daily living (Case-Smith & O'Brien, 2010). Through play, children are able to safely experiment with social roles and relationships with other children. For children, play is also intrinsically motivational and provides a natural avenue for children to explore and discover environments and learn (Mulligan, 2003).

Play is fundamental to occupational therapy because, for children, play is a meaningful activity and their primary occupation. Additionally, pediatric occupational therapists use play as a primary way to provide treatment for all children, because play promotes important developmental skills. Play-based intervention is used by many pediatric occupational therapists in order to challenge the child just enough to progress in development, but continue to afford them success (Case-Smith & O'Brien, 2010). Through play-based intervention, occupational therapists are able to help children reach their goals while keeping them motivated and having fun.

### **Trends**

As the number of children with disabilities increases, the importance of universally designed playgrounds also increases. Data from a study by Boyle et al. (2011) showed that developmental disabilities are common with approximately 1 in 6 children in the

U.S. having a developmental disability in 2006–2008. This study also concluded that parent-reported developmental disabilities increased 17.1% from 1997 to 2008, an increase of about 1.8 million more children with developmental disabilities in a 10 year period. However, trends are not only showing an increase in the number of children with physical disabilities, but in children with cognitive and social disabilities as well (Centers for Disease Control and Prevention (CDC), 2006). For instance, the number of children with autism spectrum disorder has changed dramatically with an increase of 289.5% in a 12 year period (Boyle et al., 2011). In 2005, approximately one in every 150 children in the United States had autism or a closely related disorder (Wiess, 2005). In 2006, the CDC reported that 1 in every 110 children had autism (CDC, 2006). This ratio continues to increase each year with the most current estimates indicating that approximately 1 in 88 children are affected nationwide (CDC, 2012). As the number of children with autism spectrum disorder (ASD) and other developmental disabilities increases, so does the need for playgrounds that can help children with these conditions to play and develop social, cognitive, and physical skills in a supportive and nurturing environment. Such playgrounds can also benefit children with any disability condition or with typical development.

### **Legislation**

Throughout the country, and in Montana, the issue of inclusion and civil rights for people with disabilities has been very important. Legislative acts and various presses from Special Interest Groups and the community have served to create equal opportunities for those with disabilities. Although many of these acts have been

successful, there is a need to go beyond current minimal requirements to create greater access for those with disabilities.

Legislative acts in the United States, and internationally, have bestowed fundamental rights to those with disabilities. The Architectural Barriers Act of 1968 required all buildings designed, constructed, altered, or leased with federal funds to be made accessible (Welch & Palames, 1995). The Rehabilitation Act of 1973 (Section 504) was the first civil rights law passed to protect the rights of people with disabilities. This Act, commonly referred to as Section 504, made discrimination against those with disabilities illegal for institutions that received federal funds (Welch & Palames, 1995). Section 504 provides protection for an individual's access, employment, and participation in places and activities that are supported by federal funds.

In 1989, the United Nations accepted the Convention on the Rights of a Child, which delineates universally accepted rights for children (Office of the United Nations High Commissioner for Human Rights, n.d.). The 23<sup>rd</sup> Article of the Rights of a Child states that “a mentally or physically disabled child should enjoy a full decent life, in conditions which ensure dignity, promote self-reliance and facilitate the child's active participation in the community (Office of the United Nations High Commissioner for Human Rights, 1989, no page).” Similarly, Article 31 of this document states that

Every child has the right to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts. That member governments shall respect and promote the right of the child to participate fully in cultural and artistic life and shall encourage the provision of appropriate and equal opportunities for cultural, artistic, recreational and leisure activity (Office of the United Nations High Commissioner for Human Rights, 1989, no page).

In 1984, many resolutions related to playgrounds were adopted by the International

Play Association, including one stating that outdoor play should be encouraged and that the construction of playgrounds should be considered as an essential part of children's lives (International Play Association, n.d.). A resolution specifically dealing with children with disabilities, stated that the physical, behavioral, or emotional needs of children with disabilities require consideration (International Play Association, n.d.).

