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Implementing a Sensory-Friendly Adaptive Aquatics Program at the Springfield Jewish Community Center for Children with Intellectual and/or Developmental Disabilities

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A Doctoral Experiential Capstone Project Final Report

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In Partial Fulfillment of the Requirements for the

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in

Occupational Therapy

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by

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July 2024

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Abstract

Individuals with Intellectual and Developmental Disabilities (I/DD) can present with impairments in the areas of physical development, learning, language, sensory processing, and behavior. These impairments can lead to difficulties with daily life activities and participating in other meaningful occupations such as play, education, and social participation. Occupational therapy can aid in decreasing the impact of these challenges using several different approaches. Aquatic therapy is one approach that benefits children with I/DD. This is due to the physical properties of the water that create a supportive physical and sensory environment for an individual and their needs (Brokaw, 2022). The aquatic environment's properties create a positive physical environment for the child from the surface tension, buoyancy, and hydrostatic pressure. However, the environment may need to be altered. Overall, aquatic therapy supports sensory, cognition, motor function, and community integration in children with I/DD to reach developmental and therapy goals.

Keywords: Intellectual and developmental disabilities (I/DD), occupations, occupational therapy, swimming, aquatic therapy, community

Introduction and Background

I/DD may impact a child's intellectual functioning, social participation, sensory processing, adaptive behaviors, and social skills (Bianchi, 2021). The number of individuals diagnosed with I/DD is unknown due to the wide range and diagnostic process of the conditions covered under I/DD (Bianchi, 2021). However, recent estimates in the United States indicate about one in six, or approximately 17% of children ages 3 through 17 years old, have one or more developmental disabilities, with the percentage increasing yearly (U.S Centers for Disease Control and Prevention [CDC], 2024). Developmental disabilities can hinder a child's ability to participate in physical activities. One study, which analyzed the physical activity levels of children and adolescents with moderate-to-severe intellectual disabilities, found that the physical activity level of only 47% met the World Health Organization (WHO) recommendations of at least 60 minutes of daily moderate-to-vigorous physical activity (Wouters et al., 2018). In previous studies, 42% or less of children and adolescents with IDD met the WHO's recommendations for physical activity (Wouters et al., 2018). As the number of I/DD diagnoses increases and the time spent exercising decreases, it is important to provide support and opportunities for both physical activity and participation with peers for children. Aquatics programs can improve many aspects of a child's well-being, such as mental, physical, and emotional.

Aquatic activities like swimming can provide opportunities for learning and skill building, as swimming includes components such as gross motor skills, balance, core strength, endurance, sensory processing opportunities, and social interactions. However, many sensory demands are involved in any aquatic participation and can lead to children becoming overwhelmed. Motor planning, proprioception, vestibular, tactile, and auditory are all sensory

systems affected by aquatic activities. Activities can be completed outside of the water to better prepare a child's sensory system if they become overstimulated in the water as well as being completed in the water. Swimming can be challenging and fun if the caregiver knows and respects their child's limits. Continued exposure in a controlled and safe environment can help to establish safe and error-free learning along with confidence (North Shore Pediatric Therapy, 2024).

Occupational therapists are just one of many professionals who can provide aquatic therapy to children. Aquatic therapy techniques incorporate social interaction such as sharing and taking turns to develop emotional regulation skills. Exercise improves blood flow to the brain to enhance cognitive regulation; therefore, pool therapy games such as "Simon Says," and charades incorporate memory and problem-solving (Yagow, 2018). A child's ability to self-regulate directly impacts their overall mental health. Difficulties with self-regulation may be common in Autism, Attention Deficit Disorder, and Sensory Processing Disorder, among other medical conditions. Water temperature influences the level of alertness by stimulating the nervous system. Warm water typically relaxes the body which may decrease impulsivity or actions made prior to thinking through the consequences. Cooler water temperatures arouse a child who struggles with lethargy and fatigue to maintain attention. With repetition, these therapeutic benefits will become familiar for enhanced carryover to other environments such as in the home, at school, or in the community (Yagow, 2018).

Target Population

The target population for this program was children ages 2-9 years old with a diagnosis that falls under the scope of intellectual or developmental disability (I/DD). I/DDs are differences that usually present at birth and uniquely affect the trajectory of the individual's

physical, intellectual, and/or emotional development. Intellectual disability begins any time before a child turns 18 years old and is characterized by differences in both intellectual functioning or intelligence and adaptive behavior. Intellectual functions include the ability to learn, reason, and problem-solve, whereas adaptive behavior includes occupations such as social participation and ADLs. Developmental disabilities are a broad category that often leads to lifelong challenges that can impact intellectual development, physical development, or both (National Institute of Child Health and Human Development [NICHD], 2021).

Conditions that fall under I/DD affect multiple body parts and body systems such as the nervous system, sensory system, metabolism, and muscular system. I/DD disorders that affect the nervous system affect how the brain and spinal cord function which can result in difficulties in intelligence and learning as well as behavioral disorders, speech or language difficulties, seizures, and trouble with movements (NICHD, 2021). Some I/DD diagnoses may impact the development and/or functioning of the individual's nervous system, such as Cerebral Palsy, Down Syndrome, Fragile X Syndrome, and Autism Spectrum Disorders (ASD). For example, a child with ASD can present difficulties with being touched or held. I/DD diagnoses can impact the metabolic system, affecting how the body uses food and other materials for energy and growth. Too much of the materials available for the body to function properly or too little can disrupt overall body and brain functions (NICHD, 2021). Congenital hypothyroidism is a metabolic condition that can lead to I/DDs. Degenerative disorders may seem or be typical at birth and may meet usual developmental milestones for a certain period. However, then they experience disruptions in skills, abilities, and functions because of the condition. In some cases, the disorder may not be detected until the child is an adolescent or adult and starts to show

symptoms or lose abilities. Some degenerative disorders result from other conditions, such as untreated problems of metabolism (NICHD, 2021).

Logic Model

To evaluate the effectiveness of this sensory-friendly aquatics program, the Logic Model was utilized. The Logic Model describes the linkage among program resources, activities, outcomes, audience, and short-, intermediate-, and long-term outcomes related to a specific problem or situation. This model illustrates a sequence of cause-and-effect relations, which helps to communicate the path towards a desired result. Its application as a planning tool allows precise communication about the purposes of a project, its components, and the sequence of activities and accomplishments (McCawley, 2001). The situation statement provides an opportunity to communicate the relevance of the project. It helps to establish a baseline for comparison at the close of the program. Inputs include those things that are invested in a program or that we bring to bear on a program, such as knowledge, skills, or expertise. Outputs are what the researcher does and the people it reaches. All outcomes answer the question "What happened as a result of the program?"

The research conducted a pre- and post- survey prior to the start of the program and once the program ended. At the start of the program, the caregivers were given a pre-survey. The purpose of the pre-evaluation/survey was to determine a baseline of each participant's abilities, strengths, weaknesses, and any other concerns for support. The results from the caregivers would determine the intervention type and what was focused on during the program sessions. The results of the final post-evaluation/survey determined if the program was effective and if all goals were achieved. It would also affect how the program will run in the future and if any changes need to occur. By engaging the caregiver(s) in the process of the program implementation in all aspects of

the Logic model, the effects would be more effective short term and long term for the benefit of the participants, caregivers, program planning, and researcher.

Doctoral Experiential Project Overview

The Doctoral Experiential (DEx) Capstone project was conducted over a 14-week period at the Springfield Jewish Community Center (JCC), a pro bono, Sensory-Friendly Adaptive Aquatics Program at the Springfield Jewish Community Center for Children with Intellectual and/or Developmental Disabilities (I/DD). The project aimed to develop a sensory-friendly adaptive aquatics program for children with intellectual and/or developmental disabilities (I/DD) and their caregivers within the community. The OTD student welcomed all children between the ages of 2 years and 9 years old with any disability or diagnosis that falls under the category of I/DD and hoped to create an environment for the children to learn and grow while encouraging safe swimming behaviors, a comfortable learning environment, and a positive sensory environment. The study hoped to explore the effectiveness of this sensory-friendly adaptive aquatics program for children with I/DD. The expected benefits of the study will be to increase safety awareness, comfort in and around the pool setting, and sensory strategies for those with sensory difficulties.

This OTD student worked alongside the JCC and site mentor to run a five-week adaptive swim program for caregivers and their children to address all main focuses. Eight children accompanied by their caregivers from the community participated in a once-a-week, 45-minute adaptive swim group. The OTD student created scholarly materials, including a pre- and post-survey and a completed manual. The manual was created based on research and the results of the

survey in addition to other scholarly materials to continue the program at the Springfield JCC and other pool facilities.

Scholarly Component

For this scholarly portion of the DEx project, this OTD student investigated the following research question as it related to adaptive aquatics for caregivers of children with I/DD: "What are caregiver perceptions of the efficacy of a sensory-friendly adaptive aquatic program?" An online pre- and post- survey titled *Caregiver Perceptions of the Efficacy of a Sensory-Friendly Adaptive Aquatics* (Appendix F) was created on Google Forms along with an informed consent form (Appendix E) and statement approval from the Springfield JCC (Appendix H). Once the IRB application was approved (Appendix I), a recruitment email (Appendix D) was sent via email to community members of neighboring towns and posted on Facebook groups in order to gain participants for the program. When the post-survey link was sent over email to all participants, a reminder email (Appendix G) was sent one week after to ensure all responses were completed in a timely fashion. The data gathered and analyzed was used to create a research poster outlining the overall project. This poster was submitted to the 2025 American Occupational Therapy Association Inspire Conference (Appendix Q), and the Massachusetts Association for Occupational Therapy Conference (Appendix R), to continue expanding this scholarly component of this project. It has been accepted for presentation at the 2024 American Occupational Therapy Association Specialty Conference: Children and Youth (Appendix S). Results from the scholarly component were used to develop a sensory-friendly adaptive aquatics program manual (Appendix O) to be used for the expansion of the program and information handouts to share with caregivers. The manual contains a 5-week program outline with information on topics to review and teach during the program each week

and safety handouts for caregivers.

Problem/Purpose

One in every fifty individuals are born with a physical or intellectual disability that will potentially impact their life. Swimming is an activity that can be a fulfilling life experience for many. However, there is an increased risk of drowning if children have a disability. A responsibility for everyone involved in an aquatic profession or environment is to maximize the opportunities for aquatic experiences among individuals with disabilities without also allowing the potential risks to translate into drowning or other serious injuries (Pearn & Franklin, 2013). Providing education to both caregivers and children can create a safe and more comfortable environment for families. When the environment is safe, the opportunity for children with intellectual and/or physical disabilities to succeed in an aquatic environment is greatly increased.

Children with any disability can be easily denied the pleasurable experiences and sources of satisfaction that their typical peers can enjoy. Without access to activities that their typical peers are getting, children with disabilities will never have the opportunity to succeed in similar involvement. Aquatics can be a life-enriching experience such as having the buoyancy of the water and the sense of subjective weightlessness is pleasurable for children who cannot move their bodies with ease against gravity on land (Pearn & Franklin, 2013). The water easily supports the body and decreases the effects of gravity. This allows those with joint or muscle pain or difficulty in moving their extremities to experience the feeling of movement with decreased support.

Aquatic programs have a variety of benefits for children with special needs as well as their families, but access to these programs is lacking. The aquatic environment provides both hydrostatic and hydrodynamic aspects which allow exercises to be feasible for children with

disabilities, who may not have the ability to perform movements against gravity when on land. In addition to the physical benefits, aquatic programs also offer an enriched environment that motivates participation, optimizing the functioning of children with disabilities. Further, these programs may improve sensory processing, physical fitness, socialization, and communication skills, and the training sessions can improve the mood of the children (Ogonowska-Slodownik, 2022). By implementing a sensory-friendly adaptive aquatic program the researcher aims to provide services for caregivers of children with I/DD in the community to promote safety in the pool, comfortability in the pool, and address any sensory difficulties regarding the aquatic setting.

Methodology/Data Collection

This project involved a mixed methods design, utilizing a researcher-developed survey. Participants were recruited via email utilizing convenience sampling. Inclusionary criteria were defined as any caregiver aged 18+ of a child between the ages 2-9 years old who is currently participating in an adaptive aquatics program at the Springfield JCC and is able to read English. Anyone who did not meet the inclusionary criteria would have been excluded from participating in this project. Data was collected utilizing a mixed method, researcher-developed survey that consisted of 30 Likert-style questions and 6 open-ended questions. It was expected to take 10-15 minutes to complete. This same data collection tool was utilized for both the pre- and post-survey. Participants received a recruitment email (Appendix D) with a link to the Informed Consent form (Appendix E). Google Forms was utilized for the Informed Consent and pre- and post-program survey instruments. Once informed consent was provided, the Google Form progressed to the pre- or post-survey (Appendix F), depending on which phase of data collection the participant was in. If they did not provide informed consent, they would not have access to

the survey instrument and the page closed The participants had one week to complete the pre-test before the adaptive aquatic session began, and one week to complete the post-test at the conclusion of this program. The pre- and post-program survey data was compared to determine the differences in the parental perceptions following participation in this program. This helped the researchers to determine the efficacy of the designed aquatic program. The data was entered into a Google Sheet and analyzed utilizing specific data analysis formulas. Any data collected was stored on the researchers' password-protected computer, and only the researcher had access to the data. The data will be stored in a password-protected computer for seven years before being permanently deleted.

Experiential Component

Through the Literature Review (Appendix M), Needs Assessment 1 (Appendix K), Needs Assessment 2 (Appendix L), and the logic model, which can be found in the Short Proposal document (Appendix J), the experiential component of this DEx Capstone project aimed to address the profound impact that adaptive aquatics have on children with I/DD. Children with I/DD often face challenges with physical development, learning, language, and behavior. These challenges influence how they perform their everyday activities such as play, social participation, education, and self-care. Children with I/DD can receive a variety of services to improve specific areas such as occupational therapy, physical therapy, and speech therapy. These services can be provided at the home, in school, and in the community. Aquatic therapy uses the water's properties as therapy benefits such as viscosity, buoyancy, hydrostatic pressure, warmth, and multi-sensory experience. Research has shown that aquatic therapy can be helpful for children with I/DD in improving sleep, social interactions, strength and coordination, hyperactivity,

stereotypical movements, the sensory system, emotional behaviors, hypertonia/hypotonia, and spasticity to support positive engagement in daily life activities.

Caregivers along with their child participated in a 5-week sensory-friendly adaptive swim program. This program was offered on Mondays and Fridays for 45 minutes once a week. If the child was between the ages of 2-5 years old, they were placed in the Monday group. If the child was between the ages of 6-9 years old, they were placed in the Friday group. There was some flexibility in the group to ensure the caregiver and child participated in 4-5 group sessions. The weekly adaptive aquatic lesson plans can be found in the manual (Appendix O). The 5-week swim program objectives were created based on the pre-survey results. As the weeks moved forwards, there was a review of what was learned the week(s) prior, then new skills were introduced, and the session ended with a safety topic. The objective of Week One was "Swimmers will gain confidence and become with equipment and in the new aquatic environment." The first week's main goal was to allow the caregivers and children to get accustomed to the new environment that can be overwhelming and practice with commonly used equipment. A pre-pool ritual and routine were spoken about and created to follow each week. The objective of Week Two was "swimmers will be educated on how to practice basic swimming skills." Basic swimming skills included blowing bubbles, putting their face in the water (only when the child shows or expresses they are ready), kicking on their belly and back, floating on their front and back, front and back glides, and big arms. Week Three's objective was "Swimmers will learn how to roll from their front to back and back to front in order to have time to breathe, as well as find and swim to the wall for safety." The skill of rolling from the child's front to back is a safety skill that allows the child to have time to breathe without having to lift their head and become vertical in the water. This week, climbing out of the pool was introduced,

and depending on the child's skill level they were shown how to jump in turn and reach for the wall. Week Four's objective was "Swimmers will be introduced to combined arm and leg movement and elementary backstroke." This week the children learned to move their arms and legs in preparation to learn freestyle as they become more independent swimmers. Elementary backstroke is known as the resting stroke because it allows swimmers to be on their back and breathe normally with their face out of the water. Week Five had the objective of "Review all swimming skills and sensory strategies for swimmers." The last week was a wrap-up of all the previous weeks. The caregivers were given sensory strategies to help their child enjoy the water.

Additional components of the experiential work and project have been redacted at this time due to submission for publication to the Journal of Occupational Therapy Education. Please refer to Appendix P for more information.

Discussion and Recommendations

Results

After all the data pertaining to the sensory-friendly adaptive swim group pre- and post-survey were analyzed and thematically coded, results showed the overall need and benefits of this type of program. A total of 16 participants were recruited for this program, 8 of whom were caregivers and their respective children. Participants were expected to attend every session for five weeks, however, due to family and child circumstances, some families did not attend every session.

Figure 1. Program Attendance Rate

	Attendance rate
Week 1	Monday: 4 out of 4 (100%) Friday: 4 out of 4 (100%)
Week 2	Monday: 4 out of 4 (100%) Friday: 4 out of 4 (100%)
Week 3	Monday: 3 out of 4 (75%) Friday: 3 out of 4 (75%)
Week 4	Monday: 4 out of 4 (100%) Friday: 3 out of 4 (75%)
Week 5	Monday: 2 out of 4 (50%) Friday: 4 out of 4 (100%)

The Google Form pre- and post- survey were distributed via email to caregivers. The pre-survey was sent one week before the program start date. The same survey was sent as the post-survey after the last program session. The online survey had 30 Likert-style questions and 6 open-ended questions, it was expected to take about 5-10 minutes to complete. The caregivers were asked to sign an informed consent form to continue with the survey. Caregivers were also required to agree they would be in the pool with their child during each session. In order to code the results while keeping them anonymous, the caregivers were asked to pick a two-digit number and their favorite to use for both the pre- and post- survey. However, some caregivers were not consistent with the number and color and used different answers from the pre-survey to the post-survey. The survey was broken into three main categories: comfort in the water, safety in and

around the water, and sensory difficulties in the water. The questions related both to the caregiver and children. The results were filtered and narrowed down to the main ideas that were focused on during the program.

