Fall 2018

How Environmental Education Based Camps Can Create An Inclusive Opportunity To Ensure Children With Autism Have A Positive And Meaningful Experience

Emma Leslie
Hamline University

HOW ENVIRONMENTAL EDUCATION BASED CAMPS CAN CREATE AN INCLUSIVE OPPORTUNITY TO ENSURE CHILDREN WITH AUTISM HAVE A POSITIVE AND MEANINGFUL EXPERIENCE

by

Emma Leslie

A capstone submitted in partial fulfillment of the requirements for the degree of Masters of Arts in Education: Natural Science and Environmental Education.

Hamline University

Saint Paul, Minnesota

December 2018

Primary Advisor: Julianne Scullen
Context Expert: Jill Kuzma
Peer Reviewers: David Fischlowitz and Jennifer Whelan

TABLE OF CONTENTS

CHAPTER ONE

Introduction

Overview

My personal philosophy of environmental education is firmly based on the belief that it is beneficial for any learner and has the ability to connect diverse audiences while inspiring them to positive change. Therefore, in an effort to make this unique experience accessible for all learners, I propose the question *how can environmental education based camps create an inclusive opportunity to ensure that campers with autism have a meaningful and positive experience?* I contend that the answer lies within the training and professional development plan for camp staff because the team members shape the culture of a camp. I suggest the development of a staff training program focused on inclusive tenets to provide specific strategies and accommodations that will help make environmental learning endeavors successful for all campers.

Autism is one of the most prevalent developmental learning disabilities in the United States. The Centers for Disease Control and Prevention [CDC] estimates that 1 in 59 children have a diagnosis of an autism spectrum disorder, a 15 percent increase in national prevalence as compared to the statistic of 1 in 68 children from the previous two-year study (Baio et al., 2018). Day camps provide the ideal setting for addressing peer interactions, social communication, development of interactive play skills, and engagement in group activities because these skills are occurring in a naturalistic setting (Knapp, Maderitz, & Hirsh, 2013). Yet, the majority of camps do not offer inclusive

services. More specifically, outdoor activities benefit children with autism in the areas of communication, emotion, cognition, interaction, physical activity, and decreasing autistic sensitivity (Chang & Chang, 2010) but are generally taught in an informal, less structured learning environment. The absence of structure can be problematic for children with autism who generally thrive on predictability and routine. But with the implementation of effective staff training on autism awareness and accommodations coupled with successful engagement of campers and their families, these obstacles can be overcome.

Rationale

The history of inclusion in the United States. The Autism and Developmental Disabilities Monitoring [ADDM] Network completes an autism prevalence report every two years. Since the initial study in 2000, there has been a steady increase in the number of children diagnosed with autism spectrum disorders (CDC, 2018). It is unclear whether this rise is due to a true increase in individuals with autism spectrum disorders (ASD), better diagnostic procedures, a broader definition of ASD, or a combination of these factors. Nonetheless, it is clear that there is an increasing trend and along with it, a movement for inclusion.

The early history of special education for children with disabilities in the United States, up until just a few decades ago, focused primarily on the opposite of inclusive services, pulling children out of regular classroom settings to receive individualized attention and specialized instruction. The Education for All Handicapped Children Act [EHA] was passed in 1975, providing free and appropriate education within the public school system for children with disabilities (U.S. Department of Education, n.d.). While it was a marked improvement from those same individuals being denied educational

opportunities and being confined to state institutions, the approach would undergo additional amendments over the years.

In 1986, the Regular Education Initiative [REI] was introduced by former Assistant Secretary of the U.S. Office of Special Education and Rehabilitation Services, Madeleine Will. She proposed that students with learning disabilities be returned to the mainstream classroom but with supportive services, allowing all students to benefit from both regular classroom education and appropriate individualized instruction (Greenbaum, 1992). Then in 1990, EHA was amended to the Individuals with Disabilities Education Act [IDEA]. Both REI and IDEA do not specifically use the word *inclusion* but share a similar sentiment by outlining the use of the "least restrictive environment", meaning students who receive special education spend as much time as possible with students who do not receive special education. Inclusion can be a part of the least restrictive environment, but is not the only approach. The main focus is given to what is considered appropriate for the individual and their specific needs. Since the enactment of EHA in 1975, the United States has progressed from excluding about 1.8 million children with disabilities from public school, to providing support for the individual needs of more than 6.9 million children with disabilities (U.S. Department of Education, n.d.).

Inclusion outside of the formal school system. The public school system is a natural starting place for inclusion, but there is also a need for the movement to extend beyond the classroom simply because the children's lives do as well. If students with autism deserve to have equal opportunities at school, then they deserve to have the same right within their community organizations. Libraries, after school programs, amusement parks, zoos, aquariums, and museums all provide out-of-school time learning experiences

and therefore are beginning to develop programs and practices to attract and accommodate individuals with autism.

For example, in April of this year, Sesame Place in Langhorne, Pennsylvania opened as the first-ever theme park to be designated as a Certified Autism Center complete with inclusive amenities and a staff trained in autism sensitivity and awareness (Sesame Place, 2018). In 2017, Akron Zoo joined the Phoenix Zoo as the second ever zoo to become certified as sensory inclusive by KultureCity, a non-profit that works with businesses to become more aware and accepting of autism. This same organization has also certified larger public areas like The Met Life Stadium in New York and multiple locations of the fast-casual restaurant, Urban Cookhouse (KultureCity, 2018).

When recreational programs, like camps, follow suit and provide inclusive options instead of special exclusive services, children with autism are able to be a part of a diverse community where they can have a shared experience with siblings and friends. Instead of being isolated and limited to their house for all of summer break, the camp environment provides natural social settings to continue working on critical social and emotional skills. Yet in 2014, within the American Camp Associations [ACA] Find a Camp database, only 7% of those camps showed programs with inclusive services (Hall, Dunlap, Causton-Theoharis, & Theoharis, 2013). It should be noted that while there are numerous camps not accredited by ACA, the inclusion movement is young and the shift within the community can be a slow process, so there is still a need for more autism-friendly camp environments.

Context

Finding environmental education. My personal journey to narrowing my area of focus and developing my research question began with finding passion within my career. I've always had an appreciation for animals and the natural world as well as an affinity for teaching children, but when I started my freshman year as an undergraduate at the University of New Hampshire, I was under the impression I needed to choose between the two. During that year, I took courses in both areas and ultimately chose zoology as my major. While animals became my academic background and experience, I was still drawn to teaching opportunities, accepting positions as teaching assistant, peer tutor, and summer camp counselor for a youth academic program.

In 2012, I graduated from the University of New Hampshire with a B.A. in zoology and a minor in animal behavior and a few weeks later moved to Orlando, FL for an internship as a Conservation Education Presenter at Disney's Animal Kingdom Theme Park. I was excited that I would be gaining experience at an institution that set the bar for other facilities accredited by the Association of Zoos and Aquariums and that used their large platform to create change in wildlife conservation. In reality, I gained much more than anticipated, when this internship became the most defining experience of my professional development and solidified my career path. I had been introduced to the world of informal education, a term I had not even heard of prior to the internship. Environmental education provided me the opportunity to combine both my passions of teaching and animals into one career field.

Introduction to camp. My first experience participating in a day camp within the environmental education world was by no means a defining experience, but it does still serve as a meaningful reflection point. After realizing that I wanted to pursue a career in

conservation education, I moved back up north to gain more experience in the field as an education interpreter for a small zoo near Boston, MA. I created and delivered a camp curriculum for children ages 5-13 with a handful of co-counselors. Thinking back, we had no professional development training before campers arrived and I had never been responsible for writing curriculum before, let alone curriculum with adaptations for inclusion. I still considered the summer to be successful, but now I can understand how much I still needed to learn about becoming a more well-rounded educator that could provide individualized support for different campers.

Discovering my niche. My next professional endeavor as an AmeriCorps member would become my second most defining experience in my career path. I moved to Rhode Island for a year of service through the Ocean State Environmental Education Collaborative [OSEEC]. My service site was Roger Williams Park Zoo and along with fellow AmeriCorps members across our four OSEEC sites, we aimed to improve environmental literacy statewide especially in the state's most underserved and urban core areas.

This role provided the mentorship, responsibility, and professional development opportunities that I needed to understand the complexity of approaches that exist for connecting with diverse audiences and how important it is to tailor my message as specifically as possible to facilitate environmental literacy. The zoo focused on incorporating the power of play during nature experiences, supported quality after school programs for expanded learning opportunities, offered enriching curriculums for individuals that are homeschooled, and had a successful zoo camp program that attracted and accepted a diverse population of campers. After completing my service year, I stayed

within the education department of Roger Williams Park Zoo for an additional two years, continuing to hone in on my strengths as an educator. All the while learning that for as many different audiences that exist, there are just as many individual ways to engage them.

During my last summer with the zoo's camp program, they partnered with The Flutie Foundation to provide thirty full scholarships to the summer camp and fund a full-time inclusion specialist to work with the staff to integrate campers in to an inclusive, curriculum-based camp experience. One scholarship recipient showed how valuable this experience could really be. During his week, the Flutie partners had the camp counselors track how many times he sought out a social interaction, which increased exponentially by the time Friday came to an end. Additionally, during her post-camp survey, his mother shared that while he usually has explosive episodes at home after school days, he didn't experience any after the camp days. Later in the summer when a spot opened up for him to come back for an additional week, his mother took the opportunity and sent him to camp instead of school because of how successful his progression had been during the first week.