In 1990, the Americans with Disabilities Act (ADA) was passed prohibiting discrimination on the basis of disability in public facilities (ADA, 2000). This law protects the employment rights of individuals with disabilities and ensures that agencies implement reasonable accommodations in order for the individual with a disability to enjoy the same freedoms and opportunities as individuals without disabilities. Titles II and III of the ADA require that public spaces including play areas be readily accessible and usable by people with disabilities. Although the ADA does not provide a specific definition of an accessible playground the American Society for Testing Materials has written and provided guidelines for making playground and play equipment accessible.

In 2000, a national building code (ADA, 2000) regarding play areas was developed which requires play places to plan for universal accessibility. Prellwitz and Skar (2007) suggest that beyond accessibility, playgrounds should also provide opportunities for creative play as children with disabilities interact with other children. In 2010, revisions to Title II and III of the ADA were announced, and took effect March 15, 2011. These revisions required all recreational facilities including play areas and playgrounds not covered in the original ADA to be accessible to disabled users by March 15, 2012 (Ahrweiler, 2010). The basic standards developed by the ADA are enforced by the State and Federal departments of Justice and Transportation (Joines, 2009).

**Importance of Universal Design Playgrounds for Children with Disabilities**

Although legislative acts advocating for the rights of children to play are in place, barriers still exist. In a typical playground, the environment is often not conducive to play for children with restricted mobility nor is it adapted to children with restrictions in physical capacity, such as those children who use a wheelchair or a walker. In fact, research showed that children with limited mobility often use their own gardens and homes to play because the public playgrounds are so difficult, or nearly impossible for them to use (Howard, 1996). In a study by Prellwitz and Skar (2007), the ability of those with disabilities to use the environment on equal terms with others without disabilities was researched. Similarities and dissimilarities of children with and without disabilities with regard to play were identified and results showed that a typically designed playground offers a place that is familiar to everyone, challenging activities, a place for private conversations, and recognizably designed play equipment.

The more startling findings of the Prellwitz and Skar (2007) study showed major dissimilarities for children with and without disabilities on a normal playground. For children without disabilities the playground was a place to meet with friends and a place where a child was never alone. However for children with disabilities, playgrounds were isolating environments. Children with disabilities were rarely with friends on the playground and not one of the 20 children in the study ever mentioned making new friends at the playground (Prellwitz & Skar, 2007).

Additional studies show that many children with disabilities often play alone simply because there is no one to play with in the places that they are able to play (Tamm & Skar, 2000). Even though all children play alone at times, for children with disabilities,

playing alone is not always a personal choice, but is a forced condition because there is no other option. For this population, because of being excluded from their peer group, playing alone becomes a strategy for avoiding the rejection of consistently being rejected or unwelcome. Playing alone while others are playing together causes major frustration, apathy and social withdrawals. These social reactions often progress, negatively affecting non-play oriented interactions with other children in the long-term (Tamm & Skar, 2000).

Other negative play situations often arise for children with disabilities, such as increased interaction with adults, combined with decreased interaction with peers their own age and intellectual level. In public playgrounds, children with disabilities often require the assistance of an adult in order to participate at the playground at all. Conversely, an adult rarely accompanies children without disabilities. If the child without disabilities was accompanied, the adult never participated in active play with the child but only watched from the sidelines (Prellwitz & Skar, 2007). Other studies suggest that adults replaced peers for children with restricted mobility (Missiuna & Pollock, 1991). Similarly children with visual impairments spend less time engaging in peers play, and more time interacting with adults (Skellenger, Rosenblum, & Jager, 1997). Hudson, A., and Clunies-Ross, G. (1984) reported that in a study of 15 students with intellectual disabilities initiated twice as many interactions with adults than their same-ages peers indicating that for children with disabilities it is often easier to approach and play with adults.