Figure 2. Pre-Survey Results

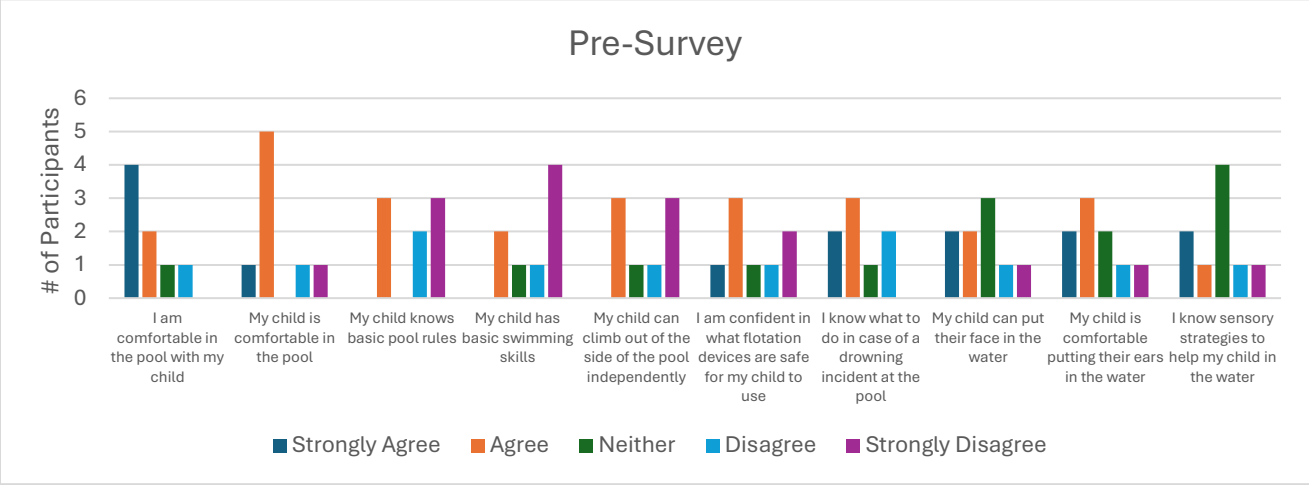
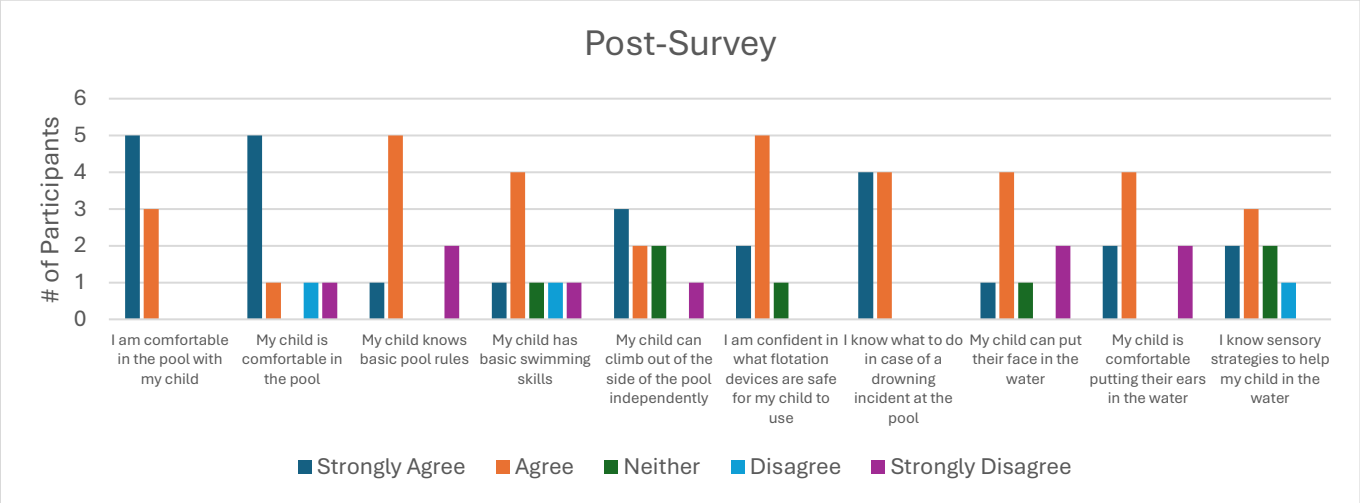


Figure 3. Post-survey Results



Based on the significant in results and outreach from the community members who participated in the program, the need for a sensory-friendly adaptive aquatic program is evident. Current services in this area do not cater to all children with I/DDs along with their caregivers and there are a very scarce number of programs that are available for new swimmers. The

aquatic setting is a new and unique environment that helps to improve an individual's overall quality of life with reduced pain levels and improved body awareness and sensation due to sensory reintegration and neuromuscular re-education. Unfortunately, this is not a large area of practice and there are limited facilities that offer these services. This can lead to a gap in care for children with I/DD to receive beneficial services.

After analyzing the pre- and post-survey results, you can see there were benefits from the program due to the positive changes in results. The four main questions that stood out were “My child knows basic pool rules”, “My child has basic swimming skills”, “I am confident in what flotation devices are safe for my child to use”, and “I know what to do in case of a drowning incident at the pool”. These questions showed the most drastic change in results, providing that the program was beneficial in the education of pool rules, learning basic swimming skills, education regarding safe flotation devices, and safety while in an aquatic setting.

The pre-survey results indicated that only 37.5% of participants agreed their child knew the pool rules, whereas the post-survey showed that 75% of participants either strongly agreed or agreed their child knows the pool rules. 25% of participants agreed that their child had basic swimming skills in the pre-survey, and the post-survey indicated that 62.5% of participants either strongly agreed or agreed their child had basic learning skills. 50% of participants strongly agreed or agreed on the pre-survey that they were confident in what flotation devices were safe for this child to use, compared to 87.5% on the post-survey. Lastly, 63.5% of participants reported on the pre-survey that they knew what to do in case of a drowning emergency, compared to 100% on the post-survey. In addition, 100% of the participants agreed when they were asked if they found the program helpful regarding basic swimming skills, safety, comfort in the water, and if applicable sensory strategies.

Strengths

There were various strengths to the program that allowed the program to successfully run for five weeks with positive feedback from all participants.

1. Number of participants: There were two groups offered depending on the child's age. Each group on Monday and Friday had 8 participants, with 4 being caregivers and the other four being their children. The ratio of participants to this OTD student was ideal. The OTD student had the opportunity to work individually with each caregiver and child as well as work with all participants in a group providing ample time with all group participants.
2. Length of program: The program length was five weeks. Five weeks was an ideal time to educate caregivers on basic swimming skills, increase comfort in the water, and address any sensory needs. Each week was planned out with topics to review during the session along and a new safety topic each week.
3. Offering the program on two different days based on the child's age: This allowed the children to be in a group with other children close in age. Children tend to have more confidence in learning and trying new skills when they see other children accomplishing the skill. Having children work together and teach each other is a benefit of its own when grouping children of the same age. Swimming can be very intimidating, but when a child sees their peer in the water having fun, it encourages them to do the same.
4. Educational material used during the groups: One of the strengths of the program was the development of an evidence-based sensory-friendly adaptive swim program manual for children with I/DD. Based on the analysis of the pre- and post- survey, there was an

overall increase in swimming basic skills, safety, and comfort in the pool due to the topics outlined in the manual.

Limitations

Despite the valuable insights provided by this study, it is important to acknowledge its limitations. Some of the limitations include:

1. Inconsistent attendance of participants: As noted in Figure 1, not all caregivers participated in all 5 program sessions. This created a limitation because the information that was missed the week of their absence was only reviewed shortly the next week. Missing topics could have affected how they answered the post-survey answers.
2. Some caregivers did not complete the pre-survey before the program's start: Although this researcher received 100% pre-survey responses, two caregivers completed the survey after the first week of the program. Caregivers have received information from the first week of the program which may have been new information that resulted in skewing the pre-survey responses.
3. During program time, other community members occupied the pool: The Springfield JCC is a community pool. Although this researcher advocated for the rest of the pool to remain empty during the implementation of this aquatic program, there were other individuals in the pool during these sessions participating in free swim and swim lessons. This may have impacted the sensory experiences of the program participants.
4. Pool temperature: A therapeutic pool temperature ranges from 91-95 degrees. The high temperatures allow children to relax their muscles, reduce anxiety and calm the individual, stimulate their senses, cope with sensory overload, and relieve any physical

discomfort. The JCC pool had a set temperature of 83 degrees Fahrenheit, which caregivers reported to be cold.

5. Price of the program: Participation in this program was $75 for non-JCC members and $60 for JCC members. The anticipation when creating this program at the JCC was that the program was going to be free to all participants regardless of their JCC membership status. The researcher advocated for the program and the benefits it would have on the members of the I/DD community of Springfield and the JCC. The consensus was to charge $75 for non-JCC members and $60 for JCC members. This decision decreased participation rates and did not allow for community members who cannot afford community programs to participate.

Acknowledging limitations will allow for opportunities to find areas for improvement in order to improve future research. Addressing these limitations in future studies would contribute to a more comprehensive understanding of the benefits of a sensory-friendly adaptive swim program for children with I/DD.

Discussion/Recommendations

Throughout this project, this OTD student sought to create and implement a sensory-friendly adaptive swim manual for caregivers of children with I/DD (Appendix O). Results of the *Caregiver Perceptions of the Efficacy of a Sensory-Friendly Adaptive Aquatics Program* (Appendix F) found that overall, the adaptive aquatics program provided at the Springfield JCC positively impacted both the caregiver and child's safety in and around the pool, comfort in the pool, and addressed any sensory difficulties and solutions. This pilot study can demonstrate the effectiveness of adaptive sensory-friendly adaptive aquatic groups that focus on the child's needs and can benefit the caregiver and child in providing a safe and comfortable pool experience.

Future recommendations include continuing to use the sensory-friendly adaptive aquatic program manual at the Springfield JCC to provide an effective aquatic program focusing on caregivers of children with I/DD to succeed in an aquatic environment. A limitation of this pilot study was the busy pool environment at the Springfield JCC. A recommendation is to work with staff at the JCC to find a time in the pool schedule to secure a more private time to run this program would be beneficial to all participants. Although the pool's temperature cannot be altered too much, the recommendation of long-sleeved bathing suits can be expressed to caregivers to keep the participants warmer. Further, expanding program services to include a virtual group session is also another area to explore. Providing prerecorded videos of each of the 5 lessons will open the program to individuals who may not have the means to get to the JCC to participate in the program in person. These recommendations are implication for future research are important to explore in the future to continue to improve upon the services created and provide individuals with the opportunity to learn safe swim habits.

Learning Outcomes

Learning objectives

The DEx Capstone project's Learning Objectives and Evaluation plan were established before commencement, requiring approval from the Site Mentor, Faculty Mentor, and DEx Capstone Coordinator. The objectives went through regular review by the Site Mentor and Faculty Mentor throughout the project. It is comprised of twelve Learning objectives. The first eight objectives are standard objectives created by faculty members of the Doctor of Occupational Therapy program at Western New England University. The final three objectives were created by this OTD student with the mentorship of her facility mentor.

The learning objectives alone with evidence of accomplishment are as follows:

Learning Objective 1: Document my experience in collaboration for program or service delivery with professionals and/or members of consumer groups who are not occupational therapists. This includes being able to negotiate the role of occupational therapy as part of an interprofessional team.

Accomplished: Michelle collaborated with different JCC staff to ensure pricing, pool availability, benefits of proving these classes to ensure a successful completion.

Learning Objective 2: Documentation of a needs assessment for a particular population and using said assessment as the foundation for planning a successful Doctoral Experiential Capstone Project. Additional evidence will include feedback from consumers that indicates the impact of the project on the population they represent.

Accomplished: Michelle utilized feedback from pre- and post- surveys from parents/caregivers to understand the positive impact of the program. Completed SWOT as part of Needs Assessment II assignment. She also completed Needs Assessments I & II.

Learning Objective 3: Demonstrated proficiency with the use of personal computers, learning platforms, electronic health records, and assistive technology sufficient to fully document the Doctoral Experiential Capstone Project for WNE as well as for members of the population served by that project.

Accomplished: Technology was utilized appropriately to ensure her project was successful. Utilized Google Sheets/Excel to organize data.

Learning Objective 4: Recognize and be able to describe the diverse systems of service delivery that are most cost-effective and considerate for health, social, and educational settings, both

traditional and nontraditional. through both clinical and reflective writing, be able to articulate a sensitivity to cultural, linguistic, and other diversities and describe solutions for care disparities.

Accomplished: Michelle demonstrated the ability to work with a variety of individuals from various backgrounds and abilities to best serve participants and meet their needs. She discussed this in her reflections throughout the DEx.

Learning Objective 5: Document the ability to work with others to identify meaningful objectives, organize, manage, and motivate people and resources, communicate effectively, and supervise action to accomplish stated program or service goals.

Accomplished: Michelle demonstrated the ability to effectively communicate and create resources appropriate for the program. She completed reflection #4.

Learning Objective 6: Through both clinical and reflective writing, I can articulate the therapeutic/clinical reasoning (procedural, interactive, narrative, ethical, scientific, pragmatic) process that I use during planning, delivery, and evaluation of population-based and evidence-driven occupational therapy services. demonstrate the ability to implement, in existing programs, and plan for in developing programs, an occupational therapy process that is occupation-based, client-centered, culturally sensitive, and ethnically appropriate.

Accomplished: Michelle demonstrated the ability to create an effective program to meet the needs of the participants. She compiled her group protocols and family education sheets into one document that is well-designed and organized. She also completed all necessary data analysis following participant feedback.

Learning Objective 7: Document any experiential and scholarly project that reflects the literature in the field and uses responsive, ethical models. The scholarly process and results should be made accessible to the college and the community, especially to the population served by the

project. A report of the project, presented in a professional format that others can replicate or build upon, will be evidence of accomplishment.

Accomplished: Michelle completed her literature review and made edits based on feedback. All necessary components of her scholarly and experiential portion have been completed.

Learning Objective 8: Through both clinical and reflective writing, I am able to articulate a clear awareness of my own personal and professional strengths and boundaries and identify supports and strategies for goal achievement.

Accomplished: Michelle demonstrated the ability to identify personal and professional strengths and boundaries in order to achieve successful completion of the program. She reflected upon this professionally in her assigned writings.

Learning Objective 9: The student researcher will better understand comfort strategies for a child's aquatic experience.

Accomplished: Michelle demonstrated the ability to identify the needs of each participant in order to create and carry out appropriate program plans. She utilized pre- and post-survey data to suggest changes to her protocols.

Learning Objective 10: The student researcher will facilitate increased further development of children's engagement in the aquatic program.

Accomplished: Michelle demonstrated the ability to keep children engaged, based on participant feedback.

Learning Objective 11: The student researcher will educate parents on developmentally relevant peer engagement for their children.

Accomplished: Michelle provided adequate education to parents and provided relevant tools and resources to keep all participants engaged.

Learning Objective 12: With the completion of the doctoral experiential capstone at the Springfield JCC, the researcher will learn skills to create and implement an aquatics program for children with I/DD such as program creation skills, budgeting, and incorporating occupational therapy skills tailored to the population and program.

Accomplished: Michelle created a sustainability plan, which is supported by her parent/child group adaptive swim manual to assist in the continuation of the program in the future.

By the conclusion of the DEx project, this OTD study will have accomplished all the objectives outlined. For the full and completed WNE OTD Learning Objective and Evaluation document, please see Appendix N.

List of Appendices

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Appendix A

Department of Occupational Therapy Western New England University

Doctoral Experiential Capstone Mentorship Agreement

Doctoral Student: Michelle Kennedy OT/s
Doctoral Experience Site: Springfield Jewish Community Center
Site Mentor: Dorothy Linder, OT, OTR, MSOT, MSEd, JCC Kehillah Director
Faculty Mentor: Erin Wells OT, OTD, MSOT, OTR

This Mentorship Agreement, is effective April 8th, 2024 by and between the above named Occupational Therapy Doctoral (OTD) student, Doctoral Experiential Site Mentor, and the Western New England University OTD Faculty Mentor. The following lists the learning objectives for (student), the supervision/mentoring plan, and the responsibilities of all parties involved.

Doctoral Experiential Learning Objectives:

Upon completion of the OT Doctoral Experiential Capstone project, OTD Students will demonstrate, through observed professional interactions and through reflective and professional writing, that they have become self-aware, self-determined learners, competent entry-level practitioners, and transformative leaders, as measured by:

1. Documentation of their experience in collaboration for program or service delivery with professionals and/or members of consumer groups who are not occupational therapists. This includes being able to negotiate the role of occupational therapy as part of an interprofessional team

2. Documentation of a needs assessment for a particular population and using said assessment as the foundation for planning a successful Doctoral Experiential Capstone project. Additional evidence will include feedback from consumers that indicates the impact of the project on the population they represent.

3. Demonstration of proficiency with the use of personal computers, learning platforms, electronic health records and assistive technology sufficient to fully document the Doctoral Experiential for WNE as well as for members of the population served by that project.

4. Recognition and description of the diverse systems of service delivery that are most cost-effective and considerate for health, social, and educational settings, both traditional and nontraditional. Through both clinical and reflective writing, sensitivity to cultural, linguistic, and other diversities and the ability to describe solutions for care disparities.

5. Documentation of the ability to work with others to identify meaningful objectives, organize, manage, and motivate people and resources, communicate effectively, and oversee action to accomplish stated program or service goals.

6. Articulation of the therapeutic/clinical reasoning (procedural, interactive, narrative, ethical, scientific, pragmatic) process used during planning, delivery, and evaluation of population-based and evidence-driven occupational therapy services through both clinical and reflective writing. Demonstration of the ability to implement, in existing programs, and plan for in developing programs, an occupational therapy process that is occupation-based, client-centered, culturally sensitive, and ethically appropriate.

7. Documentation of experiential and scholarly projects that reflect the literature in the field and that use responsive, ethical methods. The scholarly process and results should be accessible to the college and the community, especially to the population served by the project. A report of the project, presented in a professional format that others can replicate or build upon, will be evidence of accomplishment.

8. Articulation of a clear awareness of their own personal and professional strengths and boundaries and identify supports and strategies for goal achievement through both clinical and reflective writing.

Doctoral Experiential Capstone Group and/or Individual Learning Objectives:

WNE OTD students participate in a group mentorship/supervision model in which a small group of students work together with a faculty mentor to develop, implement, and evaluate individual Doctoral Experiential Capstone projects which focus on a specific topic, population, and/or setting. Group objectives, which address the desired outcomes of all of the group members' individual Doctoral Experiential Capstone projects, may be written. These are optional. Individual student learning objectives are written by each student based on a literature review and needs assessment, consultation and planning with their site, faculty, and peer mentors. These objectives are specific to each individual Doctoral Experiential Capstone project. They identify the desired outcomes of this student's Doctoral Experiential Capstone project are:

9. The student researcher will better understand comfort strategies for child’s aquatic experience
10. The student researcher will facilitate increased further development of children’s peer engagement
11. The student researcher will educate parents to developmentally relevant peer engagement for their children
12. The student will further their understanding, knowledge, and ability to create an aquatic program within a community center.

Doctoral Experiential Capstone Management/Supervision Plan:

- The student will be mentored and supervised by the site mentor and the faculty mentor.

- The student will only participate in activities as assigned by the site or faculty mentor.
- If the student is providing skilled occupational therapy services, the supervision guidelines for the provision of occupational therapy services by students for each particular state is required.
- If the site mentor is not available to supervise the student on a particular date, the site and mentor will provide a replacement supervisor for that particular time period.
- The student may spend additional time at other locations within the site organization as assigned by the site mentor.
- This is a 560-hour doctoral experience. At least 80% of those hours must be spent at the Doctoral Experiential Capstone project site. Any unexcused absences must be made up to get to 560 hours to ensure successful completion of the doctoral experience. This must be arranged with the site mentor and approved by the faculty mentor.
- Any concerns should be brought to the attention of the faculty or site mentor. If they are not able to be resolved, they should be brought to the attention of Debra Latour, Doctoral Experiential Capstone Coordinator, debra.latour@wne.edu or 413-782-1449.
- Responsibilities of all Parties: Verifying the hours the student completed.

<u>The Doctoral Experiential Capstone Student is responsible to</u>:

- Complete all required academic classes and fieldwork prior to beginning the Community Experiential portion of the Doctoral Experiential Capstone project;
- Develop and maintain a structure for working with their team to conduct and complete their Doctoral Experiential Capstone project. This should include clearly delineated responsibilities and timelines, both individual and group;
- Actively participate in all aspects of the Doctoral Experiential, including:
  - Developing a proposal and work plan;
  - Negotiating a community partnership specific to each individual project;
  - Finding and using appropriate resources;
  - Completing all necessary forms and assurances;
  - Arranging and maintaining communication systems for regular information and consultation with your faculty and community mentor(s);
  - Obtaining IRB review and approval as needed;
  - Collecting, managing, and analyzing of data as proposed;
  - Preparing and presenting a final portfolio format report of project outcomes/findings.
- Arrange for transportation, housing, as needed to conduct the Doctoral Experiential Capstone project;
- Complete 560 hours (14 weeks full-time) of doctoral experience, at least 80% of which (448 hours) must be completed at the doctoral experience site. Any unexcused absences must be made up to get to 560 hours to ensure successful completion of the doctoral experience. This must be arranged with the site mentor and approved by the faculty mentor.
- Comply with all laws, policies, and procedures of the Doctoral Experiential Capstone site, the Doctor of Occupational Therapy Program, Western New England University, state licensure boards, and the American Occupational Therapy Association;
- Demonstrate the standards of professional behavior outlined in this WNE OTD student manual, including HIPAA/FERPA, OSHA, patient rights and the AOTA Code of Ethics;

- Assume a leadership role for the Doctoral Experiential Capstone, demonstrating respectful interaction and communication with fellow students, community partners, faculty and community mentors and other individuals who are part of the Doctoral Experiential;

- Demonstrate a professional approach to the Doctoral Experiential Capstone, including effective time management, observing deadlines, initiating, reading and responding to communications from the Doctoral Experiential Capstone team and other members of the OTD Program and WNE, and taking responsibility for your own skills and career development;
- Evaluate the Doctoral Experiential Capstone supervisors and site to help continue to improve educational outcomes.