During this same time, I started thinking about what niche I could fill in the environmental education world. Camp was already my favorite program to teach, but after seeing the success of this camper, I realized the value in making these opportunities available to all learners.

Continuing my education. When I left Roger Williams Park Zoo to move back to Orlando, I wanted to remain in a similar work position while gaining a formal background in environmental education. I had been working in the field for four years but

everything I knew about environmental education I had picked up throughout my various job positions. I went back to conservation education with Disney and enrolled in Hamline's Masters program for Natural Science and Environmental Education.

The summer after I started my courses, I took part in Disney's conversation education summer camp and again found the camp experience both fun and personally rewarding. Just like Roger Williams Park Zoo, this camp was also inclusive, unlike a lot of other local camps in the area, which meant we had many campers with autism join us over the summer. That fall, I decided to fulfill my remaining elective credits with courses related to autism spectrum disorders since this seemed to be an audience I often came in contact with while teaching. I was in awe at how many connections I could make to my personal experiences teaching and how many practical applications I could apply to my future teaching experiences. I had found my purpose in creating inclusive opportunities to ensure that campers with autism could have a positive and meaningful experience in environmental education based camps. In order to have a widespread impact, I will focus my efforts on shifting the camp culture, starting with team members and their training opportunities.

Summary

The history of inclusion in the United States has undergone many changes and as we change in our communities, it will continue to progress. From children with disabilities being denied education, to being provided separate classrooms, to becoming integrated into mainstream classes, the evolution has now gained traction outside the classroom. With rising numbers of children being diagnosed with autism, there is a need to create more welcoming experiences for them so they can continue to have

opportunities, grow, and learn just as their neurotypical peers. While my passion has always been grounded in animals and teaching, camp environments are the most rewarding and I have found a new interest in becoming more versed in accommodating campers with autism because of my recent graduate courses and frequent encounters with teaching to this audience.

Through this capstone project, I intend to create a professional development plan for camp staff members to increase engagement of all campers and their families. My hope is that it will provide a welcoming, inclusive environment for all campers to have the opportunity for a meaningful and successful camp experience. I strive to apply what I learn to my professional role within the environmental education field while inspiring others to also have a positive role in shifting community attitudes and ultimately provide an equal opportunity for families of children with autism to participate in nature-based camp programs.

In the second chapter, I provide an overview of autism spectrum disorder and the associated challenges as well as the research that links inclusion with a more valuable experience for both individuals with and without autism. I also explore the various reasons behind the need for camps to offer inclusive services and why using nature-based experiences with an environmental education framework is important for individuals with autism. Finally, I lay the foundation for the project portion of my capstone by connecting the culture of camp to successfully implemented professional development programs for staff. Chapter three provides a detailed explanation of my capstone project, followed by a final reflection in chapter four.

CHAPTER TWO

Literature Review

Introduction

Before being able to answer the question, *how can environmental education based camps create an inclusive opportunity to ensure that campers with autism have a positive and meaningful experience*, there are a variety of interlocking topics that need to be explored. Once their connections are understood, the implications can be used to develop a successful professional development program for staff with the intended goal of promoting an inclusive camp culture. Through literature reviews, this chapter will examine the following five main topics and how they relate to an inclusive camp experience: (1) autism spectrum disorder, (2) inclusion, (3) the camp setting, (4) environmental education, and (5) staff training.

Foremost, the exploration of scientific evidence about the associated challenges for individuals with autism spectrum disorder is necessary to plan and design appropriate and successful program accommodations. The notion of inclusion must also be a predominant theme because this term is often misused to inappropriately label camps that simply offer separate services for children with disabilities. Therefore, this chapter explains what true inclusion is and the benefits of its implementation. While day camps could be utilized as successful intervention sites for children with autism, they often are

not. Thus, this chapter investigates the reasons behind this decision and the potential of the camp setting if it were to be used in such a way.

America's changing demographics are showing a need for environmental education so that gaps in environmental literacy can be filled (The National Environmental Education Advisory Council [NEEAC], 2015). Individuals with autism fall into this gap. Fortunately, there are environmental education frameworks that align with the learning styles of those with autism spectrum disorder, explored later in the chapter. Finally, the culture of camp defines how inclusion will be viewed within the program and the staff shapes that culture. This chapter outlines strategies previously implemented in other camp programs and how they have helped to shift towards an inclusive camp community.

Autism Spectrum Disorder

Autism is a neurobiological developmental disorder that occurs globally and is present in all ethnic, racial and social backgrounds. It is four times more likely to occur in males than females and even though 1 in 59 children have a diagnosis of autism, many people have had little exposure to this common developmental disorder (CDC, 2018). While progress has been made in recent decades in the field of autism research, there is still much to be discovered.

There is no singular answer that can be applied to all cases of autism. The symptoms, diagnosis, suspected causes, suggested treatments, and the future potential of affected individual is extremely varied from one to another. To add to the complexity of the disorder, autism occurs on a continuum in regards to the different degrees of severity,

which is why the umbrella term ‘autism spectrum disorder’ is generally used when describing any autism-related disorder (Janzen & Zenko, 2012).

Once a diagnosis is confirmed, an individual’s profile of abilities and behaviors are examined in regards to six aspects: social reasoning, language, cognition, special interests, sensory sensitivity, and the expression and management of emotions (Buron & Wolfberg, 2014). The following sections explain how challenges can present themselves when these areas are affected and how that leads to unique learning styles.

Social reasoning. The definition of social skills can be quite ambiguous, however the skills can be broken down into two categories: behavioral and cognitive. Behavioral notions of social skills are more easily observed and measured. They include things such as conversation skills, interpretation of facial expression and body language, and paralinguistic skills. Cognitive social skills encompass what is occurring inside an individual’s mind during social reasoning. To develop sound social communication skills, individuals need to have strong foundational cognitive skills referred to in the autism literature as Theory of Mind, joint attention, and central coherence (Winner, 2007).

Theory of Mind in simple terms is known as perspective taking. Developed theory of mind skills allow people to gauge what others know, think, or feel and then use that information to adapt their own verbal and nonverbal responses during personal interactions (Winner, 2007). Individuals that exhibit deficits in Theory of Mind, oftentimes have developed empathy and sensitivity but simply cannot demonstrate it. For example, they may be in a conversation with another person who is continuously checking their watch, but not feel obliged to ask if they’re in a rush (Winner, 2007).

Along with this development of perspective taking skills, is the ability to establish joint attention, or being able to use gestures and gaze to share attention with another individual (Buron & Wolfberg, 2014). This is important for social connectedness because successful relationships rely on the sharing of experience and knowledge. It also ties into language development because it allows children to establish a point of reference for spoken words.

Additionally, individuals with autism spectrum disorder often exhibit weak central coherence, meaning they are unable to view the full picture without becoming hyper-focused on the details. Because they think in parts, it is difficult for them to relate those smaller pieces back to a larger pattern of behavior and thought resulting in poor communication, summarizing, recognizing expectations, and written expression (Winner, 2007). This can be problematic when faced with a social problem-solving scenario because they are unable to sort out relevant details.

Language. Neurotypical children will pick up language by means of automatic learning through simply listening to those in their environment. Language development is accelerated through planned instruction, which aids in teaching the complexities associated with language. Because those with autism spectrum disorder often do not naturally observe others, they are able to learn language but struggle with word meaning and language use (Janzen & Zanko, 2012). They may not understand that context, intonation, and inflection can change the meaning of words and often take things very literally (Janzen & Zanko, 2012). In other instances, individuals with autism will have difficulties generating the proper words for a response, question, or statement and so they resort to the use of echolalia, metaphorical language, or repetitive questions. The use of

echolalia, or the act of repeating words and phrases that others have said, can create further issues because while the individual may sound knowledgeable, the echoed words lack significant meaning (Janzen & Zenko, 2012). It is important to note these differences in language learning for individuals with autism because their messages may need to be interpreted by those with whom they work and interact with.

Cognition. Autism is categorized as a neurodevelopmental disorder, but just as everything related to autism is derived from a spectrum, brain function is no different. Affected individuals can be precocious in some areas of learning, yet have significant difficulties in other areas. Many people associate autism with savant syndrome, but these qualities occur in only 10% of children with autism spectrum disorder (Buron & Wolfberg, 2014). Most intervention strategies will target the cognitive areas that are below that of neurotypical peers, but cognitive talents can be used to an individual's advantage. For example, if they have strong visual reasoning skills, then visual cues may be necessary when communicating. Similarly, a musical talent can be fostered to improve self-esteem and perhaps set a foundation for a future career path (Buron & Wolfberg, 2014).

Special interests. At first consideration, the special interests of people with autism may seem synonymous with the hobbies of their neurotypical peers but there are two major differences. Individuals without autism are generally interested in a variety of hobbies at the same time and daily activities do not hinder their ability to pursue these interests. In contrast, individuals with autism have a singular special interest area that is all consuming in regards to time, energy, commitment, and attention (Buron & Wolfberg, 2014). While it is true that these special interests can interfere with daily tasks, they can

be utilized as an intervention strategy for emotional regulation as a self-calming technique. Additionally, special interest areas can set the foundation for successful and meaningful employment and friendships (Buron & Wolfberg, 2014).