Playing more with adults than children creates other barriers, and sometimes, secondary disabilities. Children with disabilities are often more dependent on their caregivers than children without disabilities because caregivers are often needed for

mobility, positioning, and access to play items in order for them to participate. Tamm & Skar, (2000) found that while in a state of dependency, children with disabilities were often limited in social interactions and isolated from play with other children, which may lead to low self-esteem and even a lack of identity. Additionally, caregivers of children with disabilities tend to be overprotective and sometimes would not permit participation in normal activities and play. This dynamic placed the child in an even greater state of dependence, which also could lead to poorly developed social skills and reduced self-esteem (Missiuna & Pollock, 1991). If a playground were designed to encourage independent play for those with disabilities, social interaction with same age peers and independence from adults could be facilitated for the child.

Children with disabilities have hindered play by two primary external factors: the physical environment and subsequent lack of social skills. Children with disabilities may feel excluded because they cannot use play environments, thereby becoming spectators rather than participants in play (Prellwitz & Tamm, 1999). Being a spectator is not always excluding, in fact sometimes being a spectator could be a very positive experience for children. Although children might not be participating in play physically, they may feel as if they are playing, involved and included (Tamm & Skar, 2000). However, even with a positive spin on the lack of physical participation by those with limited mobility, a better option exists; a child can both physically and psychologically participate if the barriers for physical movement in the environment are removed.

### **Universal Design**

It has been shown that typical playgrounds can hinder play for children with disabilities, and that barriers to learning and development arise when play is limited



(Erikson, Welander, & Granlund, 2007). This finding provided the basis for the argument that playgrounds should be more versatile and usable to all populations. One way of accomplishing this is by creating universally designed, or barrier free, playgrounds.

Universal design can be defined as “the design of products and environments to be usable by all people to the greatest extent possible, without the need for adaptation of specialized design” (Bjork, 2009). This idea goes beyond removing barriers, and requires usability for all people. Universal design helps to eliminate discrimination, and promotes social interaction and participation (Cooper, Cohen, & Hasselkus, 1990). With widespread implementation of universal design concepts, eventually disability might be viewed as a universal condition, rather than something the community has to accommodate for in order to serve those with disabilities.

Universal design has seven founding principles which are necessary to meet the standards of universal design. These are: equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort, and size and space for approach and use (NC State University, The Center for Universal Design, 1997). These principles could be applied to any building, or environment to create a more usable place for all people to participate in meaningful activities. These principles could and should be applied to newly built playgrounds to make them more usable for children with disabilities while also providing appropriate play spaces for children without disabilities. A universally designed playground still offers fun and challenges for children of all abilities. Children without disabilities can enjoy activities such as hanging upside down on equipment or climbing to the highest point of the jungle gym. Children with disabilities can use the same playground to play independently or with peers or try a new

activity without assistance from a caregiver.

When looking at elements of a playground, it is important to note how, and what universal design principles can be implemented. A universally designed playground should take into consideration the mobility, sensory, and cognitive skills needed by the users in order to interact with the playground. When addressing mobility groundcover, ramps, and height of objects become key considerations. Ground covers such as sand, mulch, gravel or dirt are very difficult for children in wheelchairs to traverse. Universal design principles give another option, which can consist of a flat rubber surface that still provides safety for the children, but allows for participation by children with disabilities. The use of ramps leading up to and on play equipment is also essential for those users in wheelchairs. Additions of handrails to these ramps can make them much safer for all participants. Play equipment such as swings, and slides can be easily adapted to meet the needs of many, including not only those with physical disabilities, but also those with cognitive disabilities. Bucket swings can support a child with poor trunk strength, and other swing designs can also facilitate participation of all children. Installing extra wide slides can allow a child who cannot sit to lie down in a prone position and can allow for a child with a disability to be accompanied down the slide with a friend or a caregiver when necessary. The height of the top of a slide can also be adjusted to support wheelchair transfers onto the slide (Stout, 1988). There are countless examples of techniques and adjustments that can be made to a playground. Specific elements of universally designed playgrounds are outlined in the manual.