The Doctoral Experiential Capstone Faculty Mentor is responsible to:

- Coordinate Doctoral Experiential Capstone group supervision meetings with students who have registered for the assigned Doctoral Mentorship sections
- Oversee the conceptualization and development of each group members Doctoral Experiential Capstone proposal, including oversight, review, final approval and grading of the implementation project;
- Participate in recruitment of and negotiation with community partners regarding site and mentorship agreements and detailed plans for roles, responsibilities, schedules and communication plans for the Doctoral Experiential Capstone project;
- Communicate and provide feedback regularly to the team, especially the students, in person, or via Skype, telephone, email or other methods;
- Collaborate with site mentor and leadership team on any concerns regarding student performance, site management, etc.;
- Oversee the implementation of the Doctoral Experiential Capstone project work plan using evidence-based mentoring and teaching strategies;
- Support, review and finally approve the report and presentation of the project outcomes and findings, and grading of the implementation course.

The Doctoral Experiential Capstone Site Mentor is responsible to:

- Agree to work with Western New England University OTD program, including the identified faculty mentor and OTD student(s) for the duration of the Doctoral Experiential Capstone project, including providing site orientation and delineating mentorship responsibility at their community/agency site location(s);
- Collaborate with the faculty mentor to guide the student(s) through the needs assessment component of the project proposal, to oversee its implementation and to collaborate in managing any problems which may arise;
- Provide guidance on the logistics of completing the Doctoral Experiential Capstone project at the site, including scheduling for the student, on-site support and supervision, and arranging access to necessary resources;
- Collaborate with the faculty mentor to evaluate the student team's on-site performance, and final project report and presentation;

- Actively participate in regular communication with the other OTD students in your group and your faculty mentor in person, virtually (Skype, Adobe Connect, etc.), by email or other means, including giving both verbal and written feedback on implementation and documentation;
- Develop and maintain a system for documenting students' experiential hours on site and the tasks and activities accomplished during those hours (as identified in the work plan);
- Provide a written evaluation (in a format provided by the WNE OTD program) of each student's work, including on and off-site activities for the doctoral experiential, at midterm and at the end of the experiential.

The Doctoral Experiential Capstone Coordinator is responsible to:

- Develop Doctoral Experiential Capstone Policies and Procedures;
- In consultation with the WNE Attorney, develop and negotiate the Doctoral Experiential Memorandum of Understanding/Agreement;
- Review the CV, resume and supporting documents to verify that the site mentor is qualified to serve. This ensures that the student is mentored by an individual with expertise consistent with the student's area of focus. This individual may or may not be an occupational therapist.
- Coordinate and collaborate with University, College, Department, and Program administrators, faculty and staff to assure that the Doctoral Experiential Program follows the appropriate rules and procedures;
- Plan and convene Doctoral Experiential meetings including training;
- Develop and maintain communication systems for collaboration and accountability
- Oversee the Doctoral Mentorship and Experiential courses;
- Oversee the development and presentation of Doctoral Experiential portfolios;
- Evaluate and report the outcomes of the Doctoral Experiential.

Dorothy Linder, Kehillah Direction
By signing the agreement, all parties agree to the provisions above.

OTR 12/29/23

Site Mentor Date

Dorothy Linder, Kehillah Director

Michelle Kennedy OT/s

Student Date 6/22/2023

Michelle Kennedy OT/s

OTD Faculty Mentor Date 1/11/2024

Erin Wells OT, OTD, MSOT, OTR

Erin Wells

Doctoral Experiential Capstone Coordinator Date 1/11/2024

Debra Latour, OT, PP/OTD, M.Ed., OTR

Debra Latour

Appendix B

DIVISION OF OCCUPATIONAL THERAPY

DOCTORAL EXPERIENTIAL CAPSTONE AGREEMENT

Memorandum of Understanding

Doctoral Student(s): Michelle Kennedy OT/s (a "Student")

WNE OTD Faculty Mentor: Erin Wells OT, OTD, MSOT, OTR (the "Faculty Mentor")

Doctoral Experiential Site: Springfield Jewish Community Center (the "Site")

Site Mentor: Dorothy Linder, OT, OTR, MSOT, MSEd, JCC Kehillah Director (the "Site Mentor")

Doctoral Experiential Capstone Coordinator: Debra Latour, OT, PP/OTD, M.Ed., OTR (the "Capstone Coordinator")

This Agreement (the "Agreement") is made and effective as of April 8th, 2024, by and among the above-named Student, Faculty Mentor, Site, Site Mentor, Capstone Coordinator and Western New England University, College of Pharmacy and Health Sciences, Division of Occupational Therapy (the "University").

Recitals

The University offers a Doctor of Occupational Therapy (OTD) degree program that requires an advanced doctoral experiential project as part of the graduate curriculum. This advanced doctoral experiential project includes both experiential (practicum) and scholarly components. In order to ensure that its students meet the requirements for the degree of Doctor of Occupational Therapy and occupational therapy licensure in the United States, the University has established the OT Doctoral Experiential Capstone project (the "Project"). This Agreement pertains only to the Project.

The Site is the operator of one or more facilities in which such educational experiences presently exist or may be developed. The University and the Site desire to establish a relationship pursuant to which the University shall identify the Site as an appropriate setting for such training, and select students enrolled in the OTD program for placement with the Site for the purpose of completing a Project, upon the terms and conditions hereinafter set forth. The Site is willing to identify one or more of its employees with appropriate professional credentials and experience to serve as Site Mentors and to accept the Student for the purpose of facilitating the Project.

Terms

In order to accomplish the foregoing purposes, and for good and valuable consideration, the parties hereby agree as follows:

1. Description of Project.

A. The Project will be 14 weeks in duration (560 hours) and will occur while the Student is registered for the courses OTD 780 Doctoral Experiential 4:Implementation/Capstone and OTD 785 Doctoral Experiential 4: Mentorship, which are part of the University's OTD curriculum. The Project may be completed on a full or part-time basis consistent with the individualized specific objectives of the OTD Doctoral Experiential Capstone Mentorship Agreement (Appendix A). No more than 20% (112 hours) of the 560 hours may be completed outside of the defined mentored practice setting(s).

B. Students enrolled in OTD 780 and OTD 785 have not completed their OTD education and are only qualified to participate in a volunteer capacity. No direct care occupational therapy services may be provided by Students unless a licensed occupational therapist is providing supervision in accordance with applicable law, including 259 C.M.R. 3.00.

C. The Faculty Mentor and the Site Mentor will be University employees. The Faculty Mentor and Site Mentor shall not be eligible for or entitled to any additional compensation and or benefits for their services rendered in connection with this Agreement. The Capstone Coordinator will arrange and confirm assignment and placement of each Student with the Faculty and Site Mentors.

D. Refer to the attached Mentorship Agreement (Appendix A) that details the general student learning objectives and up to four (4) individual learning objectives as agreed upon by the Student, Faculty Mentor and Site Mentor.

2. Obligations of the University, Faculty Mentor and Capstone Coordinator.

A. The University shall assume and maintain full responsibility for the administration of its Division of Occupational Therapy, including Program planning, curriculum design and courses.

B. The University shall coordinate with the Site in developing the details of the Project, including course and Project outlines and objectives, Project dates and deadlines, and the Student(s) assigned to the Site. The University will designate a Capstone Coordinator and Faculty Mentor to work with the Site and Site Mentor(s) to coordinate the Project.

C. The University shall provide an orientation and make available ongoing education to the Site and Site Mentors. Site Mentors shall have expertise consistent with the Student's area of interest and may include occupational therapists, health care practitioners, education professionals, administrators, and policy experts. The University will make available to all Site Mentors the OTD Doctoral Experiential Manual and the Mentorship Agreement.

D. The University will inform Students of their responsibility to follow all rules, regulations, policies, and procedures of the Site, those contained in the Division of Occupational Therapy Student Handbook, and all applicable federal and state laws.

E. The University will appoint the Site Mentors as Adjunct Instructors of Occupational Therapy. However, the Site Mentors shall not be employees of the University, shall not be eligible for compensation or benefits from the University and shall remain employees of the Site at all times.

F. The Capstone Coordinator will assign Students to the Site only after all appropriate immunizations, background checks, training, and all other Site requirements have been met.

G. The University will secure and maintain appropriate general and professional liability insurance covering the activities of the Student and the Faculty and Site Mentors with respect to their activities at the Site, with limits of at least $1,000,000 per occurrence and $3,000,000 annual aggregate, with insurance carriers or self-insurance programs covering the University and its employees. The University shall promptly notify the Site of any cancellation or termination of such insurance. The Site and Students are responsible for any additional professional liability insurance or other insurance that they may wish to purchase on their own.

H. The University will ensure that each Student has satisfied the health insurance requirements of the University and the Division of Occupational Therapy prior to assignment to the Site.

I. The University will instruct Students in applicable privacy laws, including the Health Insurance Portability and Accountability Act of 1996 (HIPAA), prior to assignment to the Site and as outlined in the OTD Student Handbook.

J. The University will withdraw a Student from the Site if, after consultation with the Site, the Faculty Mentor, Capstone Coordinator and the Chair of the Division of Occupational Therapy, the University determines such action to be warranted.

K. The Capstone Coordinator will investigate any issue related to the Faculty Mentor, the Site, the Site Mentor, or the Student that is deemed to be impacting the Project and take such corrective action as it deems appropriate in its discretion.

L. The Capstone Coordinator will provide the Site with a copy of the Mentorship Agreement (sample attached) with dates of placement and names and contact information for the Faculty Mentor, Site Mentor and Student for each Student assigned to the Site.

3. Obligations of the Site and Site Mentor.

A. The Site shall work with the University and the Student to accomplish the objectives of the Project. This shall include the development and approval of a Project Proposal which outlines the experiential and scholarly components of the Project. The Site shall provide facilities, equipment, services, and personnel deemed appropriate for each Student to complete the Project. The University will provide individualized objectives for each Student assigned to the Site.

B. The Site and Site Mentor shall supervise each Student's work and provide written and other evaluations of each Student as reasonably requested by the University and as required by the University's accrediting bodies.

C. The Site shall assign a Site Mentor who is appropriately licensed and experienced to provide appropriate guidance and supervision of the Student and the Project.

D. The Site and Site Mentor shall collaborate with the Faculty Mentor and Student to guide each Student through the needs assessment component of the Project Proposal; provide guidance on the logistics of completing the Project; prepare the final Project report and presentation; actively participate in regular communication with the Student and Faculty Mentor; and develop and maintain a system for documenting the Student's experiential hours at the Site and the tasks and activities accomplished during those hours (as identified in the objectives).

E. The Site will inform the Student and the University of any rules, regulations, policies, and/or procedures of the Site with which the Student and/or the University must comply.

F. The Site will permit the Student to access all appropriate personnel, facilities, equipment, supplies, services, and patient records necessary to fulfill the Project objectives.

G. The Site and Site Mentor shall provide the Student with opportunities to participate in the learning environment which may include grand rounds, specialty clinics, office visits, lectures, conferences, in-services, interprofessional team meetings, etc.

H. The Site may suspend and/or terminate any Student's assignment to the Site as a result of health status, repeated poor performance after notice and an opportunity to correct, or other considerations that the Site deems detrimental to patients' or consumers' well-being or the achievement of teaching objectives. Except in emergency circumstances, the Site will not exercise such right until it has consulted with the Capstone Coordinator or the Chair of the University's Division of Occupational Therapy and given the University and the Student a reasonable opportunity to remedy the circumstances that the Site believes warrant suspension or termination.

I. The Site will permit Division of Occupational Therapy faculty or appropriate designees, with reasonable advance notice, to visit the Site for routine assessment and follow-up, to inspect the Site's facilities and services that are available to the Student, to monitor Student progress, and to inspect and consult with appropriate personnel. Upon reasonable advance notice from the University, the Site and the Site Mentor shall participate in accreditation processes as reasonably requested by the University.

J. The Site will make emergency medical care available to Students on the premises through the Site's procedure for handling emergencies. Cost of such emergency care shall be the responsibility of the Student except in cases of gross negligence on the part of the Site.

K. The Site shall obtain and maintain commercially reasonable insurance covering its activities and the activities of its employees and agents.

L. The Site shall be solely responsible for the treatment and care of its clients and patients and for compliance with all laws that apply to its facilities.

4. Mutual Obligations.

A. The Capstone Coordinator, Faculty Mentor, and Site Mentor or other designee of the Site will oversee implementation of the Project and plan for: (i) Project goals and objectives; (ii) Student placement and orientation; (iii) preparation and periodic review of program objectives; (iv) community experiential and scholarly Project activities, especially those that take place at the Site; (v) quality assurance review by the University via evaluation of the Student, the Site, and Site Mentor; and (vi) procedures and timelines for evaluating the Project experience.

B. Each party (the "Indemnifying Party") shall indemnify and hold harmless the other party and its trustees, directors, officers and employees (each, an "Indemnitee") from and against all liabilities, damages, fines, penalties, costs and expenses (collectively, "Liabilities") that arise out of any third-party claim or action alleging (1) any negligent or more culpable act or omission of the Indemnifying Party or its employees or agents, or (2) any material breach of applicable law by the Indemnifying Party or its employees or agents. The Indemnifying Party's obligations pursuant to this Section shall not apply to the extent that any Liabilities arise out of any Indemnitee's negligent or more culpable act or omission, material breach of applicable law, or material breach of this Agreement.

C. Each party shall comply with applicable infection control protocols established by the CDC and other relevant federal, state, and local public health authorities, including but not limited to increased hygiene and sanitation policies, frequent hand washing, the wearing of face masks or shields, and physical distancing guidance when appropriate in a clinical setting.

D. No party to this Agreement shall discriminate against any employee, student or person on account of race, color, religion, sex, sexual orientation, gender identity or gender

expression, ancestry, age, national origin, disability or any other status protected by applicable law.

5. Termination.

A. This Agreement shall terminate automatically if all Students assigned to the Site cease to be enrolled at the University for any reason or upon completion of all Projects that are the subject of this Agreement.

B. The University may terminate this Agreement if, after consultation with the Site and Faculty Mentors, the Capstone Coordinator and the Chair of the OTD, the University determines such action to be warranted based on the Student's behavior or failure to comply with their obligations hereunder or under any other applicable University policy.

C. The Site may terminate this Agreement if it has permanently terminated the participation of all Students pursuant to Section 2(H).

6. Miscellaneous Provisions.

A. For purposes of this Agreement, and except as otherwise agreed in writing, no Student will be considered an employee of the University or the Site, but rather will be treated as a student in the doctoral education phase of their professional education. The Students shall not be entitled to any compensation for services rendered in connection with this Agreement and shall not be eligible to participate in any employee benefit program of the University or the Site including Worker's Compensation.

B. The University's employees, including the Faculty Mentor and Capstone Coordinator, shall have no personal liability for act or omission in connection with this Agreement or the Project. The Site's sole remedy for such acts or omissions shall be against the University.

C. Any use of the University's name, insignia, or logo in any descriptive or promotional literature or communication of any kind with respect to the Project must comply with applicable University policies.

D. This Agreement, as amended from time to time, constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all previous negotiations, commitments and writings with respect to such subject matter.

E. This Agreement may not be amended except by a writing signed by all parties. Notwithstanding the foregoing, the University may replace the Faculty Mentor, Site Mentor or Capstone Coordinator with individuals other than those named above by giving written notice to the Student.

F. This Agreement may not be assigned in whole or in part without the consent of the other parties. Notwithstanding the foregoing, the University may change the Faculty Mentor or

the Capstone Coordinator with the prior written consent of the Site, which shall not be unreasonably withheld or delayed, and the Site may change the Site Mentor with the prior written consent of the University, which shall not be unreasonably withheld or delayed.

G. Nothing in this Agreement shall be construed to create a partnership, joint venture, agency or other relationship between the parties. The relationship between the parties is solely that of independent parties to a contract. Neither party is authorized to act on behalf of or bind the other party.

H. This Agreement shall be solely and exclusively governed by and construed and enforced in accordance with the laws of the Commonwealth of Massachusetts without giving effect to any law that would result in the application of a different body of law. All disputes under or in connection with this Agreement shall be brought and resolved only in a court of competent jurisdiction located in Hampden County, Massachusetts, and each party hereby irrevocably consents to the jurisdiction of such courts and waives any objections thereto.

[SIGNAUTRE PAGE FOLLOWS]

The Student:

Name: Michelle Kennedy OT/s
Signature: Michelle Kennedy OT/s

Western New England University:

Faculty Mentor:

Name: Erin Wells OT, OTD, MSOT, OTR

Signature: Erin Wells

Debra Latour PP-OTD, M.Ed., OTR/L
Doctoral Experiential Capstone Coordinator

Debra Latour

A. Maria Toyoda, Ph.D.
Provost and Vice President of Academic Affairs

The Site:

Legal name of Site: Springfield Jewish Community Center

Dorothy Linder OTR Kehillah Director
Name and title of authorized signatory:

Signature: Dorothy Linder OTR

Name of Site Mentor: Dorothy Linder, Kehillah Director
Signature: Dorothy Linder OTR

Appendix C

WESTERN NEW ENGLAND UNIVERSITY
INSTITUTIONAL REVIEW BOARD (IRB) SUBMISSION FORM
FOR PROPOSAL TO USE HUMAN PARTICIPANTS IN RESEARCH
FWA00010736
Last Modified September 21, 2022

Information regarding the annual meeting schedule of the Institutional Review Board, submission deadlines and requirements, and contact information may be found on the IRB section of the Academic Affairs website located at: https://www1.wne.edu/academic-affairs/institutional-review-board.cfm

Date of Application: (MM/DD/YYYY) 04/15/2024

1. Responsible Project Investigator (Note: students/ residents cannot serve as PIs): Erin Wells OT, OTD, MSOT, OTR Phone No.: (413)-796-2110

Address (Campus address, including box #, if available): 1215 Wilbraham Road Springfield MA 01109 E-mail: Erin.wells@wne.edu

2. Investigator (e.g., Graduate Student) (Note: Please list any additional investigators in Appendix): Michelle Kennedy OT/s Phone No.: (631)-624-4895

Address (Campus address, including box #, if available): 35 Lemnos Lane Springfield, MA 01119 E-mail: Michelle.Kennedy@wne.edu

3. Collaborations: Does this project involve any collaborators not part of the faculty/staff at WNEU? ○ No ◉ Yes Please specify: Springfield Jewish Community Center Dorothy Linder OT, OTR, Director of Kehillah Special Needs

4. Title of Project: Caregiver Perceptions of the Efficacy of a Sensory-Friendly Adaptive Aquatics Program.

5. Submission Type: ◉ New ○ Renewal ○ Amendment

6. Anticipated Project Duration:

From MM/YYYY: 04/2024 To MM/YYYY: 04/2025

NOTE: Any research project that undergoes full board review and continues for longer than one (1) calendar year requires annual renewal.

7. Non-Technical Synopsis: (Please provide a brief abstract in non-scientific terms.)

Caregivers of children currently participating in a sensory-friendly adaptive aquatics program will be provided with a pre- and post-survey of their experience. This information will help the researchers to better understand how effective this program is in improving safety awareness and basic swimming skills.

8. Background: (Please provide a brief narrative review of the literature and basis of the study.)

Children with intellectual and/or developmental disabilities (IDD) may present with difficulties in adaptive behaviors, which include everyday social and life skills due to the impact of their condition (Bianchi, 2021). The exact number of people affected by IDD is unknown due to the wide range of conditions that are covered under IDD, and the time when those are diagnosed (Bianchi, 2021). However, recent estimates in the United States show that about one in six, or about 17% of children ages 3 through 17 years have one or more developmental disabilities, and the percentage is increasing yearly (Developmental

9. Objective: (Briefly state the objective of the research.)

The purpose of this study is to receive caregiver perceptions of their child before and after the inclusive swim program with an online survey. The research question for this project is "What are caregiver perceptions of the efficacy of a sensory-friendly adaptive aquatic program?"