Sensory sensitivity. In alignment with autism's theme of complexity, sensory sensitivities can present as either over- or under-stimulated. Additionally, just because an individual may be sensory seeking in one area does not mean they won't be sensory-avoiding in another. These deficits and challenges can contribute to unexpected behaviors, such as not being affected by heat or cold, and can affect social interactions especially if sensory sensitivities are leading to increased anxieties (Buron & Wolfberg, 2014). This associated characteristic of autism is further explored later in the chapter when discussing the camp setting and the general nature of informal learning environments.

Emotional regulation. Emotional regulation refers to an individual's ability to automatically or intentionally modify their emotional state for successful expression and management of emotions (Mazefsky et al., 2014). Individuals with autism generally have weak emotional regulation skills and oftentimes react impulsively to emotional situations in the form of outbursts (Mazefsky et al., 2014). Similarly, some individuals may not be able to properly express or accept enjoyment and affection (Buron & Wolfberg, 2014). Emotional regulation also encompasses an individual's ability to properly identify and respond to the emotions of others, helping to form positive relationships. Individuals with autism spectrum disorder generally thrive on predictability and routine because they may not have the skills for flexible thinking and social resilience.

Learning styles. Given deeper understanding of the neurological profile tenets of autism spectrum disorders, it is imperative to connect how these relate to the unique learning styles of those with autism spectrum disorder. Generally people are visual learners, auditory learners, kinesthetic learners or even a combination of the three. However, given the sensory sensitivities associated with autism spectrum disorder, affected individuals have a hard time processing information during learning opportunities.

Janzen and Zenko (2012) equate the information processing system in an individual with autism to a broken camera that they have no control over. Instead of focusing the lens on the important part of the scene, theirs becomes stuck, either in widescreen or on minute details that lack importance. The camera also glitches to where it cannot turn on and off at the correct times, resulting in gaps of information. Additionally, the filter switches don't work appropriately, so either all the information is given the same value, or the camera becomes so overwhelmed that it doesn't work at all.

All of the information recorded from a video would then go through an editing program, which is comparable to our information processing system. In a typically developing functioning system, the program would analyze and prepare the information for use by removing background clutter, sorting and categorizing the information, noting what is relevant and what is not, and relating this new information to older files before labeling and storing it for efficient retrieval. In those with autism, their editing program is either defective or absent altogether, which is evident in their difficulty to expand and modify information, to learn cause-and-effect relationships, to predict future events, to understand the consequences of errors, and to evaluate their own behavior.

Finally, our integration and output system is like a car computer. Working quickly and automatically, the car can function in a predictable way. However we know that the only thing predictable about autism is unpredictability, and those with autism spectrum disorder lack the ability to properly anticipate problems, make choices and decisions to solve problems, and then carry out fluent actions.

Section summary. Autism is a complicated neurobiological developmental disorder with pervasive impairments affecting a variety of domains. Individuals with autism experience difficulties and challenges in areas of social interactions, communication, emotions, learning experiences, and sensory processing. These deficits cannot simply be fixed by planned instruction because their learning styles also differ from neurotypical peers, so instead they require intervention on many levels. By having a general understanding of autism spectrum disorder and what that means for the skill set of the individual, support can be better tailored to their specific needs.

The intricacies of autism and the implications it has on the behaviors, social interactions, and learning styles of the affected individuals make it seem as though they require only specialized one-on-one intervention techniques. In some regards to intervention needs this may be necessary, but in others a more natural setting allows for greater, more meaningful progress. Therefore, the benefits of inclusion in classrooms, recreational programs, and communities cannot be overlooked.

Inclusion

For the purpose of this paper, the term inclusion is being used to describe environments in which children with autism and their neurotypical peers participate together in the same program. Although the perceived behaviors of avoidance and

isolation may suggest otherwise, individuals with autism still possess the intrinsic desire for friendships and peer acceptance. But when children with autism are continuously excluded from activities with peers, they have fewer chances to practice socializing and play in a natural setting; these skills are necessary to form meaningful friendships (Buron & Wolfberg, 2014). This section will highlight how inclusion benefits both children with and without autism and will explore how the positive impacts of inclusion can go beyond the camp experience.

The benefits of inclusion. When the benefits of inclusion are considered, it is often viewed from the side of the child with a disability since the approach is typically implemented with their needs in mind. This can carry over into a negative connotation of the word inclusion, especially when the approach detracts from the experience of the neurotypical child. While there are still gaps in the research, some resources point to mutual benefits in the areas of social competence, academic achievement, tolerance, and acceptance (Siperstein, Pociask, & Barnes, 2011) but the success is dependent on how early inclusion is implemented (Henninger & Gupta, 2014).

Inclusion can be used in classrooms, recreational settings, or even just daily activities as a way to improve the quality of life for individuals with disabilities, such as autism. The Jewish Community Center of Youngstown, Ohio partnered with the Knapp Center for Childhood Development to tailor their summer camp programming to be a quality program for children with autism spectrum disorder. That inclusive camp experience proved that success breeds success, with the participants showing an increase in confidence, self-esteem, emotional regulation, and friendship skills because of the new obstacles they encountered and overcame during the summer (Knapp et al., 2013). The

positive experience promoted self-worth and skills that can be implemented across other social domains, helping to decrease anxiety in those settings and allow for more growth and learning opportunities.

Henninger & Gupta (2014) found that typical peers were able to further improve their pro-social skills when presented with the opportunity to become an expert in an academic field. In some cases, the neurotypical child will have a heightened level of ability in an area as compared to a child with autism. This gives a chance for the neurotypical child to model exemplary behaviors and in doing so increase their self-esteem, confidence, autonomy, and leadership skills. This mentor relationship can continue as the children get older, furthering the success of both involved and helping to sustain positive feelings towards individuals with disabilities (Henninger & Gupta, 2014).

However, the success of this approach depends on when inclusion is introduced. Those who are exposed at a young age are more likely to view inclusion favorably and be more accepting of disabilities, even as they age. Conversely, if children are not participants of inclusive models then their openness to the concept of inclusion begins to decrease by the time they move into middle school. Therefore, programs should employ inclusion as early as possible so that the positive behaviors can "improve the atmosphere and generate a sense of collegiality" within the environment (Henninger & Gupta, 2014, p. 52).

The impact of inclusion on sibling relationships. Typical sibling relationships develop on a continuum throughout the different stages of life and tend to be the longest lasting relationship for individuals (Beyer, 2009). An effective sibling relationship is especially important for children with autism who generally struggle with social

development and isolation because, as Orsmond and Seltzer (2007) explain, the relationship helps to "foster the development of emotional understanding, self-regulation, and a sense of belonging and comfort" (p. 313). A positive relationship is also important for the neurotypical sibling who may feel overshadowed by their sibling's disorder and the associated needs. Successful play experience between siblings can help to foster their relationship and also aids in social and intellectual development (Beyer, 2009) but individuals with autism have difficulties socializing with others in the context of play. Therefore, added opportunities to facilitate play experiences in inclusive settings, such as a camp, will aid in solidifying this important bond while helping to develop other social cognition skills. At the very least, inclusion in classrooms, recreational settings, and camps allow siblings to have a shared experience, which may not be a daily norm.

Section summary. Hall et al. (2013) made the strong point that "most, if not all, in our society would likely agree that an important element of our freedom is our right to choice and self-determination in our own lives" (para. 5). But when programs do not offer inclusive services, we're taking away this basic aspect of freedom. Furthermore, the opportunity to have a connected experience to peers and siblings, participate in educational activities, receive additional intervention support, and feel like a member of the community, is lost (Hall et al., 2013). There has been a strong movement in the formal education setting for mainstreaming programs, and this is beginning to extend into recreational activities, such as day camps, whose unique aspects would be able to promote the benefits of inclusion that are shared between both the neurotypical child and the child with autism (Siperstein, Pociask, & Barnes, 2011).

The Camp Setting

For the majority of children, summer is synonymous with freedom and fun, but for those with autism whose summer activities are often limited to their houses, they are subjected to isolation and boredom (Siperstein et al., 2011). This can also mean backtracking on progress made throughout the school year. While day camps could be utilized as successful intervention sites for children with autism spectrum disorder or even just as a community area to promote inclusion, the opportunity is often not taken. This chapter investigates the reasons behind both parents and camp staff being hesitant in implementing autism inclusive programs. The limitations and potential of the camp setting itself as it relates to autism are also discussed.

Parental hesitations. Entrusting your child, their safety, and happiness to others for an entire camp day or week can be a worrisome experience for any parent. But for parents of children with special needs, the anxiety is magnified, especially because their children are often not without a trusted adult close by (Talmadge, 2017). Even if programs are marketed as inclusive, there is still a doubt that their child will be able to voice their needs and that even if that need is heard, that it can be met by the camp staff. If the child has deficits in emotional regulation, there can be added stress over the worry of their emotional outbursts being understood and managed correctly.

If parents are able to overcome the anxieties of sending their child with autism to camp, it allows for both the child and adult to gain independence. The parents will realize the new capabilities of their child and become comfortable accepting outside support while the child forms a sense of empowerment in accomplishing a task without the parent (Talmadge, 2017). This gained confidence in both the adult and child opens up the door for more learning and growth opportunities in other areas of life.

Motivation competence in camp staff. Perception and attitude are the characteristics that will define how willing a camp staff is to accept inclusion and address the challenges of campers with autism. Experience with and exposure to children with autism spectrum disorder along with access to appropriate training and resources can also factor into their overall feelings toward inclusion, but it is the feeling of self-adequacy that requires more focus (Busby, Ingram, Bowron, Oliver & Lyons, 2012). Low levels of self-adequacy can lead them to believe that only special educators are equipped to handle the needs of individuals with autism.