Besides supporting mobility, universal design playgrounds also address the sensory needs of many children who have difficulty processing or enjoying tactile, visual,

auditory, and movement sensations. Sensory plays helps to promote exploration in many areas and can support growth for children who have difficulties interacting with certain sensory experiences. Sandboxes or a sensory play area with water, sand, and rocks provide a setting for children to get messy and to use their tactile system to interact with the environment. To support auditory processing, a panel that includes bells or drums would be beneficial. These elements would also help to encourage those with sensitivities to auditory stimulation to participate and play with the instruments in a fun way and motivational way. Pieces of equipment like a merry-go-round or a swing promote movement and therefore activate the vestibular system. Promoting movement and activation of this sensory system is extremely important in the overall development of a child and can help the child develop effective self-regulation.

As its name implies, universal design is not only important for those with physical disabilities, but also those children with cognitive disabilities, as well as children without disabilities. When specifically focusing on parts of universal design to accommodate children with cognitive delays or social impairments, a few fundamental elements should be included. For example, physical challenges at the appropriate difficulty and height level should be included to help engage children in object-oriented activity rather than some of the more common solitary, self-directed activities (Yuill, Strieth, Roake, Aspden, & Todd, 2006). Support for imaginative play such as a miniature town with buildings and places with particular themes, could help cultivate pretend play at the playground. Other structures, such as observation points and movement circuits, where children are directed from one portion of the playground to the next, could also help to facilitate play in children with varying ability levels (Yuill, Strieth, Roake, Aspden, & Todd, 2006).

Even though many of the universal design principles call for a restructuring of the physical structure of the playground, Bundy et al. (2008) demonstrated that the addition of everyday items such as car and bike tires, hay bales, cardboard boxes, plastic barrels, pieces of fabric and tubing can increase playfulness. Providing these items significantly increased the playfulness of children with and without disabilities in the study. They were reported to become more creative, active, and social in their playground play and teachers reported these same effects being noticed in some classroom contexts as well. These concepts are consistent with the universal design principle of flexibility in use and could be applied to any playground and help promote positive play in children, with and without disabilities, at a very low cost.

In the state of Montana no universally designed playgrounds currently exist. Given the number of children with disabilities in Billings, 1,679 of 15,714 students (Billings Public Schools, 2010), and the 3-5 children with diagnosed disabilities at LCGS preschool, a universally designed playground should be considered for the playground renovation. A universally designed playground would provide a place where all children at LCGS can play and foster independent and social play to promote the proper development of a child. The need for a universally designed playground in Billings is present but many community members and organizations do not understand the need or the process of detailed planning to create a playground that can facilitate play for all children. Prellwitz and Tamm (1999) reported that the community they studied not only had insufficient knowledge about the inaccessibility to playgrounds but an overall lack of awareness of the needs of children with disabilities. The community of LCGS may also have insufficient knowledge in these areas. Through this education manual, those who are

working to create the new playground can learn about meeting the needs of all children through the playground project.

### **Goals and Objectives**

The goals and objectives of this project were developed in order to guide the project and measure the project's success. These goals have not yet been met due to restrictions in time that prevented delivery of the manual with sufficient time for the committee to read and respond prior to the author completing this paper.

#### **Goal 1:**

Upon reading various sections of this manual, the Building Committee and church council members of the Lutheran Church of the Good Shepherd will have increased awareness of the importance of a universally designed playground for children with and without disabilities.

#### **Objective 1:**

After receiving and reading specific sections of this manual, the Building Committee and church council members of the Lutheran Church of the Good Shepherd will be able to identify three reasons that a universally designed playground would benefit all children who use the playground.

#### **Objective 2:**

After receiving and reading specific sections of this manual, the Building Committee and church council members of the Lutheran Church of the Good Shepherd will be able to identify two secondary disabilities that can occur when children with disabilities do not have a place to play that is conducive to their play abilities.

#### **Goal 2:**

Upon reading various sections of the manual, the Building Committee and church council members of the Lutheran Church of the Good Shepherd will gain understanding about design elements and techniques to make a playground more universal.