10. Type of research participant (Include all that apply.) **Indicate the approximate number in each category.**

Undergraduate WNE student (18 years old or older) #		Undergraduate WNE student (less than 18 years old) #		Graduate or Law WNE student #	
WNE employee (18 years old or older) #		WNE employee (less than 18 years old) #		Minor not otherwise specified (less than 18) #	

Off-campus participants (specify including age and #): 2-10 parents 18+ years old

Special population (e.g., prisoner, pregnant, disabled) (specify including age and #):

Other (specify including age and #):

11. Recruitment of participants (Check all that apply.)

- ☐ Unpaid classroom volunteer
- ☐ Paid classroom volunteer
- ☑ Unpaid nonclassroom volunteer
- ☐ Paid nonclassroom volunteer
- ☐ Other (Please specify)

How will participants be recruited (please attach any flyers, email content, etc.)? Please list all inclusion/exclusion criteria.

Convenience sampling will be utilized for recruitment. A recruitment email (Appendix A) will be sent to caregivers of children enrolled in an adaptive aquatics program at the Springfield Jewish Community Center (JCC). These caregiver email addresses are accessible to the student researcher, and no additional assistance with

12. Expected study duration and compensation.

Expected Duration (e.g., total hours and length of involvment (days, months) per participant):

10-15 minutes to complete the Informed Consent Form (Appendix B), 10-15 minutes to complete the pre-survey (Appendix C), and 10-15 minutes to complete the post-survey (Appendix C), for a total duration of 30-45 minutes of participation

Expected participant compensation (Check all that apply.)

- [x] No compensation
- [ ] $$ compensation
- [ ] Other (Please specify)

If applicable, please specify $$ rate

13. Location of the research (Check all that apply)

- [ ] On-campus
- [x] On-Line
- [ ] Off-Campus

Please specify site (e.g., Springfield campus, Southborough, specific off-campus location)

Google Forms

Note: If off-campus locations are included, please attach a signed permission from a responsible individual (e.g., business owner, school superintendent, principal) for each location.

14. Will the participants be exposed to more than minimal risk?

- ( ) Yes
- (•) No

Please briefly describe any anticipated risks, discomforts, or inconveniences related to participation, and what will be done to minimize these.

It is unlikely that participants will be at risk for any physical or psychological harm as a result of participation in this study. They may decline to answer any questions and may voice concerns to the researcher at any time.

15. Describe consent and/or procedure (attach copies of written informed consent form or information sheet and use consent form checklist to ensure that it contains required elements). Who is obtaining consent? Where and when will it be obtained? How will it be obtained from non-English speakers, if relevant? **Attach copies of consent and assent forms.**

Participation in the survey is voluntary. The participant may refuse to take part in the research or exit the survey at any time without penalty. The participant is free to decline to answer any particular question he/she/they do not wish to answer for any reason.

16. Confidentiality and anonymity of information obtained (Check all that apply)

☐ Participants' responses will be anonymous. (Data are collected in a way that no one (including the researcher) can identify the individual associated with any particular result or response, e.g., a survey with no names or other identifying information.)

☑ Participants' responses will be confidential. (Records are maintained in a way that ensures only the researchers have access to any information or results linked to a specific individual.)

☐ Other (Please specify)

17. Does the research involve the use of deception?

○ Yes ◉ No

If "Yes" please elaborate in the space below, describing the deception used and providing a justification of the need for deception.

18. Does the research involve debriefing of participants?

○ Yes ◉ No

If "Yes" please provide an explanation in the space below describing how (e.g., spoken, with written statement) and when the participants will be debriefed. If "No" please provide an explanation of why debriefing is not necessary. Provide a copy of the debriefing statement as an attachment, if relevant.

The nature of the study is clear and has no deception or lack of clarity. The content of the survey is straight forward and not personal.

19. Data collection methods: Describe data collection methods to be used (e.g., survey instruments - **copies must be submitted as attachments**), the types of data to be collected (e.g., electronic, hard copy, video), where it will be stored and for how long, who will have access to the data and any security protections that will be put in place.

Data will be collected utilizing a mixed methods, researcher-developed survey that includes 30 Likert style questions and 6 open-ended questions. The survey is expected to take 10-15 minutes to complete. This same data collection tool will be utilized for both the pre- and post-survey. Participants will be recruited using convenience sampling. All caregivers of children who participate in the program will receive a recruitment email that includes a link to the Informed Consent Form and Pre- and Post-survey instrument. The online survey will not be accessible if informed consent is not provided. Once informed consent is provided, the Google Form will progress to the pre- or post-survey, depending on which phase of data collection the participant is in. The participants will have one week to complete the pre-test before the adaptive aquatic session begins, and one week to complete the post-test at the conclusion of this program. Any data collected will be stored on the researchers' password protected computers, and only the researchers will have access to the data. The data will be stored in a password protected computer for 7 years before being permanently deleted.

20. In the space below, please provide a thorough description of the research procedure(s), including design, what specific procedures will be used in each phase of the study, etc.

This project involves a mixed methods design, utilizing a researcher-developed survey. Participants will be recruited via email (Appendix A) utilizing convenience sampling. Inclusionary criteria includes any caregiver aged 18+ of a child between the age 2-9 years old who is currently participating in an adaptive aquatics program at the Springfield JCC and is able to read English. Anyone who does not meet this inclusionary criteria will be excluded for participating in this project. Data will be collected utilizing a mixed methods, researcher-developed survey consisting of 30 Likert style questions and 6 open-ended questions. Participants will receive a recruitment email with a link to the Informed Consent form (Appendix B). Google Forms will be utilized for this Informed Consent and pre- and post-survey instrument. If the participant provides informed consent, they will then move on to the pre-survey (Appendix C). If they do not provide informed consent, they will not have access to the survey instrument and the page will close. The pre- and post-survey data will be compared to determine if there is any difference in the parental perceptions following participation in this program. This will help the researchers to determine the efficacy of the designed aquatic program. The data will be entered into a Google sheet and analyzed utilizing specific data analysis formulas. Any data collected will be stored on the researchers' password protected computers, and only the researchers will have access to the data. The data will be stored in a password protected computer for 7 years before being permanently deleted.

21. Are you applying for an exemption? (•) Yes ( ) No

NOTE: If "Yes" please submit the Exemption Code # in the space below, citing your specific reason. For a listing of reasons, go to http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html (Refer to 46.104.)

46.104.d.2.ii

22. Online Training Requirement
The IRB has a mandatory training requirement prior to protocol approval. Training is conducted through the Collaborative Institutional Training Initiative (CITI) Program. Instructions on how to access this training can be obtained at https://www1.wne.edu/academic-affairs/institutional-review-board.cfm. **Please attach a current copy of your certificate to your application submission.**

23. Assurances:
I certify that I have read and followed the the Belmont Principles (http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html) and the American Psychological Association's* ethical principles concerning research with human participants (http://www.apa.org/ethics). I will adhere to the policies and procedures explained therein. Should changes in the procedure or consent form described above (or in related documents) become advisable, I will submit them to the IRB for approval. I understand that the responsibility for the ethical conduct of the study rests with the responsible faculty investigator. I agree to report any participant complaints that may arise to the IRB.

NOTE: It is strongly recommended that all researchers consult the education training materials available on human subjects research protection at: http://www.hhs.gov/ohrp.

(*Departments or Colleges/Schools that have established their own Human Subjects Committee may substitute the appropriate professional organization's ethical guidelines for research after approval from the IRB.)

1. Responsible Project Investigator's Signature:	Michelle Kennedy OT/s	Michelle Kennedy OT/s Date 04/15/2024
2. Investigator's Signature, If Different	Erin Wells, OT, OTD, MSOT, OTR	Erin Wells, OT, OTD, MSOT, OTR Date 04/15/2024
3. Investigator's Signature, If Different:	Dorothy Linder, OT, OTR	Dorothy Linder, OT, OTR Date 04/15/2024
4. Investigator's Signature, If Different:		Date 04/15/2024
5. Investigator's Signature, If Different:		Date 04/15/2024

You may not begin conducting any aspect of the proposed study until such time as you have received written approval for the proposal.

Appendix D

Recruitment Email

Dear Caregivers,

I am an occupational therapy doctoral student from Western New England University, and I am working toward my doctoral project. My goal for this project is to gain feedback on your child's participation in a Sensory-Friendly Adaptive Aquatics Program at the Springfield Jewish Community Center and the effectiveness of the group program.

If you do not participate in the research study, you and your child may still participate in the swim program.

This project includes a pre- and post-, short, online survey that caregiver(s) will complete before the start of the program and after the completion of the program. The purpose of the survey is to obtain information and feedback about the program and perceived client satisfaction. This study has been approved by the Western New England University Institutional Review Board (IRB). All information gathered will be confidential and no names will be included in findings to the public.

You can find the informed consent form and pre-survey here: https://docs.google.com/forms/d/e/1FAIpQLScHGOYq-FVPQrwQECPD_iHxPvahW9QwrvXtuC16WlgaaEQ0Pg/viewform?usp=sf_link

Please feel free to reach out with any questions! You can reach me at Michelle.Kennedy@wne.edu or (631)-624-4895.

(This document has been IRB approved #TBD)

Thank you,

Michelle Kennedy OT/s

Appendix E

Informed Consent

You are invited to participate in a pre- and post-survey on Google Forms entitled, Caregiver Perceptions of the Efficacy of a Sensory-Friendly Adaptive Aquatics Program. This survey is being administered to parents of children who are participating in the JCC swim program. The objectives of this research project are to improve and gain feedback on the children participating and the effectiveness of the group. This survey will include 30 multiple choice questions and 7 open-ended questions. This is a research project being conducted by Michelle Kennedy, a student at Western New England University (WNEU) College of Pharmacy & Health Sciences, and her faculty advisor Dr. Wells. The pre-survey should be completed one week before the beginning of the program and the post-survey will be completed one week after the completion of the program. The survey is expected to take around 10-15 minutes for the pre-survey, and 10-15 minutes for the post-survey.

BENEFITS

You will receive no direct benefits from participating in this research study. However, your responses may help us learn more about the benefits of inclusive sensory-friendly aquatics programs.

PARTICIPATION

Your participation in these surveys is voluntary. You may refuse to take part in the research or exit the survey at any time without penalty. You are free to decline to answer any particular question you do not wish to answer for any reason.

RISKS

There are risks to participating in any research study. It is unlikely that you will be at risk for any physical or psychological harm as a result of your participation in this study. You may find the questions to cause distress and/or fatigue. You may decline to answer any questions and you may voice concerns to the investigators at any time.

CONFIDENTIALITY

Your survey answers will be stored in a password-protected electronic format for at least seven years. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study. No names or identifying information will be included in any publications or presentations based on these data, and your responses to the interview will remain confidential.

CONTACT

If at any time you have any questions, concerns, or complaints about the study, please contact Investigator Michelle Kennedy by email at Michelle.Kennedy@wne.edu or phone at (631)-624-4895. You may also contact the Faculty Advisor, Dr. Erin Wells, by email at Erin.Wells@wne.edu.

If you have any questions or concerns about the "rights of research subjects", you may contact Dr. Jessica Carlson, Chair of the Institutional Review Board, at 413-796-2325, jessica.outhouse@wne.edu, or Dr. Minna Levine, College of Pharmacy & Health Sciences, Member of the Institutional Review Board, at minna.levine@wne.edu. This research project has been reviewed and approved by the Western New England University Institutional Review Board.

ELECTRONIC CONSENT:

Please select your choice below. You may print a copy of this consent form for your records. Clicking on the "Agree" button indicates that

- You have read the above information
- You voluntarily agree to participate
- You are 18 years of age or older
- You have a child between the ages of 2-9 attending or who attends the swim program at the Springfield JCC

Agree

(Will Continue on to survey)

Disagree

(Survey ends)

Appendix F

Pre- and Post- Survey

Section 1

Informed Consent

I consent to participate in this study

Agree→ move on

Disagree→ survey ends

Section 2

I agree to be in the water at all times during every program session with my child

Agree→ move on

Disagree→ survey ends

Section 3

The following questions will be used to code each individual survey in order to compare the pre- and post-survey. Please do your best to use the same answers for the pre- and post- survey. Please only complete the post-survey if you completed the pre-survey.

What is your favorite color?

What is your favorite two-digit number?

Section 4

Comfort in the Water

The following questions will ask about both you and your child's comfort level in the water.

Rate you and your child’s comfort level in the water

Strongly Disagree		Neither		Strongly Agree
O	O	O	O	O

I am comfortable in the pool with my child

My child is comfortable in the pool

I am confident in chest-deep water

My child is confident in chest-deep water

I am comfortable swimming in deep water

My child is comfortable swimming in deep water with a flotation device

My child is comfortable swimming in deep water without a flotation device

Section 5

Safety in and around the Water

The following questions will ask about both you and your child's safety ability in the water.

Rate you and your child's safety level in the water

	Strongly Disagree		Neither		Strongly Agree
	O	O	O	O	O

My child knows basic pool rules

My child will follow the pool rules

I have basic swimming skills (entering and exiting the water using the stairs or ladder, floating on back and stomach, kicking, blowing bubbles)

My child has basic swimming skills(entering and exiting the water using the stairs or ladder, floating on back and stomach, kicking, blowing bubbles)

My child can climb out of the side of the pool independently

I am confident in what flotation devices are safe for my child to use

I know what drowning looks like

I know what to do in case of a drowning incident at the pool

I know what to do if there is a medical emergency at the pool

I feel confident in keeping my child safe in other bodies of water (ocean, lake, etc.)

I know what flotation devices are safe to use in other bodies of water (ocean, lake, etc.)

My child has the skills and awareness to stay safe around other bodies of water (ocean, lake, etc.)

Section 6

Sensory difficulties in the water

Rate you and your child's sensory concerns/difficulties

	Strongly Disagree		Neither		Strongly Agree
	O	O	O	O	O
I struggle with sensitivity to water					
I struggle with sensitivity to being wet					
My child enjoys the bath/shower					
My child avoids water or being wet					
My child has a difficult time putting on a bathing suit					
My child has a difficult time taking off a bathing suit					
My child finds a pool environment loud					
My child enjoys blowing bubbles					
My child can put their face in the water					
My child is comfortable putting their ears in the water					
I know sensory strategies to help my child in the water					

Section 7

Below are a few open-ended questions, please answer them to the best of your ability.

How often are you and your child around a pool or other bodies of water?

If you are near a body of water, do you have any safety measures in place for you and your child?

Has your child ever expressed concern or worry about going into a pool?

Is there anything that you would like for yourself and/or your child to gain from this experience? *Answer only during pre-survey*

What were your perceptions of the program? What do you think went well or what could have been done differently? *Answer only during post-survey*

Did you find this program helpful in regard to basic swimming skills, safety, comfort in the water, and if applicable sensory strategies? *Answer only during post-survey*

Appendix G

Reminder Email

To Caregivers,

Thank you for your participation in my Sensory-Friendly Adaptive Aquatics Program at the Springfield Jewish Community Center. As mentioned in previous communication, there will be a post-survey on Google Forms. This survey is the same survey you participated in prior to the start of this program, it should take about 10-15 minutes to complete. Please complete the survey at your most convenient time.

Feel free to reach out with any questions! You can reach me at Michelle.Kennedy@wne.edu or (631)-624-4895.

Thank you,

Michelle Kennedy OT/s

Appendix H

Statement of Approval

DATE: April 18, 2024

TO: Michelle Kennedy, OT/s

RE: **Kehillah Department** | **Volunteer Services**

Dear Michelle,

Thank you for your interest in volunteering with the **Kehillah Department** at the Springfield Jewish Community Center.

We are excited for you to conduct your research with us for your DEx Capstone project: *Caregiver Perceptions of the Efficacy of a Sensory-Friendly Adaptive Aquatics Program*.

As a volunteer, you agree to the terms and conditions as follows:

Volunteer agrees to donate services that may include, but are not limited to, the following: assisting program staff, observing participants, organizing equipment/supplies, and communicating with families.

It is mutually and expressly understood that volunteer services shall be donated, and that said volunteer is not entitled to nor expects any present or future salary, wages, or other benefits for these voluntary services.

Volunteer agrees to follow the supervision and direction of any personnel, employee, or volunteer, to whom volunteer has been assigned to perform services, and to participate in any training required by the Springfield JCC in order to perform the voluntary services.

Volunteer agrees that he/she will not be considered to be an employee of the Springfield JCC while performing the above described voluntary services.

Volunteer agrees to follow all health and safety protocols mandated by the Springfield JCC, including but not limited to Covid-19 vaccination requirements.

Your volunteer service will help make the **Kehillah Department** a successful and meaningful experience for the participants and their families. Many thanks for your participation - we are thrilled to have you on board!

Sincerely,

Dorothy J Linder

Dorothy Linder, OT, OTR
Kehillah Director of Special Needs Programming

Appendix I

WESTERN NEW ENGLAND UNIVERSITY | WNE
COLLEGE of PHARMACY and HEALTH SCIENCES

Subgroup of the IRB & Human Subjects Committee
FWA00010736 Approval Form&

Responsible Director: _____Dr. Levine _____

Title of Project: Caregiver Perceptions of the Efficacy of a Sensory-Friendly Adaptive Aquatics Program

College Proposal Number: ___COP-IRB#223

_X____ This research proposal is exempt under Federal Regulation _____*45 CFR 46.104.d.2.i*

It is deemed acceptable according to the Belmont Principles and the American Psychological Association's Ethical Guidelines for the Use of Human Participants for a period of one year.*

_____ This research proposal has undergone an expedited review under Federal Regulation _____. It is deemed acceptable according to the Belmont Principles and the American Psychological Association's Ethical Guidelines for the Use of Human Participants for a period of one year.*

_____ This research does not qualify for exemption or expedited review and will need to be reviewed by the entire board.

Signature__ Minna Levine
_____Date_____5/3/2024_____

Renewal requests due before ___5/3/2025_____

& Note: Authority to approve exempt or expedited research originating within the College of Pharmacy.

* Note: It is your responsibility to notify the IRB of any adverse events that occur during your research. You must also request an additional review before you introduce changes to the proposed protocol. Maintain a copy of your original application, any requested changes, and this signed approval form. You will need to submit these if you apply for a renewal.

Appendix J

Implementing a Sensory-Friendly Adaptive Aquatics Program at the Springfield Jewish Community Center for Children with Intellectual and/or Developmental Disabilities

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A Doctoral Experiential Capstone Project

Presented to the Faculty of Western New England University

In Partial Fulfillment of the Requirements for the

Entry-Level Doctorate

in

Occupational Therapy

---

by

June 2024

Western New England University
Occupational Therapy
Doctoral Experiential Capstone Proposal/Plan Short Form

Student Name: Michelle Kennedy OT/s
Date of Proposal Submission:
Faculty Mentor(s): Erin K. Wells, OT, OTD, MSOT, OTR
Site: Springfield Jewish Community Center
Site Mentor(s): Dorothy Linder, OT, OTR, MSOT, MSEd, JCC Kehillah Director

Title: Implementing a Sensory-Friendly Adaptive Aquatics Program at the Springfield Jewish Community Center for Children with Intellectual and/or Developmental Disabilities

Executive Summary:

The purpose of the study is to develop a sensory-friendly adaptive aquatics program for children with intellectual and/or developmental disabilities (I/DD) within the community to participate. The researcher welcomes all children between the ages of 2 years old and 9 years old with any disability or diagnosis that falls under the category of I/DD, and hopes to create an environment for the children to learn and grow while encouraging safe swimming behaviors, a comfortable learning environment, and a positive sensory environment.