Similar to how students need intrinsic motivation to accomplish a learning task which increases self-determination and propels them into a cycle of other positive education experiences and further increases self-adequacy, camp staff also need a sense of competence motivation (Freiberger, Spinath & Steinmayr, 2012). People are naturally drawn to tasks that they know they can succeed in and tend to avoid those that are perceived as difficult. But individuals with high self-efficacy will enjoy difficult tasks more and be more willing to engage in them because as Busby et al. (2012) points out, when educators:

> Begin to feel competent in their abilities to teach children with autism, they may be more motivated to address the challenges and accept their responsibilities for teaching these children. Once this cyclical effect has evolved, teachers may begin to view teaching children with autism as equivalent to facing any other challenge they may encounter in their classroom. Like the little steam engine, teachers can be expected to experience a change in their belief system from 'I don't know how' or 'It is not my job' to 'I think I can.'(p. 28)

If a recreational activity wants to move towards inclusion, they need to begin by ensuring their team members have the right attitude for success by forgoing the notion that you must be an 'expert' to provide a camp program to children with disabilities (Hall et al, 2013).

Limitations of the camp setting. A less structured schedule is the biggest downfall of the camp setting in regards to campers with autism, but it does pose a silver lining. Children with disabilities, especially when they are accompanied by sensory sensitivities or the need for routine, may find camps chaotic and noisy (Siperstein et al, 2011). Although they are structured, camps may be a little more free form in schedules because of the informal learning environment, which can get in the way of children with autism feeling comfortable enough to participate in a new setting. However, if camps have the appropriate balance between an organized schedule and self-directed activities, campers with autism would be able to step outside their comfort zone to work on new skills while not becoming overwhelmed. For example, the use of learning centers allows for free choice and independent play because children can decide which center to visit and who to play with. However there is still structure in the experience because each center is organized around different materials which lend general ideas on how what to do at each spot.

Section summary. The camp setting has the potential to be an experience that allows parents, campers, and staff to grow and learn in ways that will help drive inclusion, independence, and self-efficacy even after the camp program has ended. It's also important to note that inclusive community programs are especially needed in the summertime because children with autism may not have other chances during this time to

interact with their typically developing peers (Knapp et al., 2013). Additionally, because camp programs are free from the constraints of academic pressures and the stricter conventions of the formal classroom, interventions can occur in a naturalistic setting (Knapp et al., 2013).

However, the potential of the camp setting does not end here. Considering that most summer camps occur in outdoor settings, especially those that are nature-based and use an environmental education framework, being in nature provides a whole other set of benefits for campers with autism spectrum disorder.

Environmental Education

In a world that is becoming increasingly disconnected, environmental education has the ability to connect diverse audiences and to create a community of empowered leaders dedicated to positive change in the natural world and stewardship of our natural resources. The key word here is diverse. Individuals with autism need to be considered and represented in the world of environmental education because they are contributing members of our community. Camps provide a setting for the foundation of their environmental literacy to be built upon and this section of the literature review explains how nature-based experiences benefit individuals with autism and explores two frameworks that align with both their learning styles and environmental education.

The outdoor environment. Environmental education based camps can be a successful experience for all types of students because it combines a positive experience in nature with education about the environment (Dumais, 2016). In terms of children with autism, who may be subject to an array of therapy appointments held indoors, contact with the outdoor environment has the ability to further their development, especially in

regards to stress relief (Chang & Chang, 2010). This is an important factor for individuals with autism because they often have comorbid conditions of anxiety and depression. Additionally, these camps often include a recreational component and this outdoor play helps to improve motor function challenges that individuals with autism may face. The natural facets of rocks, hills, and trees that are used during the play experience help to develop strength, balance, and coordination (Muñoz, 2009).

Chang & Chang (2010) report that the benefits of outdoor activities for children with autism span six additional areas including social interaction, communication, behavior, emotion, cognition, and sensory sensitivity. The natural environment holds many novel items and is ever changing. This attracts attention and sparks peer conversations for improved social interaction, increases the content of speech for better communication, and drives acceptance of changing circumstances which is necessary in other aspects of life. Being outside is also sometimes seen as a reward, so the outdoor environment promotes positive behavior, the associated active play reduces agitations in vestibular systems, and the landscapes and natural environment can also help to calm emotions. In regard to cognition, there are chances for new learning experiences, for improving observation abilities, and for focusing attention. Finally, after repeated guided exposure, the outdoor activities can help to decrease responses to sensitive stimulations.

The Reasonable Person Model. Janzen and Zenko (2012) state: “It is just as difficult to predict the potential of a child with autism as it is to predict the potential of a typically developing child” (p. 9). This perspective, along with the complexity of needs for students with autism spectrum disorder, parallels the sentiment of universality in the field of environmental education. It is a pedagogy that allows for participation at all

levels and a fundamental aspect is tailoring curriculum to the background, skills, and needs of the audience. Although it may take longer for us to understand the specific needs of a student with autism, the method in determining what constitutes an effective learning environment is the same for all students. Patience, communication, and trial-and-error are essential in creating a learning environment that supports the basic information needs of the student.

When these needs are met, the Reasonable Person Model can be applied to the environmental education framework, which supports all types of learners including those with autism spectrum disorder. Behaviorists define a reasonable person as one who acts "sensibly, responsibly, appropriately, or cooperatively" (Oxarart & Monroe, 2015, p. 95) and these characteristics are recognized as necessary in order for a student to successfully reach the goals of an educational experience. In order to facilitate the responses of a reasonable person in a learning situation, educators developed the Reasonable Person Model [RPM] to address those informational needs that must be met in order for students to succeed.

The Reasonable Person Model is built on the premise that three interrelated factors combine in any learning environment to influence the outcome of a particular educational experience. In short, RPM focuses educators on the goals of enabling students to (1) build mental models, (2) be effective, and (3) take meaningful action. Mental models rely on a shared or common understanding of a concept between teacher and student. Effectiveness relates to a student's feelings of competency and capacity in the context of problem resolution, while meaningfulness addresses the student's need to

take an active part in creating positive change (Oxarart & Monroe, 2015). The three components of RPM are similar to the goals of environmental education.

The field of environmental education was developed from the practices of nature study and conservation education specifically because there was a need to not only deliver facts about the environment, but to use those facts to foster an appreciation for the natural world. By building upon mental models, an appreciation is formed that hopefully inspires people to take meaningful action. Termed "environmental literacy", this goal is achieved when the learner is capable of making decisions in a sustainable manner because the individual understands the connection between himself and the natural world.

Viewing environmental literacy as a hierarchy and something that is attained over time and built on a series of stepping-stones is closely aligned with Michelle Garcia Winner's Social Learning Tree analogy for teaching social thinking, a concept that many individuals with autism struggle with. Winner advises to not 'teach in the leaves' but instead work from the roots, to the trunk, to the branches to solidify skills that can be independently applied to the leaves. In other words, the educator helps lay the foundation of social learning but the student needs to learn how to apply that information to broader terms.

The first step to achieving environmental literacy is the acquisition of knowledge of the natural world. Because environmental education allows for participation at all levels, audiences can be quite diverse, making it especially important for the educator to present information that is tailored to the learners' level of understanding so they do not become overwhelmed or confused. When educators prematurely ask learners to deal with issues beyond their understanding and control, they inadvertently instill a sense of

ecophobia and diminish the learner's sense of effectiveness. With curriculum that is developmentally appropriate, individuals can easily connect the information to mental models that already exist. This opens their pathway to understanding and leads to self-directed exploration of new information. As students take control of their own learning, they develop a sense of ownership. This confidence, coupled with a clear understanding derived from the concise instruction of information, are the two main components of being effective and reaching reasonableness (Kaplan & Kaplan, 2006).

The importance of developmentally appropriate programming carries over into the meaningful action domain of the Reasonable Person Model. A call to action is an important part of environmental education program development and program success is often evaluated by how many participants actually respond to that call. Building on self-directed learning, educators can use participant input to suggest realistic actions. When larger tasks, such as stopping rainforest deforestation, are broken down into manageable steps, such as recycling paper products so fewer trees are cleared for human needs, the learners continue to build on their mental models and sense of effectiveness. A main component of environmental literacy is understanding how one's actions affect the rest of the Earth's systems, and the Reasonable Person Model emphasizes that individual actions, however small, really do add up to significant and meaningful change (Oxarart & Monroe, 2015).

To some extent, the Reasonable Person Model is already inherent in environmental education, since they share the common goals of providing information to motivate change. If the Reasonable Person Model were to be universally applied in the field of environmental education, especially in the inclusive nature-based camp setting, it

would create a consistent method for educators to be successful, which would result in consistent growth of a diverse, environmentally literate society.

Purposefully-framed play. As mentioned earlier in this chapter, children with autism have challenges developing play and imagination, which can hinder peer relationships, communication, and learning experiences. While they have the desire and capacity for play, their expression of play differs from their peers and so support is needed to facilitate a positive play experience (Buron & Wolfberg, 2014). Play-based learning has an appropriate place in environmental education because children are inherently drawn to the natural world and play is the natural activity of children. Engaging in play allows opportunities to explore, to use imagination, and to make connections, all of which are necessary to support learning. If this framework is implemented in the inclusive, nature-based camp setting, the foundation of environmental literacy can be achieved while promoting growth in individuals with autism spectrum disorder.