**Objective 1:**

After receiving and reading specific chapters of the manual, the Building Committee and church council members of the Lutheran Church of the Good Shepherd will be able to identify three pieces of playground equipment that can be installed to better benefit children with disabilities.

**Objective 2:**

After receiving and reading specific sections of the manual, the Building Committee and church council members of the Lutheran Church of the Good Shepherd will be able to identify and describe three every day items that can be placed on a playground to enhance play for all children.

**Goal 3:**

Upon reading various sections of the manual, the Building Committee and church council members of the Lutheran Church of the Good Shepherd will gain information about available and helpful resources that could support their efforts to build a universally designed playground.

**Objective 1:**

After receiving and reading specific sections of the manual, the Building Committee and church council members of the Lutheran Church of the Good Shepherd will be able to identify at least three potential funding sources that could support the building of a universally designed playground at their facility.

**Objective 2:**

After receiving and reading specific sections of the manual, the Building Committee and church council members of the Lutheran Church of the Good Shepherd will be able to identify three resources or contacts, either locally or nationally, that would be available for consulting when planning and building a universally designed playground.

**Desired Outcomes**

Success of this project will be determined by providing the employees and leaders of the Lutheran Church of the Good Shepherd an opportunity to read the manual and provide feedback using survey forms that will show the amount of information learned and clarity of the information provided. Surveys include both closed-ended and open-ended questions in order to gain knowledge on the effectiveness of the manual. Refer to Appendix A to view the survey.

**Implications for Occupational Therapy**

The content and goals of this project are of concern for the occupational therapy community because the key principles of this project coincide with the key principles of occupational therapy as defined by the Occupational Therapy Practice Framework, 2<sup>nd</sup> edition (*Framework-II*) (AOTA, 2008). The *Framework-II* identifies that occupational therapy promotes “the health and participation of people, organizations, and populations through engagement in occupation” (AOTA, 2008, p. 625). This project promoted the same principles through the adaptation of a playground. A universally designed playground enables children of varying skill and developmental levels to actively participate in play, one of the major occupations of children. Because play is defined as an area of occupation, a universally designed playground complements occupational

therapy by providing a location where all children can engage in that occupation. Also, children with disabilities will be able use and improve performance skills by having a context and environment where they can practice these skills.

### **Theoretical Model and Application to the Framework**

The Ecology of Human Performance (EHP) Model provides a means to study the connection between person, context, tasks, and therapy interventions and how these relationships affect human performance (Dunn, Brown & McGuigan, 1994). The EHP Model posits that the person, or in this case the client, is affected by the context (environment or setting) in which activities (known in this model as tasks) occur. The interface between the person and the activity can only be understood within the context, and each of these factors is constantly changing. These changes, as well as the convergence of person, environment and occupation, affect occupational performance. The environment (physical, social, and cultural) is important to the person, as it can enhance or inhibit performance. During intervention, occupational therapists can adapt the environment and tasks in order to complement a person's skill and ability level (Dunn, Brown & McGuigan, 1994).

Typical playgrounds do not provide a way for children with disabilities to easily interact in the environment, which affects their physical and social development. In this project, the EHP Model was used as a guide, because the core of the project addresses structuring the physical environment to better meet the needs of children with limited skills and abilities. By changing the playground environment to a universally designed architecture, children's abilities can be supported, as can their ability to participate in the occupations of play and social interaction.



The *Framework-II* articulates how engagement in occupation is the means by which health and participation are sustained (AOTA, 2008). Participation in activities is what brings meaning to life. The domain of the *Framework-II* consists of activities necessary for functional living which range from self-care activities, to work and education, and finally, to participation in leisure activities (AOTA, 2008). All aspects of the domain are combined to support engagement in activity and overall health and wellness through participation (AOTA, 2008). Occupational therapy strives to increase a person's skills or adapt the environment so that they may participate in meaningful activities. By improving a person's body functions or modifying the context in which an activity is performed, a person can be an active participant in events that are important to them in life.