Introduction/Background:

I/DD may impact a child's intellectual functioning, social participation, sensory processing, adaptive behaviors, and social skills (Bianchi, 2021). The number of individuals diagnosed with I/DD is unknown due to the wide range and diagnostic process of the conditions that are covered under I/DD (Bianchi, 2021). However, recent estimates in the United States indicate about one in six, or approximately 17% of children ages 3 through 17 years have one or more developmental disabilities, and the percentage is increasing yearly (U.S Centers for Disease Control and Prevention [CDC], 2024). Aquatic activities such as swimming can provide an array of learning experiences such as gross motor skills, balance, core strength, endurance, sensory processing opportunities, and social interactions. However, many sensory demands are involved in any aquatic participation and can lead to children becoming overwhelmed. Motor planning, proprioception, vestibular, tactile, and auditory are all sensory systems that are affected by aquatic activities. Activities can be completed outside of the water to better prepare a child's sensory system if they become overstimulated in the water as well as also being completed in the water. Swimming can be challenging and fun if the caregiver knows and respects their child's limits. Continued exposure in a controlled and safe environment can help to establish safe and error-free learning along with confidence (North Shore Pediatric Therapy, 2024).

As stated by Brenda Stuart, a Special Olympics Colorado parent, "Just half an hour in the water can improve your child's concentration, alertness, and eye contact. Swimming, dog paddling, or just sitting in water can also cut down on self-stimulation behavior by easing anxiety" (Stuart, 2021). Aquatics programs can improve many aspects of a child's well-being, such as mentally, physically, and emotionally. Children with I/DD often face challenges with physical development, learning, language, and behavior. These challenges influence how they perform their

everyday activities such as play, social participation, education, and self-care. Aquatic therapy uses the properties of the water as benefits for therapy such as viscosity, buoyancy, hydrostatic pressure, warmth, and multi-sensory experience. Research has shown that aquatic therapy can be helpful for children with I/DD in improving sleep, social interactions, strength and coordination, hyperactivity, stereotypical movements, the sensory system, emotional behaviors, hypertonia/hypotonia, and spasticity to support positive engagement in daily life activities.

Doctoral Experiential Project Overview:

The DEx capstone project will be completed at the Springfield Jewish Community Center (JCC). The project is to create an aquatics program that has a sensory-friendly environment that is inviting for children with intellectual and/or developmental disabilities (I/DD). The researcher welcomes all children of any diagnosis or disability that falls under the category of I/DD, in hopes of creating an environment for the children to gain confidence and safety skills around the pool and when swimming, addressing any sensory needs for the children, and educating the family about the importance of movement and exercise as well as safety in and around the pool. The preparatory step will assist in advocating for the addition of the program and will guide the researcher on how to implement this program within the facility effectively.

The scholarly aspect of the program will be implemented through a mixed methods design, along with pre and post-surveys that the caregivers of the children participating will complete. The following information are suggestions of possible aspects of the program. All participants will complete activities in the indoor pool located at the Springfield JCC. It will not be a requirement that the participants can swim independently, but they must be able to move within the water with or without a flotation device. The research will take into account the needs and preferences of the population to create activities that will best suit their needs. The client-centered activities will enhance skills relating to daily life activities, sensory needs, and safety. Participants will be recruited through convenience sampling within the community. Children between the ages of 2 years old and 9 years old with I/DD with a caregiver over the age of 18 years old will be the target population.

The researcher will work alongside the community to promote a sensory-friendly environment, water safety, social participation, and a healthy lifestyle with the Springfield JCC. Convenience sampling within the community will provide the opportunity to work with a specific group of individuals with similar diagnoses to create a safe, comfortable, and familiar environment. Throughout the implementation process, volunteers, staff, and mentors will be available to encourage participation from the target population. The research hopes this program will be incorporated into the Springfield JCC program planning.

Learning Objectives:

1. By the completion of the doctoral experiential capstone, the researcher will assess the program's effectiveness through both a pre/post survey completed by the participants or their caregivers in order to be educated on the strengths and weaknesses of the program. This will help to continue to grow a successful aquatics program at the Springfield JCC.

2. The researcher will participate in open communication via phone, zoom, and in person with DEx mentors, site mentors, and participants to provide support throughout the entirety of our project.
3. With the completion of the doctoral experiential capstone at the Springfield JCC, the researcher will learn skills to create and implement an aquatics program for children with I/DD such as program creation skills, budgeting, and incorporating occupational therapy skills tailored to the population and program.

Doctoral Experiential Schedule and Workplan:

Activity/Task	**Outcome**	**Timeline**	**Person(s) Responsibility**	**Resources Needed/Comments**
Speak with Dorothy Linder and pool director about the JCC and any pool updates	Receive information regarding the implementation of the program, areas of success, and barriers in the facility	Current-May 2024	DEx researcher Dorothy Linder	Zoom
Prepare and apply for IRB approval	Scholarly project approval	May 2023-July 2024	DEx researcher and mentor	Go through the process of application and editing
Prelimited research	Literature review, needs assessment	Current-July 2024	DEx researcher	Meeting with DEx mentor
Execute sensory-friendly aquatics program at the Springfield Jewish Community Center	Promote an inclusive environment at the JCC within the pool setting	May 2024-July 2024	Program participants DEx researcher and mentor Site mentor	Pool at the JCC Equipment Contacts Time

Anticipated Needs/Preliminary Budget:

Need	**Expense Budge**	**Responsible Party**
Copy/Printing	$0	Free printing and copying through WNE library services

Stationary	$0	Researcher will provide their own stationery for notes, documentation, and interventions
Room Rental	$0	Not applicable for this project
Photography	$0	Researcher will take photos via phone
Gas	$0	It is up to the participant's parents to transport them to the JCC
Travel/Lodging	$0	Not applicable for this project
Hospitality	$0	Not applicable for this project
Donations	$100+	Researcher, site and faculty mentor will use outreach to ask for donations for the research/program
Activities	$50	Required for activities completed with participates
Miscellaneous	$100	For any other supplies that may be needed
Postage	$0	Not applicable for this project
Entertainment	$0	Not applicable for this project
Security	$0	Security will be provided by the JCC
Materials	$100	Materials may be found at the JCC, but additional materials may need to be purchased. The researcher will inquire with the site mentor Materials: Pool noodles, pool toys, kickboards, aquatic dumbbells, swim bar
Telephone	$0	Research will have their personal phones in case of an emergency
Refreshments	$0	Not applicable for this project
Awards	$0	Not applicable for this project
Gifts	$0	Not applicable for this project
Advertising	$0	Researcher will send out a recruitment email to advertise for the program

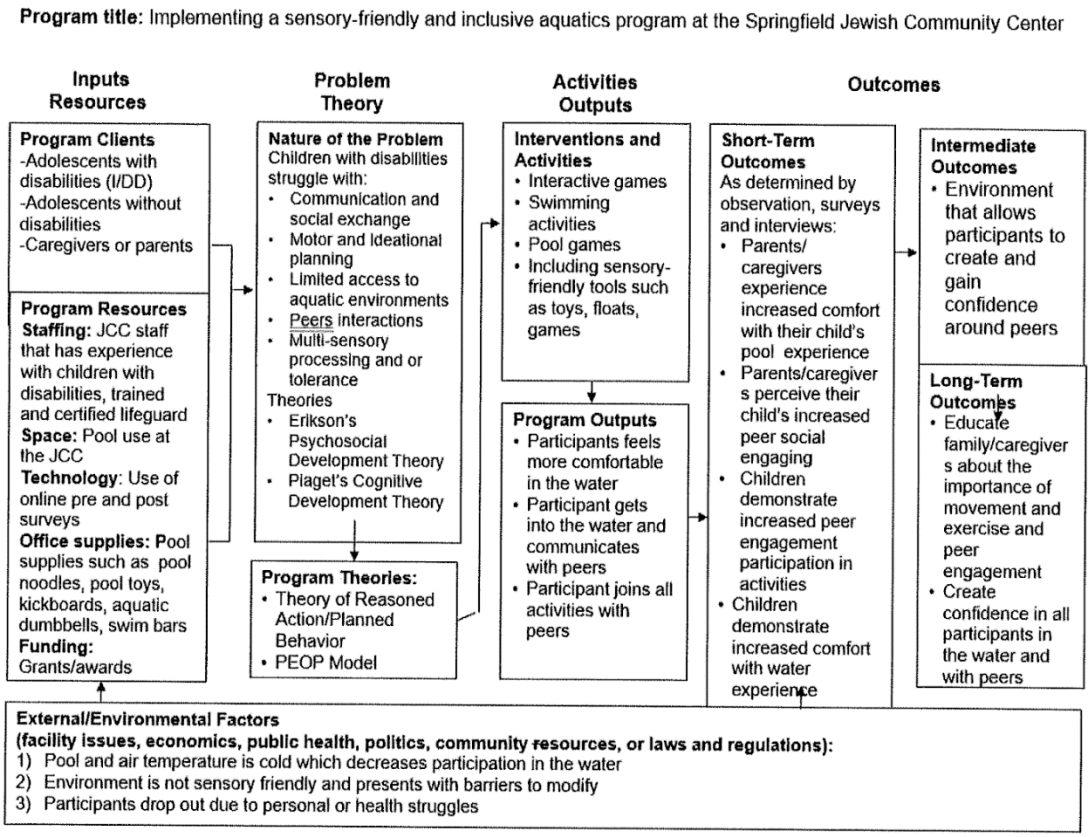
TOTAL PROJECTED EXPENSES $ 250
TOTAL PROJECTED INCOME $ 100

Doctoral Experiential Evaluation Plan:

To evaluate the effectiveness of a sensory-friendly aquatics program, the Logic model will be utilized. This model describes the linkage among program resources, activities, outcomes, audience, and short-, intermediate-, and long-term outcomes related to a specific problem or situation. This model illustrates a sequence of cause and effect relations, which helps to communicate the path towards a desired result. The application of the logic model as a planning tool allows precise communication about the purposes of a project, the components of a project, and the sequence of activities and accomplishments (McCawley, 2001). The situation statement provides an opportunity to communicate the relevance of the project. It helps to establish a baseline for comparison at the close of the program. Inputs include those things that are invested in a program or that we bring to bear on a program, such as knowledge, skills, or expertise. Outputs are what the researcher does and the people it reaches. All outcomes answer the question “What happened as a result of the program?”

The research plans to conduct pre- and post- survey before the start of the program and once the program ends. At the start of the program, the caregivers will be given a pre-survey. The purpose of the pre-evaluation/survey is to determine a baseline of each participant's abilities, strengths, weaknesses, and any other concerns for support. The results from the caregivers will determine the intervention type and what will be focused on during the program sessions. The results of the final post-evaluation/survey will determine if the program was effective and if all goals were achieved. It will also affect how the program is run in the future, if any changes need to occur. By engaging the caregiver(s) in the process of the program implementation in all aspects of the Logic model, the effects will be more effective short term and long term for the benefit of the participants, caregivers, program planning, and researcher.

Comments/Additional Information



References

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Appendix K

Needs Assignment 1

Michelle Kennedy OT/s

Doctor of Occupational Therapy Program, Western New England University

OTD 642 Doctoral Experimental 2: Program Development

Dr. Latour

April 2024

Implementing a Sensory-Friendly Adaptive Aquatics Program at the Springfield Jewish Community Center for Children with Intellectual and/or Developmental Disabilities

Problem/ Unmet Need

One in every fifty individuals are born with a physical or intellectual disability that will potentially impact their life. Swimming is an activity that can be a fulfilling life experience for many. However, there is an increased risk of drowning if children have a disability. A responsibility for everyone involved in an aquatic profession or environment is to maximize the opportunities for aquatic experiences among individuals with disabilities without also allowing the potential risks to translate into drowning or other serious injuries (Pearn & Franklin, 2013). Providing education to both caregivers and children can create a safe and more comfortable environment for families. When the environment is safe, the opportunity for children with intellectual and/or physical disabilities to succeed in an aquatic environment is greatly increased.

Children with any disability can be easily denied the pleasurable experiences and sources of satisfaction that their typical peers can enjoy. Without access to activities that their typical peers are getting, children with disabilities will never have the opportunity to succeed in similar involvement. Aquatics can be a life-enriching experience such as having the buoyancy of the water and the sense of subjective weightlessness is pleasurable for children who cannot move their bodies with ease against gravity on land (Pearn & Franklin, 2013). The water easily supports the body and decreases the effects of gravity. This allows those with joint or muscle pain or difficulty in moving their extremities to experience the feeling of movement with decreased support.

Aquatic programs have a variety of benefits for children with special needs as well as their families, but access to these programs is lacking. The aquatic environment provides both hydrostatic and hydrodynamic aspects which allow exercises to be feasible for children with disabilities, who may not have the ability to perform movements against gravity when on land. In

addition to the physical benefits, aquatic programs also offer an enriched environment that motivates participation, optimizing the functioning of children with disabilities. Further, these programs may improve sensory processing, physical fitness, socialization, and communication skills, and the training sessions can improve the mood of the children (Ogonowska-Slodownik, 2022).

Target Population

The target population for this program is children ages 2-9 years old with a diagnosis that falls under the scope of intellectual or developmental disability (I/DD). I/DDs are differences that are usually present at birth and uniquely affect the trajectory of the individual's physical, intellectual, and/or emotional development. Intellectual disability begins any time before a child turns 18 years old and is characterized by differences in both intellectual functioning or intelligence and adaptive behavior. Intellectual functions include the ability to learn, reason, and problem-solve, whereas adaptive behavior includes occupations such as social participation and ADLs. Developmental disabilities are a broad category that often leads to lifelong challenges that can impact intellectual development, physical development, or both (National Institute of Child Health and Human Development [NICHD], 2021).

Conditions that fall under I/DD affect multiple body parts and body systems such as the nervous system, sensory system, metabolism, and muscular system. I/DD disorders that affect the nervous system affect how the brain and spinal cord function which can result in difficulties in intelligence and learning as well as behavioral disorders, speech or language difficulties, seizures, and trouble with movements (NICHD, 2021). I/DD diagnoses within the nervous system include Cerebral Palsy, Down Syndrome, Fragile X Syndrome, and Autism Spectrum Disorders (ASD). These diagnoses may impact the development and/or functioning of the

individual's nervous system, for example, a child with ASD can present difficulties with being touched or held. I/DD can present in the metabolic system, affecting how the body uses food and other materials for energy and growth. Too much of the materials available for the body to function properly or too little can disrupt overall body and brain functions. Congenital hypothyroidism is a metabolic condition that can lead to I/DDs. Degenerative disorders may seem or be typical at birth and may meet usual developmental milestones for a certain period. However, then they experience disruptions in skills, abilities, and functions because of the condition. In some cases, the disorder may not be detected until the child is an adolescent or adult and starts to show symptoms or lose abilities. Some degenerative disorders result from other conditions, such as untreated problems of metabolism (NICHD, 2021).

Literature Review

Children with intellectual and/or developmental disabilities (I/DD) may present with difficulties in adaptive behaviors, which include everyday social and life skills due to the impact of their condition (NICHD, 2021). The exact number of people affected by I/DD is unknown due to the wide range of conditions that are covered under I/DD, and the time when those are diagnosed (NICHD, 2021). However, recent estimates in the United States show that about one in six, or about 17% of children ages 3 through 17 years have one or more developmental disabilities, and the percentage is increasing yearly (U.S Centers for Disease Control and Prevention [CDC], 2024). Aquatic activities such as swimming can provide an array of learning experiences such as gross motor skills, balance, core strength, endurance, sensory processing opportunities, and social interactions. However, many sensory demands are involved in any aquatic participation and can lead to children becoming overwhelmed. Motor planning, proprioception, vestibular, tactile, and auditory are all sensory systems that are affected by

aquatic activities. Activities can be completed outside of the water to better prepare a child's sensory system if they become overstimulated in the water as well as also being completed in the water. Swimming can be challenging and fun if the caregiver knows and respects their child's limits. Continued exposure in a controlled and safe environment can help to establish safe and error-free learning along with confidence (North Shore Pediatric Therapy, 2024).

Occupational therapists focus on treating the whole child, which includes their family, learning water safety and swim skills is an appropriate addition to a therapy session. The use of aquatic therapy to help clients improve their strength, balance, range of motion, and cognition, as well as, incorporate social interactions, such as sharing and turn-taking, to develop emotional regulation skills. Physical exercise improves blood flow to the brain to enhance cognitive regulation. Therefore, pool therapy games such as "Simon Says" and charades incorporate memory and problem-solving (Yagow, 2018). A child's ability to self-regulate directly impacts their overall mental health. Difficulties with self-regulation may be caused by Autism, Attention Deficit Disorder, Sensory Processing Disorder, or other medical conditions (Yagow, 2018). Water temperature may influence the child's level of alertness by stimulating the nervous system. Warm water typically relaxes the body which may decrease impulsivity or actions made prior to thinking through the consequences. Cooler water temperatures arouse a child who struggles with lethargy and fatigue to maintain attention. With repetition, these therapeutic benefits will become familiar for enhanced carryover to other environments such as in the home, at school, or in the community (Yagow, 2018).

According to the literature that was reviewed, aquatic programs are beneficial to the pediatric population with I/DD. Wouters et al., (2018) conducted a study that investigated the activity levels of sixty-eight children and adolescents between the ages of 2-18 years old with a

moderate-to-severe intellectual disability. The World Health Organization (WHO) recommends that a healthy amount of activity for children and adolescents is at least 60 minutes of moderate-to-vigorous physical activity. Since children and adolescents have increased health and motor difficulties, decreased physical fitness, and less developed motor skills than their typically developing peers, physical activity is more important for this population than typically developing children. Some children are not provided a safe space to exercise where they feel comfortable and willing to exercise or participate in physical activity, and there are few effective interventions to promote physical activity and motor development in children with moderate-to-severe intellectual disabilities. Parents, caregivers, and therapists can improve the physical activity behavior of these children by attending specialized programs that provide opportunities for physical activity, such as an aquatic program. The use of aquatic programs can stimulate the development of motor skills in order to increase the volume of physical activity for the child currently and for the future. After a 6-week aquatic intervention focusing on the gross motor function of children with Cerebral Palsy and other motor severities, there was a significant improvement in water skills. Aquatic activities have both a therapeutic effect on this population as well as a psycho-social effect. The therapeutic effect is to decrease muscle tones, increase motor function, increase walking efficiency, and functional abilities. Whereas the psycho-social effects were found in an increased quality of life, life habits, and socialization.

It is evident that participating in an aquatic program, physical performance in areas such as the timed-up-and-go test, chair stand, 10-meter walk, hand grip strength, and planks, were improved after participating in an 8-week aquatic therapy program once a week (Hakim et al., 2017). Overall, an aquatic program promotes improvements in endurance and balance/mobility. The pool environment provides opportunities in a safe, motivational setting with positive

opportunities for social interaction. A 2014 study by Mortimer, et al studies the Halliwick-based hydrotherapy program, which was found to improve motor performance in children with Muscular Dystrophy, Cerebral Palsy, Cystic Fibrosis, Spina Bifida, and Rett Syndrome. The properties of water assist active movement, provide postural support, and promote relaxation of spastic muscles, improved circulation, and strengthening, allowing a variety of fundamental motor skills to be performed, relative to an individual's skill level (Mortimer et al., 2014). In addition, aquatic activities and programs provide social interactions and play which can increase language development and improve self-esteem, self-awareness, and sense of accomplishment.

Children with I/DD often face challenges with physical development, learning, language, and behavior. These challenges influence how they perform their everyday activities such as play, social participation, education, and self-care. Children with I/DD can receive a variety of services to improve specific areas such as occupational therapy, physical therapy, and speech therapy. These services can be provided at the home, in school, and in the community. Aquatic therapy uses the properties of the water as benefits for therapy such as viscosity, buoyancy, hydrostatic pressure, warmth, and multi-sensory experience. Research has shown that aquatic therapy can be helpful for children with I/DD in improving sleep, social interactions, strength and coordination, hyperactivity, stereotypical movements, the sensory system, emotional behaviors, hypertonia/hypotonia, and spasticity to support positive engagement in daily life activities.