There are three recognized categories or types of play: open-ended play, modeled play, and teacher-child interaction. In open-ended play, educators provide materials that relate to a specific topic, but they do not engage or interact with the learners. There is no discussion about or guidelines for the activity. The materials are simply left out for the learners to explore and examine freely. This play-based learning is helpful in building a foundation for a concept and it supports discovery and exploration, both critical to the learning process. However, students tend to perceive the learning experience as just playing, unable to identify any concept or purpose related to the activity (Cutter-Mackenzie & Edwards, 2013).

Modeled play is similar to open-ended play in that the learners still use the materials with little to no interactions from the educator, but prior to this, the educator will demonstrate how the materials loosely relate to a concept. Learners are still able to develop critical learning skills, and although they may not realize the conceptual idea of the activity, they can describe the purpose or goal (Cutter-Mackenzie & Edwards, 2013).

Teacher-child interaction play goes one step further to involve the educator in the play process, providing opportunities for discussions, open-ended questions and chances to make concrete connections to existing knowledge. This type of play-based learning is much more teacher oriented, but it does solidify the learner's ability to identify goals, outcomes and conceptual ideas of the activity (Cutter-Mackenzie & Edwards, 2013).

These play-based pedagogies occur along a continuum ranging from freely chosen play to teacher oriented play-based activities. Each play type, when used alone, supports acquisition of knowledge. But it is when open-ended play, modeled play and teacher-child interactions are combined to form purposefully-framed play that the most successful framework for environmental learning is achieved. When experienced together, the strengths of each play type integrate to provide increased opportunities for experiences and connections that build on one another for successful learning. This pedagogical approach acknowledges the importance of interactions and relationships between children and teachers to support learning, a model that is viewed as more successful than child-centered play (Cutter-Mackenzie & Edwards, 2013).

In purposefully-framed play, the play experience begins with open-ended play to allow learners the chance to create their own foundation of the lesson. Following this, the teacher models how the materials could be used and forms discussions about the activity

through teacher-child interactions before the students then have another chance to participate in the play experience. Not only does purposefully-framed play help the learner to understand what is being taught, it also helps the teacher to clearly identify what knowledge they hope the child will gain, encouraging the teacher to think about the strategies needed to support the learning (Cutter-Mackenzie & Edwards, 2013).

Purposefully-framed play and environmental education are well-aligned partners in achieving environmental literacy and supporting learners with autism. Purposefully-framed play combines the strengths of three types of play to create a feedback loop. Because play naturally falls to the varying levels of participants, it ensures that the environmental concept being presented is not overwhelming and helps to bring out key components of the Reasonable Person Model by allowing the learners to create their own mental models and, through discovery and exploration, form a sense of effectiveness. When this play experience is implemented with peers, it also allows the learner to have a positive play interaction, building self-confidence and improving social cognition, while creating another feedback loop to promote more play experiences.

Section summary. When outdoor activities, environmental education, and specific frameworks are combined with an inclusive camp setting, there are a compelling amount of benefits provided to participants with autism spectrum disorder. Not only will they be represented in the world of environmental education by strengthening their environmental literacy, there is potential to promote growth and give support in all six aspects of an individual's profile of abilities and behaviors.

While the information so far reviewed in this chapter show promise for the success of inclusion in a nature-based camp, it needs to be noted that inclusion is not

achieved by simply inviting children with autism to participate in camp (Siperstein et al., 2011). There needs to be an overall shift in attitude and perception among staff members to ensure that all children are truly able to participate at the same level.

Staff Training

Touched upon earlier in this chapter, self-efficacy is what drives educators' opinions on inclusion and being able to meet the needs of all learners. This is also where the culture of camp begins, because if team members do not believe in inclusion and their role in creating an inclusive camp, then it will not be successful. This final section of the literature review connects the culture of camp to positive inclusive experiences and discusses successfully implemented professional development programs in other camps.

Camp culture. Hall et al. (2013) claims that the biggest barrier to an inclusive camp is attitude and that inclusion should be viewed as a philosophy. In this way, there is a shared mindset that everyone is worthy of being a participant and the focus is on creating a program that gives each participant a meaningful experience. Only after this belief is shared among team members can you start to look at other practical barriers, like facilities, resources, or training (Hall et al., 2013).

Creating this culture begins with the hiring process of the camp staff. Although hiring managers most likely will not come across a large amount of prospective employees that think children with autism do not deserve an inclusive experience, it is still necessary to clearly state the camp's philosophy of inclusion to ensure that beliefs are matched. It is also not recommended that camps hire counselors with specific titles because it gives the illusion that only certain staff members are responsible for creating the inclusive experience. Training should be for the entire camp staff so that they

understand it is a shared responsibility and that everyone is capable of supporting all campers. Additionally, the leadership needs to create a space in which camp staff feels comfortable expressing their concerns so that they can feel empowered in the challenges they will face (Hall et al., 2013).

Case study. In 2003, Brookman and her colleagues were tasked with creating an inclusive summer camp experience after community members voiced concerns over the minimal available opportunities for children with autism during the summer. The goal was to create a camp program that would prevent campers from back tracking on progress made during the school year while promoting new social skills. Brookman was able to achieve the intended goal through paraprofessional aides coupled with ongoing training and support for all summer camp staff.

The paraprofessional aids were present throughout the entire camp day and supported one to two campers at a time, focusing on social cognition goals that had been set at the beginning of the camp week. Intervention strategies included priming, self-management, and peer involvement. Priming is used before a camper participates in a new activity. They are given a preview of the activity and instructions so they can be prepared for the future demands and expectations, which would hopefully lead to an increase in participation. Self-management was implemented as a way to reduce the need of the aides by promoting appropriate behaviors and decreasing disruptive behaviors. Finally, peer involvement sought to encourage social interactions between campers to benefit all involved by facilitating a variety of social exchanges.

The aides were given training prior to the start of the camp session but also received feedback and coaching throughout the summer as needed through both verbal

instructions and by modeling effective intervention methods. The camp also made sure to employ extra safety precautions for the campers with autism during certain activities, like swimming, and discussed the program structure with the parents of children with autism before the session began. These should be considered vital steps when you consider the challenges individuals with autism can face, as explained earlier in the chapter. They may understand they need help during swimming but not know how to ask, leading to an unsafe situation. By having added adult supervision and parental insight, these situations can be avoided. Brookman et al. (2003) concluded that the model was an effective way to provide a successful and meaningful experience for all campers and that the most important features were communication between the camp and parents, system responsiveness, and utilizing community partners from an autism clinic.

Camps on TRACKS. A day camp based in Ontario, Canada used Brookman et al.'s model as described above to create an inclusive program that focused on peer-mediated social skills. Camps on TRACKS uses five behavioral strategies in this approach, which is where the acronym TRACKS receives its meaning. T: try again or persistence; R: right thing or correction; A: assist or prompting; C: congratulate or reinforcement; K: keep trying or persistence; and S: show or model (Maich, Hall, van Rhijn, & Quinlan, 2015).

Similar to Brookman et al.'s model, TRACKS used properly trained aides, created individualized camper goals, implemented intervention strategies as needed, and kept an open line of communication with families. They also aimed to prompt through peers instead of directly to the campers with autism. The Camps on TRACKS program also found that the model effectively benefited campers with autism in regards to social skills

with interactions between camp counselors decreasing and peer-to-peer interactions increasing. Additionally, camp counselors and neurotypical campers benefited from the easy to implement plan (Maich et al., 2015).

Let's ALL Play. Let's All Play is a different model for inclusion in community programs that was developed by the Bubel/Aiken Foundation and implemented across twenty-four recreational programs in 2008. The model includes three basic components including program modifications, inclusive games, and training guidelines (Siperstein et al., 2011).

Camp organization must be strong so that the hectic nature of camp does not hinder participation from campers with autism. Let's ALL Play utilizes picture schedules, fidgets, activity scripts, and task cards to help campers stay relaxed and comfortable throughout the day. To foster communication with parents, family communication cards are used to help the campers remember what they did throughout the day so they can share with their family once back at home. In an effort to avoid games that separate campers based on skill levels, inclusive recreational games were suggested, like adapting elimination games so that everyone is engaged at all times. Let's ALL Play recognizes that the culture of camp begins with the staff, so training guidelines on a variety of topics were also included in the camp model to ensure that team members felt prepared to offer the inclusive experience (Siperstein et al., 2011).

For the camps that implemented the model, the majority felt that the accommodations benefited all campers, regardless of their abilities and needs. More than half of the campers improved in areas of engagement, social skills, self-esteem, and motor function (Siperstein et al., 2011).

Section summary. It is possible for camps to modify their program to allow for inclusion, whether by following previously implemented models and guidelines like Let's ALL Play or Camps on TRACK or by taking into consideration their biggest findings. Knapp et al. (2013) recommends establishing a relationship with a local community partner that is well versed in autism spectrum disorder so that they can provide support to the camp throughout the program. In any instance, components of an inclusive camp should include social skills support, open communication with families before and during camp, adaptation of the camp schedule and activities, additional aides, and effective training for all staff members (Knapp et al., 2013). With a positive mindset towards inclusion and the practical barriers of inclusion crossed, day camps can become a place that benefits all members of the community.