This project specifically addressed areas of occupation such as play and social participation, performance skills including motor and communication skills, and context and environment, both social and physical. By providing an environment where children with limitations in certain performance skills can play more easily, a universally designed playground could help improve social participation with other children as well as improve quality of play. For example, a child in a wheelchair on a typical playground may not be able to be on the equipment, since a ramp would not be available to provide access to the equipment. The environment in this case is a barrier for the child and does not give him the opportunity to work on the skills that he already possesses, but instead, negatively enhances the performance skills that he does not have. However, if universal design were to be used on that same playground the environment would not be a limiting

factor for the child and instead would facilitate the child's full participation. Through participation, the child would be able to enjoy an activity meaningful to him, play.

### **Skills and Abilities**

This following list identifies the skills needed from the occupational therapy student in order to complete the project and manual.

- Knowledge of elements in a UD playground and specifics about the equipment
- Knowledge of types of children who would benefit from a UD playground
- Knowledge of the barriers in a typical playground for children with mental and physical disabilities
- Knowledge of the budget available by the Church for the playground
- Knowledge of the costs of UD playground equipment
- Ability to take pictures of elements to avoid copyright issues

### **Special Circumstances, Limitations, and Considerations**

In creating this project it was important to consider the environment where this project was to be implemented, the financial means to build a playground such as this, and the fact that this project was being created for a church and school specifically. When building a universally designed playground, it was important to understand the amount of space available for the playground equipment. The church property is only so big and the playground will not be very large either. Some of the equipment recommended may not be logical to have in a small area. Similarly, consideration of how the church will raise the funds in order to pay for some of the more expensive equipment that a universally designed playground requires was important. Since this is a faith-based organization

funding is limited. The church members raise the majority of the money needed to build the playground, and the grants available to them are limited, because the playground will not be open to the public.

### **Sustainability of this Project and Recommendations for the Future**

This manual was completed by May of 2012, as it did not require extensive materials to create the manual itself. However, building of the playground itself will take much longer. Because the home for this project is a faith-based organization, the time line for building the playground is very different than a community project. The plans must be approved by the church council and then by the church congregation overall. This process will take months to complete. It will be important for me as an active member of the church and emotional investor in this project to follow through in the future and be available to answer questions of the building committee and to continue to promote the incorporation of universal design principles into the new playground at the Lutheran Church of the Good Shepherd.

My recommendations for students working with a faith-based organization is to understand the timeline and limited finances that the organization is working under and to set realistic expectations in order to achieve the goals of the project. It is also important to provide many different options with varying prices when suggesting equipment, so that the organization can buy products that meet the needs of the population, but that is also affordable.

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*Appendix***Survey for the Lutheran Church of the Good Shepherd Building Committee**

Please complete this survey after reading all sections of the manual entitled *Universally Designed Playgrounds: A Outdoor Play Place for All*.

On a scale of 1-10 with 1 meaning strongly disagree and 10 meaning strongly agree please respond to the following questions.

1. I have an increased awareness of the importance of a universally designed playground for all children.  
1      2      3      4      5      6      7      8      9      10
2. I can identify three reasons why a universally designed playground would benefit children.  
1      2      3      4      5      6      7      8      9      10
3. I can identify two secondary disabilities that can occur when children with disabilities do not have a place to play that is conducive to their play abilities.  
1      2      3      4      5      6      7      8      9      10
4. I can identify three pieces of playground equipment that can benefit both children with and without disabilities.  
1      2      3      4      5      6      7      8      9      10
5. I can identify three every day items that can be placed on a playground to enhance play for all children.  
1      2      3      4      5      6      7      8      9      10

6. I have a better understanding of funding available to support the building of a playground at the Lutheran Church of the Good Shepherd.

1      2      3      4      5      6      7      8      9      10

7. I have a strong understanding of who to contact when planning a universally designed playground.

1      2      3      4      5      6      7      8      9      10

8. How do you feel that this manual will assist you in planning a playground for your church?

9. Is there something missing from the manual that you wished was present? If so, what was missing?

**Thank you for taking the time to complete this survey!**