A sensory-friendly adaptive aquatic program can improve many aspects of a child's well-being, such as mental, physical, and emotional. Through a structured and educational program, children will be given environmental space to participate in an aquatic program with their peers who also fall within the I/DD category. After this review of the current literature, the goal of the

program is to explore the creation of a sensory-friendly adaptive aquatics program at the Springfield Jewish Community Center (JCC) to address sensory needs, safety needs, and movement in the pool. As stated by Brenda Stuart, a Special Olympics Colorado Parent, “Just half an hour in the water can improve your child’s concentration, alertness, and eye contact. Swimming, dog paddling, or just sitting in water can also cut down on self-stimulation behavior by easing anxiety.”

Resource Availability

A good source of available facilities that offer adaptive swim programs designed by government agencies can often be found online or at the local Department of Parks and Recreation or Office of Community Development (*Mass.gov: Parks and Recreations,* n.d.). Adaptive Sports of New England is a great resource for all ages. This program has many resources for adaptive sports including many aquatic activities such as rowing, sailing, swim lessons, and swim team. Local community and recreational centers can be another point of contact for those searching for adaptive swim programs. Although not all local centers have adaptive swim programs, they can provide more information on other locations that may provide them.

Barriers

Adaptive Aquatics consists of architectural and programmatic modifications to provide services for individuals with disabilities. The Americans with Disabilities Act (ADA) outlines what these modifications are. It’s up to recreation professionals to implement them in each facility (Barley et al., 2017). With that being said, not all facilities can make these modifications due to the pool or facility layout or the price.

An ideal location to offer an adaptive aquatics program would be a therapy pool that is specifically designed for children with disabilities. However, many families and areas do not have this type of facility. Therefore, adapted aquatic programs were offered in a regular aquatic setting with modifications created. When choosing a pool it is important to consider; water temperature above 84 degrees, the need for an ample shallow area in the pool for instruction for children to stand, and safe pool entry and exit such as a slope, chair life, or steps with handlebars. Other considerations to think of when creating an adaptive swim program may include accessible parking, locker rooms, and shower areas (Conatser, 2011). The price of modifying or creating a facility to meet all the standards and the price to uptake the facility may be too much for some towns or companies to manage.

In order to provide any services in an aquatic program, the provider must have a Water Safety Instructor (WSI) certification from the American Red Cross. The WSI trains instructor candidates to teach all the courses presented in the Swimming and Water Safety program to all age groups, plus Learn-to-Swim Levels 4-6 and Adult Swim. This certification is the gold standard and provides the most comprehensive training for swim instructors. The price of this certification can range from $500-$600 depending on the type of class and state you receive the certification. The price and time commitment may decrease the number of swim instructors to take part in adaptive swim programs (American Red Cross, 2024).

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Appendix L

Needs Assignment 2

Michelle Kennedy OT/s

Doctor of Occupational Therapy Program, Western New England University

OTD 642 Doctoral Experimental 2: Pro Development

Dr. Latour

April 2024

Implementing a Sensory-Friendly Adaptive Aquatics Program at the Springfield Jewish Community Center for Children with Intellectual and/or Developmental Disabilities

Objectives

There are several objectives for assessing the need for sensory-friendly adaptive aquatics programs for caregivers and their children with a diagnosis that falls under an intellectual and/or developmental disability (I/DD). First, there is a need to create an inviting and comfortable environment around the pool and in the water. Children who have not been familiarized or have had a traumatic experience with a pool setting may become afraid or hesitant to enter the pool or be close by. Allowing for a safe and enjoyable setting can encourage the child to enter the water. The next objective is to identify any sensory difficulties the child may have associated with swimming, including getting dressed to swim, the pool environment, or being in the water. Sensitivity to the water can impact how the child acts in the water and their willingness to participate in pool activities. The last objective includes educating caregivers and the child about safety once the child is in the water. Safety includes knowing pool rules, basic swilling skills such as entering and exiting the pool with the stairs, ladder, or side of the pool, floating and moving in the water, and how to react to an emergency.

Data Collection Methods

Data for the needs assessment will be collected through the distribution of a pre- and post- survey on Google Forms that the caregivers who participated in the program with their children will be asked to complete. The data will be collected utilizing a mixed methods, researcher-developed survey that includes 25 Likert-style questions and 6 open-ended questions, which should take about 10-15 minutes to complete. Caregivers completing the survey will be asked to review and provide informed consent before accessing the survey questions. In addition, the caregivers will be asked their favorite color and number, which will be utilized to code the pre- and post-test surveys. The survey focus is on both the caregiver and child in regards to

comfort in the water, safety in and around the water, and sensory difficulties before, during, and after swimming. The caregivers and children will then take part in a 5-week sensory-friendly adaptive swim program. Depending on the child's age, they will either participate in the Monday group which will be for 2-5-year-olds, or the Friday group which will be for 6-9-year-olds. Each group session will be 45 minutes long and will relate to all 3 objectives outlined above. Once the program is finished, the caregivers will complete the survey again. The pre- and post- survey is conducted to evaluate any progress developed due to the completion of the program.

Advantages and Disadvantages

There are many advantages to administering a survey for both the researcher and the recipients. Surveys are easily distributed through cell phone text messages, email, or printed on paper and given physically. In this case, they will be sent to caregivers in an email with a link to the Google Form survey. As for the researcher, a survey on Google Forms allows for the variables to be clearly seen and allows for automatic data collection. The use of electronic distribution allows the researcher to reach a larger target group in a less expensive way (Jones et al., 2013).

The disadvantage of administering an online survey is that those who are completing it require access to the internet. When completing an online survey there are limited options for the user to select and they cannot ask any questions if a question is not clear to them. Therefore, misunderstood or misleading questions may lead to false results. Since the survey is not being completed in person, it may lead to the participant being less honest and rushed responses, which may skew the results.

SWOT Analysis

STRENGTHS	WEAKNESSES
• Help children be safe in the water: drowning is the leading cause of accidental death in children with Autism • Offers a safe and gentle way to strengthen muscles and increase lung capacity • Children with disabilities find swimming to be therapeutic and calming as the water provides a feeling of weightlessness and relief from physical pain. • Helps reduce sensory overload • Improve balance and coordination • Improve range of motion and strength in the water • Parents of children who participate in water activities often notice a boost in self-esteem and improved confidence	• Outdoor swim season is around 3 or 4 months, so if the child does not swim indoors, they may regress in swimming skills and knowledge • Instructor training/certifications • Inconsistent attendance during allotted sessions: session-based classes rely on families committing to a set number of classes, but absences can cause disruptions in class progression • Price of adaptive swim programs • Accessible to swim programs: although there are many adaptive swim programs many of them have limited instructors available which results in long waitlists • The cost of maintaining a pool that is ADA-compliant is very high, which results in pools not having the proper pool set or equipment • Pool environment can be too overwhelming and overestimating for

• Children learn spatial awareness as they use reference points and explore water depth: this can help keep a child from falling into the water (Auger, 2022) (Bell, 2019)	some children (noisy, chaotic, too many people, etc)
OPPORTUNITIES	**THREATS**
• "Make a Splash" is a foundation that was created to reduce the cost of swim programs. Programs like this can decrease the rate of drowning • There are many ways to help a child who struggles with sensory challenges, including using goggles, rash guards, water shoes, earplugs, understanding your child's wearing signs and stopping when the situation becomes too much, and beginning to introduce swimming tasks such as blowing bubbles in the bathtub. All of these	• There is always a risk when entering the pool, and working with children who have disabilities and/or underlying medical needs poses even more of a risk. The program instructor, lifeguards, and other staff members need to be diligent in knowing signs of distress and drowning in the pool. • Aquatic facilities must follow guidelines under the Americans With Disabilities Act: any swimming pool with under 300 linear feet of pool wall must provide one means of access, and that means must be either a pool lift or a sloped entry. In addition, any pool that has over 300 linear

strategies will help the child feel safe and supported in a pool environment (Drobnjak, 2018) • Large corporations will sometimes pay for required training and certifications in order to hold adaptive swim programs with qualified instructors	feet of pool wall must provide two means of access, which can be any of the five designated means of access: pool lifts, sloped entries, transfer walls, transfer system, or accessible pool stairs. (Americans with Disabilities Act, 2024)

Conclusions

The overall objectives for evaluating the needs for sensory-friendly adaptive aquatics programs are to educate caregivers and the children on safety both in and around the pool, create a comfortable environment that allows the child to learn skills in the pool and target any sensory needs for the child in order to make a swimming experience more positive. Data was collected using a pre- and post-survey on Google Forms that the caregivers were invited to complete prior to the start of the program and at the end of the program to document any effective changes from the program.

The SWOT analysis was conducted to look at strengths, weaknesses, opportunities, and threats aimed at sensory-friendly adaptive swim programs. The overall goal of the SWOT analysis was to increase awareness of the factors that go into creating, offering, and running such a program. It is vital to complete this analysis to match strengths with their current arising opportunities, improve and or eliminate weaknesses, and minimize and increase awareness of the

threats of the organization on the population. Realistic recognition of the weaknesses and threats that are present and countering them with strength and opportunities.

Based on the needs assessment, an adaptive swim program must be developed in order to prevent the weaknesses and threats known for sensory-friendly adaptive aquatic programs. It must support the strengths and promote the opportunities assessed to children with disabilities who will physically, mentally, and emotionally benefit from the program. The weaknesses of limited pool use and certified instructors can be reduced by corporations that follow ADA compliance to open their pools up for adaptive swimming and properly train and educate staff. To involve an Occupational Therapy Practitioner in the area of aquatics will bring a unique skill set to adapt/modify the environmental demands and accommodate the population in need.

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Appendix M

Implementing a Sensory-Friendly Adaptive Aquatics Program at the Springfield Jewish Community Center for Children with Intellectual and/or Developmental Disabilities

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A Review of the Literature

Doctoral Experiential Capstone Project

Presented to the Faculty of Western New England University

In Partial Fulfillment of the Requirements for the

Entry-Level Doctorate

in

Occupational Therapy

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by

Michelle Kennedy, OT/s

April 2024

Author Note

We have no known conflict of interest to disclose.
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Abstract

Individuals with Intellectual and developmental disabilities (I/DD) can present with impairments in the areas of physical development, learning, language, sensory processing, and behavior. These impairments can lead to difficulties with daily life activities and participating in other meaningful occupations such as play, education, and social participation. Occupational therapy can aid in these challenges using several different approaches. Aquatic therapy is one tool that benefits children with I/DD. This is due to the physical properties of the water that create a supportive physical and sensory environment for an individual and their needs (Brokaw, 2022). The aquatic environment's properties create a positive physical environment for the child from the surface tension, buoyancy, and hydrostatic pressure. However, the environment may need to be altered

Overall, aquatic therapy supports sensory, cognition, motor function, and community integration in children with I/DD to reach developmental and therapy goals.

Keywords: Intellectual and developmental disabilities (I/DD), occupations, occupational therapy, swimming, aquatic therapy, community

Introduction

I/DD may impact a child's intellectual functioning, social participation, sensory processing, adaptive behaviors, and social skills (Bianchi, 2021). The number of individuals diagnosed with I/DD is unknown due to the wide range and diagnostic process of the conditions that are covered under I/DD (Bianchi, 2021). However, recent estimates in the United States indicate about one in six, or approximately 17% of children ages 3 through 17 years old, have one or more developmental disabilities, with the percentage increasing yearly (U.S Centers for

Disease Control and Prevention [CDC], 2024). Developmental disabilities can hinder a child's ability to participate in physical activities. A study was completed that analyzed the physical activity levels of children and adolescents with moderate-to-severe intellectual disabilities. The physical activity level results showed that only 47% of children who qualified for the study met the World Health Organization (WHO) recommendations of at least 60 minutes of daily moderate-to-vigorous physical activity (Wouters et al., 2018). In previous studies, 42% or less of children and adolescents with IDD met the WHO's recommendations for physical activity (Wouters et al., 2018). As the number of I/DD diagnoses increases and the time spent exercising decreases, it is important to provide support and opportunities for both physical activity and participation with peers for children. Aquatics programs can improve many aspects of a child's well-being, such as mentally, physically, and emotionally.

Aquatic activities such as swimming can provide an array of learning experiences such as gross motor skills, balance, core strength, endurance, sensory processing opportunities, and social interactions. However, many sensory demands are involved in any aquatic participation and can lead to children becoming overwhelmed. Motor planning, proprioception, vestibular, tactile, and auditory are all sensory systems that are affected by aquatic activities. Activities can be completed outside of the water to better prepare a child's sensory system if they become overstimulated in the water as well as also being completed in the water. Swimming can be challenging and fun if the caregiver knows and respects their child's limits. Continued exposure in a controlled and safe environment can help to establish safe and error-free learning along with confidence (North Shore Pediatric Therapy, 2024).

Occupational therapists are just one of many professionals who can provide aquatic therapy to children. Aquatic therapy techniques incorporate social interaction such as sharing and

taking turns to develop emotional regulation skills. Exercise improves blood flow to the brain to enhance cognitive regulation; therefore, pool therapy games such as “Simon Says”, and charades incorporate memory and problem-solving (Yagow, 2018). A child’s ability to self-regulate directly impacts their overall mental health. Difficulties with self-regulation may be common in Autism, Attention Deficit Disorder, Sensory Processing Disorder, or other medical conditions. Water temperature influences the level of alertness by stimulating the nervous system. Warm water typically relaxes the body which may decrease impulsivity or actions made prior to thinking through the consequences. Cooler water temperatures arouse a child who struggles with lethargy and fatigue to maintain attention. With repetition, these therapeutic benefits will become familiar for enhanced carryover to other environments such as in the home, at school, or in the community (Yagow, 2018).

Summary of the Literature

According to the literature that was reviewed, aquatic programs are beneficial to the pediatric population with I/DD. Wonters et al., (2018) conducted a study that investigated the activity levels of sixty-eight children and adolescents between the ages of 2-18 years old with a moderate-to-severe intellectual disability. The World Health Organization (WHO) recommends that a healthy amount of activity for children and adolescents is at least 60 minutes of moderate-to-vigorous physical activity. Since children and adolescents have increased health and motor difficulties, decreased physical fitness, and less developed motor skills than their typically developing peers, physical activity is more important for this population than typically developing children. Some children are not provided a safe space to exercise where they feel comfortable and willing to exercise or participate in physical activity, and there are few effective interventions to promote physical activity and motor development in children with moderate-to-

severe intellectual disabilities. Parents, caregivers, and therapists can improve the physical activity behavior of these children by attending specialized programs that provide opportunities for physical activity, such as an aquatic program. The use of aquatic programs can stimulate the development of motor skills in order to increase the volume of physical activity for the child currently and for the future. After a 6-week aquatic intervention on the gross motor function of children with cerebral palsy and other motor severities, there was a significant improvement in water skills. Aquatic activities have both a therapeutic effect on this population as well as a psycho-social effect. The therapeutic effect is to decrease muscle tones, increase motor function, increase walking efficiency, and functional abilities. Whereas the psycho-social effects were found in an increased quality of life, life habits, and socialization.

It is evident that after participating in an 8-week-long, once-weekly aquatic program, physical performance in areas such as the timed-up-and-go test, chair stand, 10-meter walk, hand grip strength, and planks were improved (Hakim et al., 2017). Overall, an aquatic program promotes improvements in endurance and balance/mobility. The pool environment provides opportunities in a safe, motivational setting with positive opportunities for social interaction. A 2014 study by Mortimer, et al]included the Halliwick-based hydrotherapy program, which was found to improve motor performance in children with muscular dystrophy, cerebral palsy, cystic fibrosis, spina bifida, and Rett syndrome. The properties of water assist active movement, provide postural support, and promote relaxation of spastic muscles, improved circulation, and strengthening, allowing a variety of fundamental motor skills to be performed, relative to an individual's skill level (Mortimer et al., 2014). In addition, aquatic activities and programs provide social interactions and play which can increase language development and improve self-esteem, self-awareness, and sense of accomplishment.

Discussion

The purpose of this project is to provide a sensory-friendly adaptive aquatics program at the Springfield Jewish Community Center. This resource intends to support the children with motivating play-based activities as well as the pediatric population with I/DD and their families. The aquatic context will support sensory, cognitive, and motor functioning, enhance social participation, and support community integration in children to reach their developmental goals.

Children with I/DD often face challenges with physical development, learning, language, and behavior. These challenges influence how they perform their everyday activities such as play, social participation, education, and self-care. Children with I/DD can receive a variety of services to improve specific areas such as occupational therapy, physical therapy, and speech therapy. These services can be provided at the home, in school, and in the community. Aquatic therapy uses the properties of the water as benefits for therapy such as viscosity, buoyancy, hydrostatic pressure, warmth, and multi-sensory experience. Research has shown that aquatic therapy can be helpful for children with I/DD in improving sleep, social interactions, strength and coordination, hyperactivity, stereotypical movements, the sensory system, emotional behaviors, hypertonia/hypotonia, and spasticity to support positive engagement in daily life activities.

Conclusion

A sensory-friendly adaptive aquatic program can improve many aspects of a child's well-being, such as mental, physical, and emotional. Through a structured and educational program, children will be given environmental space to participate in an aquatic program with their peers who also fall within the I/DD category. After this review of the current literature, the goal of the

program is to explore the creation of a sensory-friendly adaptive aquatics program at the Springfield Jewish Community Center (JCC) to address sensory needs, safety needs, and movement in the pool. As stated by Brenda Stuart, a Special Olympics Colorado Parent, "Just half an hour in the water can improve your child's concentration, alertness, and eye contact. Swimming, dog paddling, or just sitting in water can also cut down on self-stimulation behavior by easing anxiety".

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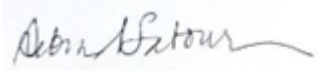
Appendix N

DOCTORAL EXPERIENTIAL CAPSTONE
STUDENT LEARNING OBJECTIVES & EVALUATION PLAN

This Experiential Learning Plan and Evaluation requires documentation of a formal evaluation mechanism and objective assessment of the student's performance during and at the completion of the doctoral experiential component. The student, the faculty mentor, and the site mentor collaborate to ensure completion of the doctoral experience.
Student Name: Michelle Kennedy OT/s

DEx Capstone Site: Springfield Jewish Community Center
DEx Capstone Dates: April 8th, 2024 - July 12th, 2024
DEx Capstone Site Mentor: Dorothy Linder, OT, OTR, MSOT, MSEd, JCC Kehillah Director
DEx Capstone Faculty Mentor: Erin Wells OT, OTD, MSOT, OTR

WNE OTD Learning Objectives: What does the student want/need to know? What skills does the student need to develop?
Evidence of Accomplishment: How will performance be measured and evaluated and by whom? Name the activity, project, or skill that will be accomplished. Identify the target date of completion. At midterm and final, present evidence of progress and/or accomplishment
Progress: Site and faculty mentor will rate student's progress at midterm and final
Comments: The faculty and site mentors and the student should provide written comments regarding the student's progress on each objective at midterm and final
Initial Approval of DEx Capstone Student Learning and Evaluation Plan
I agree with the above-stated objectives and feel that all learning objectives are obtainable within the fourteen (14) - week timeframe. I believe that the stated objectives encompass all aspects of the student role in this doctoral experience. I understand that the site mentor or student can add additional objectives at any time as the situation and experience dictate, with the approval of the faculty advisor. Any objectives that are proposed to be removed will need to be approved by the faculty mentor.

Site Mentor Signature *Dorothy Linder, OT, OTR* Date April 12, 2024	Student Signature *Michelle Kennedy OT/s* Date April 12, 2024
OTD Faculty *Erin K Wells, OT, OTD, OTR* Date 4/15/2024	OTD Doctoral Experiential Capstone  Coordinator Date 4/15/24

LEARNING OBJECTIVES & EVALUATION PLAN

<table>
<tr><td colspan="2">WNE OTD Objective #1: Document my experience in collaboration for program or service delivery with professionals and/or members of consumer groups who are not occupational therapists. This includes being able to negotiate the role of occupational therapy as part of an interprofessional team.</td></tr>
<tr><td colspan="2">Planned activity or Methodology
Send an email to all parents who enroll their children in the Springfield Jewish Community Center's Inclusion camp and Adaptive Swim Lesson wait-list regarding the aquatic therapy program
Interactions with caregivers, participants of the aquatic program, and other professionals at the JCC</td></tr>
<tr><td colspan="2">Who is responsible?
The student will be responsible with assistance from the site mentor</td></tr>
<tr><td colspan="2">What resources are needed?
Access to database with parent emails
Internet
Laptop</td></tr>
<tr><td colspan="2">What is the timeline?
Throughout the DEx</td></tr>
<tr><td colspan="2">Evidence of accomplishment
Reflective writings</td></tr>
<tr><td>Midpoint
Accomplished
Making Progress
Not Progressing
Needs Attention</td><td>Comments
Michelle reached out to all families of children with known diagnosis within the JCC inclusion camp, Kehillah programs, and adaptive swim lesson waitlist. She has worked with the Aquatic Manager to educate on the importance of providing an adaptive aquatic parent/child program.