Chapter Summary

This chapter provided a detailed look at the five main topics that need to be considered when trying to answer the question, *how can environmental education based camps create an inclusive opportunity to ensure that campers with autism have a positive and meaningful experience.* Autism spectrum disorder is a complex developmental disorder with pervasive implications that affect the social cognition, emotional regulation, sensory sensitivities, learning styles, and behavior of affected individuals. Given its intricacies, individuals with autism need support and interventions in many areas using varied approaches. Inclusion practices, in which children with autism participate in the same program alongside neurotypical peers, help to overcome deficits related to autism, especially in the realm of social interactions, while also benefiting the peers. Inclusion has gained popularity in the formal classroom environment in the last few decades and

the movement is starting to gain traction in community programs like recreational activities and day camps.

The camp setting is an especially important environment for inclusion because camps often occur during the summer months, when students with autism are not interacting with peers at school and are instead often isolated at home. Not only do day camps allow for natural interactions among peers, they allow the opportunity for a shared sibling experience, independence from parents, and increased self-esteem that can propel progress after the camp program is complete. When the camp setting is outdoors or nature-based, these benefits become tenfold. The natural environment eases challenges associated with autism, promotes social learning, and helps lay the foundation for the environmental literacy of all campers. It is important for children with autism to be represented in the world of environmental education because they are members of the community and capable of making positive change when given the right tools. The Reasonable Person Model and Purposefully-Structured Play are two frameworks that align with both environmental education and the learning styles of individuals with autism.

If an inclusive, nature-based camp is going to fulfill its potential as an intervention site for campers with autism while promoting environmental literacy for all, it needs to have a strong staff that is committed to the inclusion mindset. All team members need to share the belief that inclusion is supported by all and achievable for everyone. Camp programs can use successful program models or ensure that they have effective training, resources, and strategies in place for the summer. Chapter three outlines the project portion of my capstone, my design of an appropriate and effective

camp staff training plan. The frameworks, methods, audience, and timeline of the project are discussed. Chapter four is a reflective narrative of the project process.

CHAPTER THREE

Project Description

Introduction

In an effort to answer the question *how can environmental education based camps create an inclusive opportunity to ensure that campers with autism have a positive and meaningful experience*, I created a camp staff training program guided by the research presented in the literature review portion of this paper. The training program is geared toward all members of the camp staff, including hiring managers, support staff, and counselors to ensure that they feel prepared and empowered to create an inclusive camp experience. The project is comprised of support resources that can be implemented before, during and after the camp program to maximize success.

This chapter details the intended audience and why this demographic is important to consider in creating the project materials. It also describes the context in which the training would take place and discusses the suggested setting, length of time, and frequency of the training. The project components are introduced as well as the frameworks for adult learning that were used to complete the project and add to the conversation of the research topic.

Project Overview

The staff development experience I created is flexible to the logistics of the camp program where it is being implemented. I have chosen to focus on the general issues of

inclusion rather than specific inclusive curriculum because I think it will have farther-reaching effects. Developing a curriculum that addresses environmental education while including all types of campers and learning styles is a worthy project, but its use is minimal compared to a training program. Most camps do not utilize the same curriculum each year or employ a rotation schedule so that return campers can enjoy new experiences each summer. A training program has the opportunity to breed success. If camp staff members move on to other camp programs, educator positions, or even work environments, they will be able to apply the inclusive mindset to any setting.

Project Paradigm

For the purpose of organizing the professional development plan, I modeled the setting, audience, and training specifics around my current work structure and location. However, the material, application, and schedule remained flexible so that it can be applied to different camp structures of varying sizes, staff backgrounds, and training time. So that the reader can have a full understanding of the project and what was considered when developing the training plan, the following is a description of the current camp program I am involved in.

The conservation education camp where I currently work is funded by a larger company and offered to campers that are friends and family of the company employees. The camp program runs ten weeks during the summer and is open to children entering kindergarten through 9th grade. There are a maximum total of 108 campers each week, split into five different age groups. This camp setting utilizes indoor classrooms and outdoor open green spaces, and is on the grounds of an amusement park and zoo. Therefore, the park and its offerings of rides, shows, and animal exhibits are also used to

the advantage of the camp curriculum. Each age group within the camp has their own schedule and curriculum throughout the day. They consist of group discussions and games, rides, animal encounters, field trips, and guest speakers which all touch on topics related to environmental education such as endangered species, the role of zoos and aquariums in conservation, general animal knowledge, positive experiences in natural environments, recycling, and conservation projects.

The camp day begins at 9:00am and runs until 4:30pm, but some campers stay from 8:00am to 5:30pm depending on their need for before and after care. The camp does not outwardly market itself as inclusive, but has had a fair amount of children with different abilities participate in the program. Currently, the camp staff go through different training topics related to the camp mission, guidelines, safety, and general procedures such as classroom management. The only autism related training given is one hour in length and facilitated by a fellow employee who has a son with autism that has previously attended the camp.

All immediate members of the camp team are hired into the camp program as a temporary assignment, meaning they work for the larger company in a different aspect during the other months of the year and only participate in camp for the ten weeks it is in session and three prior weeks of training. The camp team is comprised of a camp manager, camp coordinator, a booking coordinator, eleven counselors that are assigned to and stay with an age group throughout the whole summer, and two additional assistants who help the operation from a behind-the-scenes vantage and step in as counselors when needed. The camp manager begins their temporary assignment a few months before the camp session starts, followed by the camp coordinator who joins a month before, and

finally the counselors who begin their training and onboarding three weeks prior to the summer. While they must apply and interview for the positions, they are not all necessarily in educator roles throughout the year and join the team with varying experience and backgrounds.

Project Components

The support resources in this project are broken into two parts, the guidebook and the training presentation. While the project as a whole is aimed toward all camp staff, the guidebook is meant just for leadership to use as a tool for when the camp planning process is starting. The presentation element however, was designed for all staff to be a part of. Both of these components are described in further detail in the following sections.

The guidebook. This piece of the project includes a pre-summer checklist that leadership can use to create an action plan for the development, implementation, and improvement of an inclusive camp. It also gives an overview of the presentation, the adult learning theories that were used as a framework, and evaluation tactics so that leadership can be prepared to facilitate an effective training presentation tailored to their program. In order to provide successful support throughout the camp program once the training is complete, the guidebook suggests the use of communication between both the camp staff and campers parents, as well as between camp staff and camp leadership. The guidebook is meant to be an introductory piece to the larger portion of the training, the presentation.

The presentation. The presentation was created in a form similar to PowerPoint, with slides to project to the audience and information in the notes section for the facilitator. The main goals of the presentation are for participants to gain a shared

philosophy of inclusion in the camp environment, understand how they all contribute to camp culture, feel empowered and capable of supporting inclusion, and be able to put into practice what they have learned. Through the use of group discussion, videos and demonstrations, the first half of the presentation focuses on the philosophy of inclusion, camp culture, and an overview of autism spectrum disorder. The second half of the presentation uses reflection time and more group discussions and videos to cover why inclusion is important and the various ways inclusion can be supported by the camp staff. The notes for the facilitator include how much time should be spent on each slide, a suggested script, additional resources, and key points of adult learning theories that should be put into practice for effective training.

Adult Learning Approaches

Since the staff members all have different experiences and strengths to draw upon, the presentation portion of the training incorporates a strong element of audience participation so that the content can shift to the level of the learners and empower them. Additionally, the training targets all team members—the manager, coordinator, booking coordinator, counselors, and assistants—so that they all understand they have a role and shared responsibility in creating an inclusive camp environment. The adult learning approaches that were used as frameworks in creating the training curriculum are Jack Mezirow's Transformative Learning Theory and Malcolm Shepherd Knowles' Andragogy Approach, discussed in further detail in the subsequent sections.

Transformative learning. This theory is based on the notion that adults have developed a certain frame of reference based on their life experiences, feelings, upbringings, and associations. For effective adult learning to occur, change needs to

happen within this frame of reference (Mezirow, 1997). This change is brought about through self-reflection and communicative learning and can be achieved in four different ways: elaborating on your existing view, establishing new points of view, transforming a current view, or by becoming aware of our bias in how we view others (Mezirow, 1997). I think this framework closely aligns with developing an inclusive mindset because the camp staff will need to reframe their point of view on inclusivity by reflecting on their role in creating the culture of camp. If they cannot change their point of view, they will not be able to truly learn during the training.

Mezirow (1997) suggests using reflection, role-play, simulations, and group work in an interactive, learner-centered manner while taking careful action to involve the learners in active engagement of the topics. In this way, the trainer acts more as a facilitator for self-directed learning, perhaps even stepping into a co-learner role. When adult learners, or any type of learner, are able to assess, challenge, and change their original point of view, they gain the skills to become lifelong learners and apply this process to other areas of life (Christie, Carey, Robertson & Grainger, 2015).

Andragogy. Knowles developed this term to describe the art and science of adult learning, which must be distinguished from pedagogy because adults possess a higher level of self-efficacy than children. The teacher should always assume that adult learners have a strong self-concept and vast past experiences, with a readiness and practical reasons to learn, driven by self-motivation (Learning Theories, 2017). Because of these assumed traits, successful adult teaching should incorporate self-directed, engaging learning that draws on their prior experiences and aims to solve problems that have applicable meaning to their work or personal life.

This framework can be applied by using different techniques in the adult learning process, such as the introduction, team assignments, the use of technology, and the room set-up. Giannoukos, Besas, Galiropoulos & Hioctour (2015) propose the introduction as the most important part of the learning experience because it helps create an atmosphere of transformative learning. The leader should make their introduction first and then separate the group into pairs to conduct interviews in an effort to understand every participant's background and motivation for being there. Eventually, these pairs should be added together to form larger teams so the entire group can come to a shared understanding of each other's opinions, needs, and goals. Giannoukos et al. (2015) also suggests using teams throughout the training process for discussions because it will allow participants to take a role that matches their comfort level and eliminates the need to compete with each other. A board, projector, and other technology are appropriate to use as long as it is not throughout the entire learning process. Additionally, an L shaped room set up would make these resources visible to the entire group, which may benefit the visual learners (Giannoukos et al., 2015). The most important thing to remember is that the teacher only guides and suggests, rather than simply supplying information and knowledge.