Plan for final: Continue to collaborate with an interdisciplinary team including JCC admin/staff, parents, etc.</td></tr>
<tr><td>Final
Accomplished
Making Progress
Not Progressing
Needs Attention</td><td>Comments
Michelle collaborated with different JCC staff to ensure pricing, pool availability, benefits of proving these classes to ensure a successful completion</td></tr>
</table>

WNE OTD Objective #2: Documentation of a needs assessment for a particular population and using said assessment as the foundation for planning a successful Doctoral Experiential Capstone Project. Additional evidence will include feedback from consumers that indicates the impact of the project on the population they represent.

<table>
<tr><td colspan="2">Planned activity or Methodology
Conducting and updating needs assessment</td></tr>
<tr><td colspan="2">Who is responsible?
The student</td></tr>
<tr><td colspan="2">What resources are needed?
Access to the target population via the online database with parent emails
Internet
Laptop</td></tr>
<tr><td colspan="2">What is the timeline?
Beginning weeks (week 2 or 3) of the doctoral experimental capstone
Evaluation of the program will be completed around week 9 or 10</td></tr>
<tr><td colspan="2">Evidence of accomplishment
An updated and completed needs assessment
SWOT analysis</td></tr>
<tr><td>Midpoint
Accomplished
Making Progress
Not Progressing
Needs Attention</td><td>Comments
Michelle completed a needs assessment with the JCC and potential group participants.

Plan for final: Utilize data from pre- and post-survey to determine impact and efficacy of program.</td></tr>
<tr><td>Final
Accomplished
Making Progress
Not Progressing
Needs Attention</td><td>Comments
Michelle utilized feedback from pre and post surveys from parents/caregivers to understand the positive impact of the program. Completed SWOT as part of Needs Assessment II assignment. She also completed Needs Assessments I & II.</td></tr>
</table>

<table>
<tr><td>WNE OTD Objective #3: Demonstrated proficiency with the use of personal computers, learning platforms, electronic health records, and assistive technology sufficient to fully document the Doctoral Experiential Capstone Project for WNE as well as for members of the population served by that project.</td></tr>
<tr><td>Planned activity or Methodology
Using a laptop to record and collect data throughout my capstone from pre- and post-parent surveys
Completing and updating the planned activities for the doctoral experimental capstone</td></tr>
<tr><td>Who is responsible?
The student</td></tr>
<tr><td>What resources are needed?
Laptop
Internet
Planned activities during the program</td></tr>
<tr><td>What is the timeline?
Throughout the DEx</td></tr>
</table>

Evidence of accomplishment • Completed spreadsheet with all data organized based on evidence found • Program materials	
Midpoint • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Michelle has created a variety of materials using various technology platforms. Plan for final: continue to utilize technology appropriately as needed
Final • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Technology was utilized appropriately to ensure her project was successful. Utilized Google sheets/Excel to organize data.

WNE OTD Objective #4: Recognize and be able to describe the diverse systems of service delivery that are most cost-effective and considerate for health, social, and educational settings, both traditional and nontraditional. through both clinical and reflective writing, be able to articulate a sensitivity to cultural, linguistic, and other diversities and describe solutions for care disparities.	
Planned activity or Methodology • *Outreach via telehealth, or by phone if video is not preferred* • *Translator to communicate with community members* • *One-on-one opportunity* • *Small and large group* • *Partnerships with outside organizations*	
Who is responsible? • The organization itself • Community participation • The student • Staff and volunteers from the JCC	
What resources are needed? • Ways of outreach to the community- ads, marketing the JCC • Computer and Internet for Telehealth • Space within the JCC to house community members	
What is the timeline? • Throughout the DEx process	
Evidence of accomplishment • Properly and effectivity developing services to the community in need in a way that is easiest for them and effective for the student to receive data from • Reflective writings	
Midpoint • Accomplished • Making Progress	Comments Michelle has identified different forms of delivery to reach the diverse population of the JCC. Michelle

• Not Progressing • Needs Attention	has utilized reflective writings to document experiences with this during her DEx so far. Plan for final: Continue to reflect on this; maybe discuss this in the final paper or poster as it relates to participants. Include thoughts on impact in the sustainability plan.
Final • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Michelle demonstrated the ability to work with a variety of individuals from various backgrounds and abilities to best serve participants and meet their needs. She discussed this in her reflections throughout the DEx.

WNE OTD Objective #5: Document the ability to work with others to identify meaningful objectives, organize, manage, and motivate people and resources, communicate effectively, and supervise action to accomplish stated program or service goals.	
Planned activity or Methodology • *Create objectives and goals for the program* • *Create a program that provides ways to meet objectives* • *Educate parents and participate in the importance of the program*	
Who is responsible • The student along with assistance from the facility and site mentor	
What resources are needed? • Computer • Internet	
What is the timeline? • Throughout the DEx process	
Evidence of accomplishment • Successfully meet all learning objectives of the DEx • Reflective writings	
Midpoint • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Michelle collaborates with site mentor to discuss and share resources for group activities. Plan for final: Continue to collaborate with site mentor, faculty mentor, etc. Discuss program outcomes in reflective writings, final report, poster, etc
Final • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Michelle demonstrated the ability to effectively communicate and create resources appropriate for the program. She completed reflection #4.

<table>
<tr><td colspan="2">WNE OTD Objective #6: Through both clinical and reflective writing, I can articulate the therapeutic/clinical reasoning (procedural, interactive, narrative, ethical, scientific, pragmatic) process that I use during planning, delivery, and evaluation of population-based and evidence-driven occupational therapy services. demonstrate the ability to implement, in existing programs, and plan for in developing programs, an occupational therapy process that is occupation-based, client-centered, culturally sensitive, and ethnically appropriate.</td></tr>
<tr><td colspan="2">Planned activity or Methodology
Develop a successful aquatic program that provides education to the participants, parents, and the site
Analyze data that was taken during the program and from pre- and post-surveys/interviews</td></tr>
<tr><td colspan="2">Who is responsible?
The student along with assistance from the facility mentor</td></tr>
<tr><td colspan="2">What resources are needed?
Computer
Site
Aquatic setting
Toys and games for program</td></tr>
<tr><td colspan="2">What is the timeline?
Throughout the DEx process</td></tr>
<tr><td colspan="2">Evidence of accomplishment
Group protocol outlines for aquatic session
Completion of the program that was developed
Completion of scholarly aspect of the DEx
Education provided to participants, parents, and site</td></tr>
<tr><td>Midpoint
Accomplished
Making Progress
Not Progressing
Needs Attention</td><td>Comments
Michelle is creating effective client-centered plans based on the needs of participating families, and editing as needed throughout execution of the program.

Plan for final: adapt these based on participant feedback if needed, compile group ideas/protocols for experiential deliverable</td></tr>
<tr><td>Final
Accomplished
Making Progress
Not Progressing
Needs Attention</td><td>Comments
Michelle demonstrated the ability to create an effective program to meet the needs of the participants. She compiled her group protocols and family education sheets into one document that is well-designed and organized. She also completed all necessary data analysis following participant feedback.</td></tr>
</table>

<table>
<tr><td colspan="2">WNE OTD Objective #7: Document any experiential and scholarly project that reflects the literature in the field and uses responsive, ethical models. The scholarly process and results should be made accessible to the college and the community, especially to the population served by the project. A report of the project, presented in a professional format that others can replicate or build upon, will be evidence of accomplishment.</td></tr>
<tr><td colspan="2">Planned activity or Methodology
Using a computer to record all data throughout the process in order to complete the literature and development of the program
Develop a program that will benefit the participants, their parents, and the site
Complete evidence and literature reviews</td></tr>
<tr><td colspan="2">Who is responsible?
The student</td></tr>
<tr><td colspan="2">What resources are needed?
Computer
Site of DEx
All documents relating to the DEx</td></tr>
<tr><td colspan="2">What is the timeline?
Completion of the DEx process</td></tr>
<tr><td colspan="2">Evidence of accomplishment
Completed and updated scholarly and experiential portion of the DEx
Completed literature review</td></tr>
<tr><td>Midpoint
Accomplished
Making Progress
Not Progressing
Needs Attention</td><td>Comments
Ongoing throughout in order to provide participants appropriate activities and information.

Plan for final: Complete literature review with feedback, complete scholarly and experiential components of DEx</td></tr>
<tr><td>Final
Accomplished
Making Progress
Not Progressing
Needs Attention</td><td>Comments
Michelle completed her literature review and made edits based on feedback. All necessary components of her scholarly and experiential portion have been completed.</td></tr>
</table>

<table>
<tr><td>WNE OTD Objective #8: Through both clinical and reflective writing, I am able to articulate a clear awareness of my own personal and professional strengths and boundaries and identify supports and strategies for goal achievement.</td></tr>
<tr><td>Planned activity or Methodology
Know the goals of the program and how to achieve them in the time provided
How are you going to achieve the goals and objectives?
What can you work on to work more efficiently?</td></tr>
<tr><td>Who is responsible?
The student</td></tr>
</table>

What resources are needed? • Computer • Internet	
What is the timeline? • Throughout the DEx process	
Evidence of accomplishment • Reflective writings regarding understanding of strengths and needs to support them during the DEx process	
Midpoint • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Michelle's groups are just beginning and reflections are in process. Plan for final: continue to address this in reflective writings
Final • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Michelle demonstrated ability to identify personal and professional strengths and boundaries in order to achieve successful completion of program. She reflected upon this professionally in her assigned writings.

WNE OTD Objective #9: The student researcher will better understand comfort strategies for a child's aquatic experience	
Planned activity or Methodology • *Survey parents or children on their comfort level in relation to the pool pre- and post-program* • *Research comfort strategies for children* • *Create a program that incorporates comfort strategies*	
Who is responsible? • The student	
What resources are needed? • Aquatic setting • Participants • Games, toys, etc to make the pool more inviting	
What is the timeline? • Throughout the DEx process	
Evidence of accomplishment • Data from pre- and post-survey • Stakeholder feedback	
Midpoint • Accomplished • Making Progress • Not Progressing	Comments Michelle has sent pre-survey to all registered participants and as groups continue is editing activities based on comfort or child and caregiver.

• Needs Attention	Plan for final: utilize findings from data analysis & stakeholder feedback to determine efficacy and impact of program
Final • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Michelle demonstrated ability to identify the needs of each participant in order to create and carry out appropriate program plans. She utilized pre- and post-survey data to suggest changes to her protocols.

WNE OTD Objective #10: The student researcher will facilitate increased further development of children's engagement in the aquatic program.	
Planned activity or Methodology • *Create activities for children to engage with one another in an aquatic setting*	
Who is responsible? • The student	
What resources are needed? • Aquatic setting • Participates • Activities	
What is the timeline? • Throughout the DEx process	
Evidence of accomplishment • Stakeholder feedback	
Midpoint • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Ongoing until final class is taught. Plan for final: utilize findings from data analysis to determine children's engagement; report on this in final report and poster
Final • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Michelle demonstrated the ability to keep children engaged, based on participant feedback.

WNE OTD Objective #11: The student researcher will educate parents on developmentally relevant peer engagement for their children
Planned activity or Methodology • *Create educational resources for the parents*
Who is responsible?

<table>
<tr><td colspan="2">

- The student

</td></tr>
<tr><td colspan="2">What resources are needed?

- Parents
- Computer/internet- if using Telehealth or Zoom
- Educational resources for the parents

</td></tr>
<tr><td colspan="2">What is the timeline?

- Throughout the DEx process

</td></tr>
<tr><td colspan="2">Evidence of accomplishment

- Data analysis of pre- and post- surveys
- Stakeholder feedback

</td></tr>
<tr><td>Midpoint

- Accomplished
- Making Progress
- Not Progressing
- Needs Attention

</td><td>Comments
Ongoing until last class

Plan for final: continue to educate verbally during class. Provide families with tip/resource sheets created throughout at the conclusion of the program</td></tr>
<tr><td>Final

- Accomplished
- Making Progress
- Not Progressing
- Needs Attention

</td><td>Comments
Michelle provided adequate education to parents and provided relevant tools and resources to keep all participants engaged.</td></tr>
</table>

<table>
<tr><td>WNE OTD Objective #12: With the completion of the doctoral experiential capstone at the Springfield JCC, the researcher will learn skills to create and implement an aquatics program for children with I/DD such as program creation skills, budgeting, and incorporating occupational therapy skills tailored to the population and program.</td></tr>
<tr><td>Planned activity or Methodology

- Aquatic program for children with I/DD
- Ability to carry out a successful aquatic program in the community

</td></tr>
<tr><td>Who is responsible?

- The student
- The Site (JCC)
- Community members participating in the program

</td></tr>
<tr><td>What resources are needed?

- Computer
- Space to complete program
- Participation in program
- Site and facility mentor

</td></tr>
<tr><td>What is the timeline?

- Completion/end of the DEx process

</td></tr>
<tr><td>Evidence of accomplishment

- A completed DEx capstone program

</td></tr>
</table>

• Budgeting worksheet • Sustainability plan	
Midpoint • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Ongoing until last class Plan for final: Complete sustainability plan, discuss experiences with these aspects of program development in final paper/presentation/poster.
Final • Accomplished • Making Progress • Not Progressing • Needs Attention	Comments Michelle created a sustainability plan, which is supported by her parent/child group adaptive swim manual to assist in the continuation of the program in the future.

DOCTORAL EXPERIENTIAL CAPSTONE STUDENT LEARNING OBJECTIVES & EVALUATION PLAN

MIDPOINT SITE MENTOR/STUDENT EVALUATION

Student evaluation of Site mentor, experience and self (please comment on opportunities provided, supervisory relationship and individual performance):

Having my DEx at the Springfield JCC has provided me with many opportunities that have allowed me to learn and grow. My site mentor is also an OT. Her knowledge of OT and her experiences have taught me so much. It has been a great experience to see an OT in a non-traditional setting and how her education and experience in the OT world have allowed her to create/run so many beneficial programs for families with children and adults with special needs.

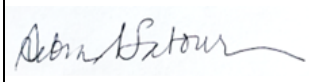
Site mentor evaluation of student performance (Identify if all objectives have been met. If yes, please comment on students' achievement for each objective. If no, please identify why goal not met):

Michelle continues to work on some of her objectives as they are continuous throughout the duration of the time the groups are being run. Program activities are continuously being edited based on the skills acquired and still needed by the participants. Materials created are edited to meet the needs of each participating family group or child and caretaker. The objectives that have been met, she demonstrates proficiency.

Please check one:

____X____ Sufficient progress has been made on the identified learning objectives and I recommend that the student continue this Doctoral Experiential Capstone.

_____ The Student has NOT progressed towards achievement of the identified objectives for the Doctoral Capstone Experience. It is recommended that this Student's Learning and Evaluation Plan be reviewed and revised as needed

Site Mentor Signature Dorothy Linder, OT, OTR Date May 14, 2024	Student Signature Michelle Kennedy OT/s Date May 14, 2024
OTD Faculty Erin K Wells OT OTD MSOT OTR Date May 17, 2024	OTD Doctoral Experiential Capstone Coordinator  Date May 20, 2024

DOCTORAL EXPERIENTIAL CAPSTONE STUDENT LEARNING OBJECTIVES & EVALUATION PLAN

MIDPOINT SITE MENTOR/STUDENT EVALUATION

Student evaluation of Site mentor, experience and self (please comment on opportunities provided, supervisory relationship and individual performance):

The past 14 weeks came with many learning opportunities and great experiences from my site mentor Dorthoy Linder. I had the opportunity to run my 5-week adaptive aquatics program successfully at the Springfield JCC, which received great feedback from caregivers. The last few weeks of my capstone were very hectic due to the JCC summer camp program beginning. Although Dorothy had multiple roles in camp, she set aside time to meet with me and guide me with anything that came up. I will forever be grateful for my time at the JCC as well as the mentorship from Dorothy.

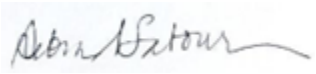
Site mentor evaluation of student performance (Identify if all objectives have been met. If yes, please comment on students' achievement for each objective. If no, please identify why goal not met):

Michelle provided a program that engaged families looking for adaptive swim lessons for their children. This program provided the families with the tools and resources to work with their children not only at the JCC pool, but in other bodies of water they may visit. By educating the parent/caregivers, the education and knowledge learned will help these families to carry over the skills outside of the class. As he mentor, I have observed the work she has done and how it has carried over outside of the class.

Please check one:

____X____ Sufficient progress has been made on the identified learning objectives and I recommend that the student continue this Doctoral Experiential Capstone.

_____ The Student has NOT progressed towards achievement of the identified objectives for the Doctoral Capstone Experience. It is recommended that this Student's Learning and Evaluation Plan be reviewed and revised as needed

Site Mentor Signature *Dorothy Linder, OT, OTR* Date July 3, 2024	Student Signature *Michelle Kennedy, OTs* Date July 3, 2024
OTD Faculty *Erin K Wells OT OTD MSOT OTR* Date July 9, 2024	OTD Doctoral Experiential Capstone Coordinator  Date July 13, 2024

Appendix O

IMPLEMENTING A SENSORY-FRIENDLY ADAPTIVE AQUATICS PROGRAM AT THE SPRINGFIELD JEWISH COMMUNITY CENTER FOR CHILDREN WITH INTELLECTUAL AND/OR DEVELOPMENTAL DISABILITIES

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WESTERN NEW ENGLAND UNIVERSITY
JULY 2024

ONCE A WEEK SWIM PROGRAM FOR 5 WEEKS

45 MINUTE CLASSES

SPRINGFIELD JEWISH COMMUNITY CENTER

1160 Dickinson Street, Springfield, MA 01108

FOR CHILDREN WITH INTELLECTUAL AND OR DEVELOPMENTAL DISABILITIES

Ages 2-9 years old

Table of Contents

Program Description

This program is for children between the ages of 2-9 years old with a diagnosis that falls under the scoop of an intellectual and or developmental disability. The groups will be run once a week for 5 weeks. In this case, there were two groups offered based on the child's age. The Monday group was for children between the ages of 2-5 years old, and the Fridays group was for children between the ages of 5-9 years old. However, the classes were flexible based on parent scheduling if needed. The groups have the same learning objectives and reviewed similar materials with modifications second to the child's age.

Although this program and lesson plans were designed as a parent/child in which the caregiver was required to be in the pool for the whole duration of the swim group, it can be adapted for private, semi-private, or group lessons.

Each week the swimmers, along with their caregivers if applicable, will be educated on new swimming skills and survival skills in order to keep themselves safe in and around the pool.

The three main goals of this program are: creating comfort in the water, promoting safety awareness in and around the pool, and identifying and creating solutions to any sensory difficulties in regards to the pool.

Week 1 Lesson Plan

Week 1: Introduction to pool and pool environment and moving around in the pool

Objectives: Swimmers will gain confidence and become comfortable with equipment and in the new aquatic environment.