Timeline Details

The guidebook component of the support resources should be implemented first, as it is designed to help leadership prepare for the hiring process, create inclusive camp marketing materials, and facilitate the training presentation. Ideally, the presentation component could be used during the onboarding time for camp staff before the actual camp program begins. While the guidebook gives suggestions, the camp leadership, in

conjunction with other staff members, will need to work out details on how they can provide support throughout the camp experience and once the summer has ended.

The frequency of the training is intended for every summer, even if participants have already taken the training, they can become key members of facilitating the training for new employees. The total length of time of the presentation is around five hours, but the training can easily be broken up into smaller sections if needed. The guidebook is only a few pages and therefore should only take a small amount of time to read, but leadership should revisit this each year as well. By reviewing the inclusion practices each year, they will ensure that they still align with the mission and goal of the camp.

Chapter Summary

Staff training on inclusion in the camp setting must be given to all team members so there can be a cohesive effort towards a shared goal where every person is empowered in reaching that goal. Because camp staff comes from diverse backgrounds with varying points of view, the use of an andragogical approach to learning allows for a transformative learning experience. Instead of stating facts and knowledge, the shift in their frame of reference needs to be intrinsically motivated and self-directed learning within a team can help to facilitate this.

This training plan targets all members of the camp staff and is based on my current work setting, however it is still flexible in its elements so that it can be applied to other programs as needed. The universality of the training determined the staff was the chosen audience, allowing a widespread impact. I hope to implement the training plan into our next camp season and if successful, use the process in subsequent years to solidify the inclusive nature of the camp. In the next chapter, I will discuss my major

findings upon the completion of the capstone project including key points, limitations, and future implications.

CHAPTER FOUR

Project Conclusions

Introduction

This capstone set out to answer the question *how can environmental education based camps create an inclusive opportunity to ensure that campers with autism have a meaningful and positive experience?* My personal philosophy of environmental education along with my experiences teaching individuals with autism provided the context for this capstone topic, while the apparent need for a community shift towards inclusion provided the rationale. To gain a foundation for the project, a literature review was conducted on the topics of autism spectrum disorder, inclusion, the camp setting, environmental education, and effective staff training. Ultimately, I decided to develop a camp staff training program in the form of a leadership guidebook and professional development presentation, both of which aim to help create an inclusive camp culture.

With the completion of the project, this final chapter is a reflection of the capstone process and the discoveries that came from it. Chapter four will examine the different learnings that stemmed from the capstone process, evaluate connections between the project and the literature review, and discuss implications, limitations, and future projects. Finally, I'll consider how the project benefits the environmental education profession.

Learnings

Although the project I created was meant to teach others, I found that I also learned new and unexpected things as a student, writer and researcher. As a student, I was given a reminder on the importance of teaching to your audience, no matter their age. As a writer, I learned how to look at my own work with a critical eye and as a researcher, I found the value of making connections between multiple topics and papers. Not only did these teachings benefit me during the capstone process, they will continue to provide support to me in future professional endeavors.

One of the guidelines for creating a professional development opportunity was to include the adult learning principles that framed the project. Reflecting back on this, I'm not sure if I would have thought to research specific adult frameworks without the prompt of the guideline. It was a necessary reminder that every audience has their own way of learning and if teachers do not put the needs of their audience first, then their teaching becomes more of a routine and less of a learning experience. Now that I am aware of the differences between pedagogy and andragogy, I can use adult learning principles to my advantage to educate my peers on the importance of inclusion. I will be better equipped to communicate to a variety of audiences and therefore gain more traction in shifting communities towards the inclusion movement.

Similar to how I learned to be a better teacher for my audience, the peer editing process showed me how to be a better writer for my audience. Peer editing proved to be more valuable than I originally anticipated because not only did the feedback help me put forth my best work, it forced me to look at my own writing from a new perspective. This change came from needing to give meaningful feedback to my peers. I had to determine what critical points I should be looking for in their writing and in turn, contemplate if I

had done this in my own work. I needed to consider how others would interpret my writing, if it was cohesive and organized, and if it was appropriate for the everyday reader, all of which will be important benchmarks for future pieces of writing.

The literature review was the most substantial research I had ever done, in part because it spanned five different topics. At first glance, these five topics do not clearly relate to one another so it was up to me to create those connections for both my readers and myself. This helped to set the foundation for a valuable capstone project, because while I was able to gather a lot of data in these areas, the fact that there were still new connections to be made showed the merit behind my project goals. Knowing that I could add to my profession made me feel empowered as a researcher and these connections would be called upon when creating my project resources.

Literature Review Connections

Initially, I thought all of my literature review information would be applied to my project since all the topics were imperative to my capstone question. However, when deciding on the details of my project, I realized that if I broadened my scope from just the environmental education field to all types of camp programs, the project would hold more value. Therefore, environmental education is not referenced specifically in the project, but the materials can still be applied to a nature based camp and hopefully those reading this paper will still gain additional insight into that specific type of camp program.

The part of my literature review that proved to be the most important for my capstone was the section on effective staff training because it guided the details of my project. In order to reach a broader audience, I had already decided to not create an inclusive, nature based camp curriculum because the focus was too narrow. The

information on camp culture resonated with me the most, specifically how a shared mindset needs to be achieved before moving to the tangible elements of inclusion (Hall et al., 2013). This inspired me to focus on staff training and first incorporate the importance of camp culture and the philosophy of inclusion before exploring how to support inclusion through accommodations.

It was of course essential to use the research regarding autism spectrum disorder in my project because it created a baseline for training participants to build from. Without an understanding of autism spectrum disorder and the associated challenges, it would be hard to fully accept the importance of inclusion. Additionally, it would be difficult to plan and implement successful accommodations without being able to identify challenges and then relate those challenges back to areas affected by autism spectrum disorder. Of the five topics, this one had the most substantial literature review and it also provided the most substantial amount of information for the actual project.

Implications

This capstone project was completed in December 2018 and I hope to implement the training materials the summer of 2019 at the camp program in which I currently work. Although the camp already accepts campers with autism spectrum disorder, using these project materials would mean being able to better support campers and their families. The project would provide the motivation and resources for making our inclusion more intentional through explicit marketing materials and better communication. Additionally, this camp program lacks basic accommodations that might help all campers, such as visual schedules of the camp day or visual clocks. The supports described in the presentation would bring new ideas that could be utilized to benefit both the camp staff

and the campers. Ultimately, using these project materials would put a greater emphasis on the importance of a inclusive camp culture and that mindset in itself would lead to positive outputs.

For other camp programs that choose to use the leader guidebook and staff training presentation, the implications will range depending on how far along they are in the inclusion process. Camps may use the materials to begin setting up their program to allow for campers with autism to attend for the first time, and other programs may just rely on the presentation for their annual training of new staff. In any case, the biggest implication of this project is a community program making steps towards inclusion. This creates a new opportunity for individuals with autism spectrum disorder and sets a precedent for other community organizations to do the same, which leads to more opportunities and a greater shift towards an inclusive community.

Limitations

From a personal standpoint, the limitations I faced regarding the implementation of this project stem from my position within the camp program. Because I am not in a leadership role, I need permission from other staff members to use these resources during training. I am unable to garner support now because our leadership changes each year and roles have yet to be determined for next summer. I knew this limitation when I started the capstone process, but I still felt the project was valuable because it was not made for this camp specifically. As I move through different professional roles, I will be able to apply this project to other work environments. Although I feel confident that this project will be of use to my current work environment, I am at least in a position to educate those around me about the importance of inclusion, even if it is not done in a formal training. I will be

prepared to offer my own philosophy of inclusion, positively add to the culture of the camp and provide accommodations to my campers.

For other camp programs looking to utilize the project materials, I have tried to preemptively solve any possible limitations. For example, for camp programs that are not able to devote an entire day of training to the presentation, it can be broken into smaller pieces and delivered over multiple sessions. I also tried to keep the information in the guidebook general and flexible so that leadership could tailor the resources to fit their specific camp. One limitation I did not account for is consideration for any staff members with preconceived, negative attitudes towards inclusion. Ideally, leadership would be able to assess the attitude of new hires before offering them positions and the entire camp staff would be on board for this professional development opportunity. But if this is not the case for a camp program, the guidebook and presentation may not be compelling enough to inspire them towards change. If this occurs, hopefully there is still buy-in from leadership and they can take charge of helping to slowly shift those attitudes over a longer timeframe.

Future Projects

In the future, it would be beneficial to evaluate the success of this project in different camp programs to ensure the effectiveness of the materials. There are markers of evaluation for leadership to gauge participant learning, but it would be interesting to see how this learning translates to the camp program as a whole.

Future projects could focus on the number of campers with autism spectrum disorders that attend the camp each year. Does this number increase, decrease or remain the same after implementing the training? It would also be beneficial to see where there

are gaps in information or resources. This could be done through interviewing campers or parents of campers with autism to understand the experience from their point of view. Did the changed marketing materials make a difference? Are there any other challenges that were not considered but could be solved with accommodations? From a wider perspective, it would also be intriguing to know how this mindset carries over into other aspects of life and if the larger community where the camps takes place experience a changed mindset as well. Hopefully the results will show benefits spanning multiple professions and community organizations.

Benefits to the Profession

Although environmental education was not specifically considered when creating the project materials, it was the basis for this capstone and the project supports the main goal of the profession. Environmental education is a tool for creating an environmentally literate society that is capable of making their own sustainable decisions that support the conservation of our natural resources. It is imperative that this framework and knowledge is accessible to all members of society and individuals with autism spectrum disorder cannot be overlooked because they are contributing members of our communities.

Additionally, environmental education tends to occur in informal learning environments, such as camp programs. Many nature based centers offer day camps with a focus on connecting to nature and these programs provide a setting for campers to build on their foundation of environmental literacy. This project is able to weave environmental education, the camp setting, and individuals with autism into one experience that benefits the participants and creates an even more diverse audience for facilitation of environmental literacy. As camps and environmental educators become

comfortable and confident in their abilities to serve individuals with autism, they will be able to apply these learnings to other individuals with disabilities, creating more meaningful experiences and diversifying their audience even further.

Conclusion

This capstone process began with the question *how can environmental education based camps create an inclusive opportunity to ensure that campers with autism have a meaningful and positive experience?* Personal experiences, professional goals and societal changes motivated me to focus on this specific niche of teaching and create a project of value. Through my literature review, I was able to hone in on characteristics of autism spectrum disorder that could cause challenges in the camp setting while developing a deeper understanding of how inclusion supports not only individuals with autism, but also their family members and neurotypical peers. The literature review also provided specific details on how environmental education and the camp setting support the unique learning styles of individuals with autism, but the most valuable research showed the relationship between effective staff training and inclusive camp cultures.

Using these learnings from the literature review and in an effort to reach the largest audience, I created a project that could be applied to any camp program, regardless of the curriculum focus or structure. The guidebook for leadership provides first steps for developing an inclusive camp environment and the training presentation helps leadership reach their inclusion goals by educating their staff on autism spectrum disorder, inclusion and accommodations.

My hope is that this capstone project inspires a variety of community organizations to be a part of the movement towards inclusion. This will allow for more

members of society to have equal opportunities and shared experiences while diversifying the environmental education audience, leading to more environmentally literate individuals.

REFERENCES

Baio, J., Wiggins, L., Christensen, D.L., Maenner, M.J., Daniels, J., Warren, Z., … Dowling, N.F. (2018). Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years – Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2014. *Surveillance Summaries, 67*(6), 1-23. DOI: http://dx.doi.org/10.15585/mmwr.ss6706a1.

Beyer, J.F. (2009). Autism Spectrum Disorders and Sibling Relationships: Research and Strategies. *Education and Training in Developmental Disabilities, 44*(4), 444-452.

Brookman, L., Boettcher, M., Klein, E., Openden, D., Koegel, R.L., & Koegel, L.K. (October 2003). Facilitating Social Interactions in a Community Summer Camp Setting for Children with Autism. *Journal of Positive Behavior Interventions, 5*(4), 249-252. DOI: 10.1177/10983007030050040801.

Busby, R., Ingram, R., Bowron, R., Oliver, J., & Lyons, B. (2012). Teaching Elementary Children with Autism: Addressing Teacher Challenges and Preparation Needs. *Rural Educator, 33*(2), 27-35.

Buron, K.D. & Wolfberg, P. (2014). *Learners on the Autism Spectrum: Preparing Highly Qualified Educators and Related Practitioners.* Shawnee Mission, Kansas: AAPC Publishing.

Center for Disease Control and Prevention (2018, April 26). *Autism Spectrum*

Disorder (ASD). Retrieved from https://www.cdc.gov/ncbddd/autism/data.html.

Chang, Y. & Chang, C. (2010). The Benefits of Outdoor Activities for Children with Autism. Retrieved from https://www.researchgate.net/profile/Chun_Yen_Chang2/publication/266369570_The_Benefits_of_Outdoor_Activities_for_Children_with_Autism/links/54dd62460cf28a3d93f903c1/The-Benefits-of-Outdoor-Activities-for-Children-with-Autism.pdf?origin=publication_detail.

Christie, M., Carey, M., Robertson, A., & Grainger, P. (2015 April). Putting Transformative Learning Theory into Practice. *Australian Journal of Adult Learning, (55)*1, 9-30.

Cutter-Mackenzie, A. & Edwards, S. (2013). Toward a Model for Early Childhood Environmental Education: Foregrounding, Developing, and Connecting Knowledge Through Play-Based Learning. *The Journal of Environmental Education, (44)*3, pp. 195- 213.

Dumais, A.M. (2016). Best Practices for Including Students with Autism, Disabilities, and Special Needs in Environmental Education (Undergraduate Honors Thesis). Retrieved from https://scholar.colorado.edu/honr_theses/1204/.

Freiberger, V., Spinath, B. & Steinmayr, R. (2012 August). Competence Beliefs and Perceived Ability Evaluations: How do they contribute to intrinsic motivation and achievement? *Learning and Individual Differences, (22)*4, 518-522.

Giannoukos, G., Besas, G., Galiropoulos, & Hioctour, V. (2015). The Andragogy, the Social Change and the Transformative Learning Educational Approaches in Adult Education. *Journal of Education and Practice, (6)*10, 46-50.

Greenbaum, J. (1992). *Special Education: A Changing System.* Retrieved from http://webapp1.dlib.indiana.edu/virtual_disk_library/index.cgi/4273355/FID840/eqtyres/erg/111417/1417.htm.

Hall, A., Dunlap, T., Causton-Theoharis, J., & Theoharis, G. (January 2013). *The Power of the Inclusive Camp Experience.* Retrieved from https://www.acacamps.org/resource-library/camping-magazine/power-inclusive-camp-experience.

Henninger, W.R. & Gupta, S.S. (2014). How Do Children Benefit from Inclusion? In S.S. Gupta, W. R. Henninger, & M. E. Vinh (Eds), *First Steps to Preschool Inclusion: How to Jumpstart Your Programwide Plan* (pp. 34-57). Baltimore, MD: Brookes Publishing.

Janzen, J.E. & Zenko, C.B. (2012). *Understanding the Nature of Autism: A Guide to the Autism Spectrum Disorders.* Austin, Texas: Hammill Institute on Disabilities.

Kaplan, R. & Kaplan, S. (2006). *The Reasonable Person Model: A Brief Description.* Retrieved from http://willsull.net/la270/LA_270_Readings/LA_270_Readings_files/RPM%20K%26K% 209-06.pdf.

Knapp, J., Maderitz, C., & Hirsh, A. (July 2013). *An Inclusive Summer Treatment/Camp Program for Children with High-Functioning Autism.* Retrieved from https://www.acacamps.org/resource-library/camping-magazine/inclusive-summer-treatment-camp-program-children-high-functioning-autism.

KultureCity (2018). *Sensory Initiative.* Retrieved from https://www.kulturecity.org/sensory-initiative/.

Learning Theories (2017). *Andragogy - Adult Learning Theory (Knowles).* Retrieved from https://www.learning-theories.com/andragogy-adult-learning-theory-knowles.html.

Maich, K., Hall, C.L., van Rhijn, T.M., & Quinlan L. (2015). Developing Social Skills of Summer Campers with Autism Spectrum Disorder: A Case Study of Camps on TRACKS Implementation in an Inclusive Day-Camp Setting. *Exceptionality Education International, 25*(2), 27-41.

Mazefsky, C., Herrington, J., Siegel, M., Scarpa, A., Maddox, B., Scahill, L., & White, S. (2013 July). The Role of Emotion Regulation in Autism Spectrum Disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, (52)*7, 679-688.

Mezirow, J. (1997). Transformative Learning: Theory to Practice. *New Directions for Adult and Continuing Education,* 74, 5-12.

Muñoz, S. (2009). *Children in the Outdoors: A Literature Review.* Sustainable Development Research Centre.

The National Environmental Education Advisory Council (2015). The National Environmental Education Advisory Council 2015 Report to the U.S. Environmental Protection Agency Administrator. Retrieved from https://www.neefusa.org/resource/2015-report-us-environmental-protection-agency-administrator.

Orsmond, I. & Seltzer, M. (2007). Siblings of Individuals with Autism Spectrum

Disorders Across the Life Course. *Mental Retardation and Developmental Disabilities Research Reviews,* 13, 313-320.

Oxarart, A. & Monroe, M. (2015). A Cognitive Approach to Environmental Education. In M.C. Monroe & M.E. Krasny (Eds.), *Across the Spectrum* (pp. 94-105).

Sesame Place (2018). *Certified Autism Center.* Retrieved from https://sesameplace.com/philadelphia/help/autism-resources/.

Siperstein, G.N., Pociask, S. & Barnes, K. (2011). *Let's ALL Play: Helping to Make Inclusion in Summer Camps a Success.* Retrieved from https://www.acacamps.org/resource-library/camping-magazine/lets-all-play-helping-make-inclusion-summer-camps-success.

Talmadge, A. (2017, April 10). *Kids with Special Needs Need Camp Too!* Retrieved from http://www.ourkidsmagazine.com/kids-with-special-needs-need-camp-too/.

U.S. Department of Education (n.d.). *About IDEA.* Retrieved from https://sites.ed.gov/idea/about-idea/.

Winner, M.G. (2007). *Thinking About You, Thinking About Me.* San Jose, California: Social Thinking Publishing.