Equipment: Kickboard, thick and thin noodles, barbells, aqua lily pad, flotation devices

Activity	**Teaching objectives**	**Equipment**
Introduction	1. Review objectives for the overall program 2. Get to know participants names and wants for the program 3. Observe child's comfort level in the pool	N/A
Introduction/educate about ritual and routine	1. Ask to enter any body of water- teach swimmers to verbally or nonverbally gesture/point before entering a body of water. Creating this routine will create a sufficient delay between asking and entering the water 2. Take side and provide a prompt- have swimmers hold the wall, while repairing "the side is safe", have them count to 5 out loud, take their shoulder and get them to look at you, then take a hand 3. Equipment use should NOT become a routine- use equipment when needed (like a life jacket) but be sure to have structured swim time without floats and goggles, use equipment as a tool, not a permanent solution. Be mindful of flippers and floats that give a false sense of security. If your swimmer is independent only with flippers, what happens if one falls off? 4. **Use if child is a runner or loves the water** Routine to allow time or delay- Create an extended routine that will delay entry into the water. An easy movement activity such as "clap your hands, touch your toes" and then ask again before entering the water. For super seekers, create a lengthy routine such as 'head,	N/A

	shoulders, knees and toes' or a favorite song to sing before they get in. This allows time to intervene in the unlikely event they wander towards the water ahead of you. *This should be reviewed with the caregivers as well as the children	
Equipment Education	Provided different equipment for children and families to feel, and use. Explained what the equipment was and how it can be beneficial for the child to use as support during swimming. Reminded families that they are not flotation devices they are used to support swimming skills.	kickboard, thick and thin noodles, barbells, aqua lily pad
Allow children to swim and get used to the environment and pool	Let children swim independently with or without a flotation device (bubble or puddle jumper, life vest)	Flotation device that families brought or one provided by the facility
Safety Topic: Review pool rules	1. Always swim with an adult 2. Walk don’t run 3. No diving in the shallow end 4. No rough play 5. Use pool equipment safely and correctly 6. No food on the pool deck	

Week 2 Lesson Plan

Week 2: Swimming basics

Objectives: Swimmers will be educated on how to practice basic swimming skills

Equipment: Kickboard, noodle, barbell, rocket, ping pong ball or small floating toy, sinking toys, goggles (if needed)

Activity	Teaching objectives	Equipment
Blowing bubbles	-Blowing bubbles is an important safety skill that teaches children breath control. Learning how to blow bubbles is the foundation for swimmers knowing how to breathe once they start learning swim strokes. -If a swimmer doesn't learn how to breathe correctly, they tend to hold their breath once they start swimming longer distances. Holding their breath—instead of blowing bubbles—will make them even more tired and can be potentially dangerous. <u>How to teach blowing bubbles in the pool:</u> 1. Hold out your finger and tell the child to blow out the birthday candles, have them do it to your finger then have them try it on their finger. 2. Provide either a ping pong ball or a small floating toy, and tell the child to push the item away by blowing on it. 3. Now have your child place their lips in the water and practice blowing out to create bubbles. *Make sure you are enforcing breaks for the child! Have the child bring their face away from the water and take a deep breath in and out to avoid sucking in water when their face is close to water. <u>Tips for teaching your child to blow bubbles at home!</u> 1. Give your child a glass of water and a straw, let them practice blowing bubbles through the straw. 2. Have them blow air out onto their hand, This helps them get the feel of blowing out. 3. Let them practice blowing bubbles from a bubble wand.	Ping pong ball or floating toy

Putting face in the water *if the swimmer is ready and confident*	-Learning to put their face in the water and being comfortable doing so is an important skill for children to master. As well as enabling them to develop their aquatic breathing skills, being able to submerge their mouth and nose in the water allows the child to develop a streamlined (flat) body positioning while moving through the water. This is key when it comes to stroke development and various other swimming skills. -It can be difficult for a child to face their fear of putting their face in the water. <u>How to teach putting face in the water:</u> 1. You are going to start with a progression of putting different areas on the face in the water. →Start with the chin, then mouth, then nose, then eyes 2. Have the child watch you do it first. Ex- I am going to put my chin in the water, watch me, now you try *If the child is hesitant, do not force them to do a task they are not comfortable with, practice on areas of the face they will put in the water 3. When the child is ready to put their whole face in the water, remember to blow bubbles. 4. Use toys or anything that is in interest to the child to hold under the water for them to look at. <u>Here are some tips that can help them learn this skill</u>. 1. Invest in a pair of goggles that are comfortable for the child. There are many different types of goggles such as the lens color, type of strap, and size. I do not recommend the goggles that go over the child's nose! *Do not always rely on the use of goggles, when the child gets comfortable putting their face in with them, try without as well 2. Practice in the bath! Grab some bath crayons, write little messages, or draw pictures at the bottom of the bath. You can use toys that sink to the bath floor. Get your child to put their face in, and tell you what they can see. Don’t forget those bubbles (aquatic breathing) while you’re doing this. Try this with and without goggles! 3. Have your child swim with others. Let your child see you put your face in the water. Seeing you – or an older sibling – do it will give them the confidence to try it themselves.	Fun toys that sink, goggles if needed

	4. It's raining, it's pouring! Use a watering can or a small bucket to pour water over your child's head. Allow the water to run freely down their face, and have some fun playing games. 5. Shower them with praise! As with everything, children thrive on praise, so be sure to give them a huge round of applause, lots of cheers, and thumbs up a-plenty. Do this at home, as well as after their weekly swimming lessons (we'll do it too, of course!).	
Kicking on front and back	-Kicking helps to maintain a proper and efficient body position and water safety. *You want the child to kick from their core and hips, not from their knees! <u>How to teach kicking on their front:</u> 1. Have the child hold a kickboard or swim barbell under their arms. (If they are struggling to keep their legs up behind them, add a noddle under their legs.) 2. Repeat "kick, kick, kick." <u>How to teach kicking on their back:</u> 1. To kick on the back, have the child hug a kickboard or have them lie on their back and hold a barbell to their belly. (If they are not comfortable on their back just yet, have their head on your shoulder for support.) 2. Repeat "kick, kick, kick."	Kickboard, noodle, barbell, rocket
Back float and front float	-The ability to back float allows children to safely float to the side or float and keep their head above the water until help can arrive, should they ever fall into a body of water *It's one of the most critical water safety skills that we teach <u>How to teach back floats:</u> 1. Have the child lay with their head on your shoulder and if they require more support you can use your chest to keep them up in the water a little more. Tell the child to keep their chin up, belly up, toes up, and count to 10. 2. Once the child begins to get more comfortable on their back, provide less support by removing the child's head from your shoulder and introducing their ears to the water.	Kickboard, noodle, or barbell

	3. To introduce the child to getting their ears in the water, have them listen to fish. <u>How to teach front float:</u> *This float is best done when the child id comfortable putting their face in the water, but can be practiced with blowing bubbles instead 1. The instructor/caregiver will bend their knees so their shoulders are just below the surface. 2. While facing the child, put your hands on your shoulders and hold their body out in front of you, keeping their head from falling into the water. The more apprehensive the child, the tighter you need to hold him. 3. Let their legs float up behind them on top of the water. 4. Blow bubbles in the water together. The goal is to have a calm, quiet body and to float, face down, on the surface of the water. 5. As they become more comfortable and confident, loosen your grip and have them put their arms straight out at their sides like airplane wings.	
Front and back glides	-Possessing the skills to be able to front and back glide is important for your child to move on to more advanced levels of swimming proficiency. Fundamentally, gliding is about being able to float, which can help save their life even if they are novice swimmers. <u>How to teach front glide:</u> 1. Form a front float position 2. Have the child extend their arms, gluing their arms to the ears, their hands and feet should also be together. Have them practice this position standing up. 3. Have the child stand in front of you, the instructor/caregiver will be standing in the water, their shoulder in the water. The child will put their hands on your shoulders for support. 4. Tell the child to put their feet on the wall and push themselves off. Their hips and knees should be bending as if they were jumping on the floor. As they push off, the	N/A

	instructor/caregiver will move back, this will also cause a gliding sensation through the water. 5. As the child starts to glide encourage them to tuck their chin to their chest and put their face in the water or blow bubbles 6. As the child continues to practice, the instructor/caregiver will provide less support, and the child will remove their hands from the shoulder. The instructor/caregiver can then support at the hips if needed. <u>How to teach back glide:</u> 1. The instructor/caregiver will stand behind the child, the child will be holding onto the wall with two hands and feet on the well with their back towards the instructor/caregiver. 2. The child will push off the wall bringing their arms above their head in a rocket ship position. *When the child is first learning, the instructor/caregiver will support the child by holding their head or torso and reassuring them that they will not go under the water. 3. You will want to encourage the child to keep their head and chin up so it stays above the water. To start, the instructor/caregiver can stand above the child and have them look at them when pushing off the wall.	
Big arms (ice cream scoops)	-This is the first step in learning how to move the arms properly through the water. -Using the term ice cream scoops helps to teach the child to keep their fingers together so the water doesn't go through their hands. <u>How to teach big arms:</u> 1. If the child is small enough to sit on your leg, have the child staddle your leg with their back against your front, they will be facing the wall. 2. Physically move their arms one arm at a time making big arm circles, while one arm is moving the other is holding onto the wall. 3. Allow them to try. _____	N/A

	1. If the child can stand on the bottom of the pool, have them stand facing the wall. 2. Physically move their arms one arm at a time making big arm circles, while one arm is moving the other is holding onto the wall. 3. Allow them to try.	
Safety topic: Too Much Sun is No Fun	-Everyone enjoys spending time outside on a warm, sunny day, but spending too much time in the sun without taking steps to protect yourself from the sun's damaging rays is a case of too much of a good thing. 1. Checking the weather: If it's warm, wear shorts and a short-sleeved shirt. If the UV index is high, wear pants and a long-sleeved shirt if possible. 2. Applying sunscreen: Apply SPF 30+ sunscreen before going outside, and reapply every two hours, even on cloudy days. 3. Wearing protective clothing: Wear sun protective clothing. 4. Wearing a hat: Wear a wide-brimmed hat. 5. Wearing sunglasses: Wear UV-blocking sunglasses. 6. Seeking shade: Stay in the shade when the sun is strongest, which is usually between 10 AM and 4 PM. 7. Drink plenty of water!	N/A

Week 3 Lesson Plan

Week 3: Safety strategies when getting fatigued and after jumping into the pool

Objectives: Swimmers will learn how to roll from front to back and back to front in order to have time to breathe, as well as find and swim to the wall for safety after jumping into the pool

Equipment: Kickboard, noodle, or barbell, toy

Activity	**Teaching objectives**	**Equipment**
Warm-up: Kicks on front and back	See week 2 for more information	Kickboard, noodle, barbell, rocket
Review: Floats, big arms, and front glides	See week 2 for more information	Kickboard, noodle, or barbell
Rolling from back to front and vice versa	-This allows the child to have time to breathe without having to lift their head and become vertical in the water <u>Rolling front to back:</u> 1. Start with the child facing you: Have the child lie flat on the water's surface with one hand on their chest and one hand on their back. 2. Give a cue: Say something like "one, two, three rollover". 3. Keep the child's head above water: Help the child initiate the rollover until they can do it independently. 4. Ensure the child's body is straight: As the child rolls, make sure their hips are up, their back is straight, and their head is back. <u>Rolling from back to front:</u> 1. Have the child on their back with their chin up, belly up, and toes up on the top of the water. (Look for more instructions under the Back Float activity.) 2. Give a cue: Say something like "one, two, three rollover". 3. When flipping the child have one hand under their belly and on their back. Keep the child's head above water: Help the child	N/A- Instructor/caregiver will use their body to support the swimmer

	initiate the rollover until they can do it independently. 4. Ensure the child's body is straight: As the child rolls, make sure their hips are up, their back is straight, and their head is back.	
Introduce climbing out of the pool Introduce sliding and jumping into the pool and finding the wall after	-Teaching children how to climb out of a pool is an important water safety skill. It's important because children may not always be able to exit the pool using a ladder or step, and getting in and out of a pool can be dangerous or occupied -The skill for a child to find the wall, swim to it, and grab the wall is a safety skill in order to decrease panic in the water and allow for the child to get to a safe place. <u>How to teach climbing out of the pool:</u> -When teaching a child to climb out of the pool they should hold on to the side with both hands. -Repeat to the child "elbow, elbow, belly, knee, knee". This is the order in which the child will climb out of the pool onto the side. *If the child is a visual learner or needs a demonstration, have the child sit on the side of the pool and watch as the instructor/caregiver shows them. *Using a toy or something that intrigues the child can encourage them to climb out of the pool if the toy is placed away from the side of the pool so they cannot just reach with their hands to grab it. <u>How to teach sliding into the pool:</u> -If the child is not ready to jump in, they can practice sliding in -The child will be sitting on the side of the pool with their feet in the water	Toy of interest

	-The instructor/caregiver will either hold the child under their armpits or hold the child's hands depending on their comfort level -Have the child gesture or verbally ask to enter the pool -Remind the child to keep their mouth closed -When safe, bring the child into the pool, have the child blow bubbles if they are not ready to go under the water -Turn the child to face the wall again -Tell the child to reach and grab the wall <u>How to teach jumping into the pool:</u> -When the child is ready, introduce jumping -The child will be standing on the side of the pool with their toes on the edge -If the child is not confident to jump in independently, hold their hands -Have the child gesture or verbally ask to enter the pool -Remind the child to keep their mouth closed -When safe, the child will jump into the pool, have the child blow bubbles if they are not ready to go under the water -Turn the child to face the wall -Have the child swim back to the wall either independently or with support -Tell the child to reach and grab the wall	
Safety Topic: Ways to enter and exit the pool safety	-The three ways anyone can enter or exit the pool are: 1. Stairs 2. Ladder 3. Climbing out of the side of the pool	

	-Inform the child of the three ways to enter and exit the pool, then have them repeat it to you -Ask the child to point to the ladder and stairs -If applicable, have the child practice all three ways to enter and exit the pool safety	

Week 4 Lesson Plan

Week 4: Introduce basic swimming strokes

Objectives: Swimmers will be introduced to combined arm and leg movement and elementary backstroke to swim throughout the pool

Equipment: Kickboard, noodle, barbell, rocket, toy

Activity	**Teaching objectives**	**Equipment**
Warm-up: Kicks on front and back	See week 2 for more information	Kickboard, noodle, barbell, rocket
Review: Floats, big arms, and front glides,	See week 2 for more information	Kickboard, noodle, or barbell
Review: Rolling from back to front and vice versa	See week 3 for more information	N/A- Instructor/caregiver will use their body to support the swimmer
Combined arms and leg movement	-Learning the combined arm and leg movement is the beginning skill to freestyle <u>Arm action:</u> -The arm movement is an alternating pattern, when one arm is reaching in front of you the other arm is by your side -The hands should be firm but not tense and the fingers should be together <u>Leg kick:</u> -The kick is going to use the freestyle kick which is kicking from the hips with straight legs <u>How to teach combined arm and leg movement:</u> -Have the child on their belly holding either a kickboard, barbell, or noodle with straight arms. This will be used as support for the child and used as an object for the swimmer to reach for when moving their arms	Kickboard, barbell, or noodle

	-If the swimmer needs support keeping their legs up you can place a noodle under their hips -The swimmer will begin to kick -Remind the child to keep their face in the water, looking down at the pool floor, or blowing bubbles if they are not comfortable getting their face down in the water yet -The swimmer will release their hand from the kickboard, barbell, or noodle and do a big arm. Have the swimmer reach for the item. -Once the swimmer is finished with one arm, have them do the same movement with the other arm -The goal is for the swimmer to do 3-4 big arms, before lifting their face out of the water to breath	
Elementary backstroke (Tickle, T, Touch)	-This stroke is also known as the resting stroke because it allows swimmers to breathe normally with their face out of the water -This stroke also strengthens muscles, improves water feel in order to improve the swimmer's balance and rotational skills, and can help with learning backstroke and freestyle -The arm and leg movements are simple, symmetrical, and synchronous which makes it easier to learn <u>How to teach elementary backstroke:</u> -Start in a glide position. Turn towards the wall and push off the wall with your feet. Instructor/caregiver can provide support by holding the swimmers back. -The swimmer's face is above the water with their chin up -First Active Phase: Chicken (Tickle position)	Noodle

	--Bend your elbows and bring your hands towards your armpits -- At the same time, bend your knees and bring your feet towards your butt, keep your legs together while you bend your knees -Second Active Phase- Airplane (T position) --Extend your arms sideways so that your body forms an X or a starfish in the water, keep your palms facing backward --Spread your legs apart while keeping them straight -Third Active Phase- Pencil (Touch position) -- Move your outstretched arms towards your body in a straight position, your arms will push against the water and return to the starting position at your sides --Simultaneously move your legs back together keeping them straight, this will also provide propulsion and bring your legs back to their original position *This position will make you glide through the water	
Introduce climbing out of the pool Introduce sliding and jumping into the pool and finding the wall	See week 3 for more information	Toy of interest
Safety Topic: Use Layers of Protection In & Around Water	-Even if lifeguards are present, you (or another responsible adult) should stay with your children -Be a "water watcher": provide close and constant attention to children you are supervising; avoid distractions including cell phones -Teach children to always ask permission to go near water	N/A

	-Children, inexperienced swimmers, and all boaters should wear U.S. Coast Guard-approved life jackets -Take specific precautions for the water environment you are in, such as: --Fence pools and spas with adequate barriers, including four-sided fencing that separates the water from the house. -At the beach, always swim in a lifeguarded area.	
Safety Topic: Known the Risks & Take Sensible Precautions- Even if You're a Strong Swimmer	-Always swim with a buddy -Don't use alcohol or drugs before or while swimming, diving, or supervising swimmers -Wear a U.S Coast Guard-approved life jacket when boating, fishing (even if you don't intend to enter the water), or for swimmers who have yet to know how to swim safely	N/A

Week 5 Lesson Plan

Week 5: Wrap up of all past material

Objectives: Review all swimming skills and sensory strategies for swimmer

Equipment: Ping pong ball, floating toy, sinking toy, kickboard, noodle, rocket

Activity	**Teaching objectives**	**Equipment**
Review: Blowing bubbles and putting face in the water *if the swimmer is ready and confident*	See week 2 for more information	Ping pong ball or floating toy Fun toys that sink, goggles if needed
Review: Kicking on front and back	See week 2 for more information	Kickboard, noodle, barbell, rocket
Review: Floats, big arms and glides	See week 2 for more information	Kickboard, noodle, barbell, rocket
Review: Rolling from back to front and vice versa	See week 3 for more information	N/A- Instructor/caregiver will use their body to support the swimmer
Review: Introduce climbing out of the pool Introduce sliding and jumping into the pool and finding the wall	See week 3 for more information	Toy of interest
Review: Combined arms and leg movement	See week 4 for more information	Kickboard, barbell, or noodle
Review: Elementary backstroke	See week 4 for more information	Noodle
Sensory Strategies	-Start in the bathtub: the size and noisy environment of a recreational pool can be overwhelming, by introducing baths and water play at home a child can acclimate to	N/A

	the feeling of the water and splashing before entering a bigger environment -Heated pools: A cold pool can be difficult for a child with tactile sensory processing challenges, it can also be overwhelming entering a cold pool and can cause a negative reaction to the pool. Entering a warmer pool is more inviting and enjoyable -Water shoes, rash guards, swim caps, goggles: These are all products that can decrease the sensibility to the pool for some children, they can make the child feel more secure and safe in the water -Visit pool during less busy times or use non- recreational pools: Some children may love the water but struggle due to the noise and activity of crowds, when using a recreational pool, find a time that the pool is not crowded and even try to use a backyard pool -Teach swimming safety skills: Some children with sensory difficulties love the water but are unaware of the danger around and in the pool. Set up adaptive swim lessons or on your own teach the child basic safety rules and basic swimming safety strokes -Take it slow: Move at the child's pace, allowing them to feel in control will help decrease any anxious feelings and sensitivities	

Adaptive Pool Equipment

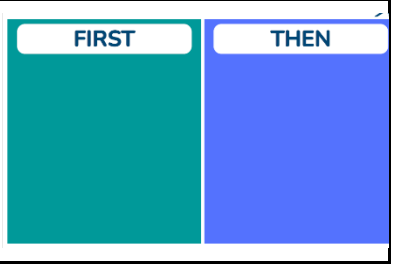
Always use equipment for a purpose then take it off and teach in your typical swim skill benchmarks!

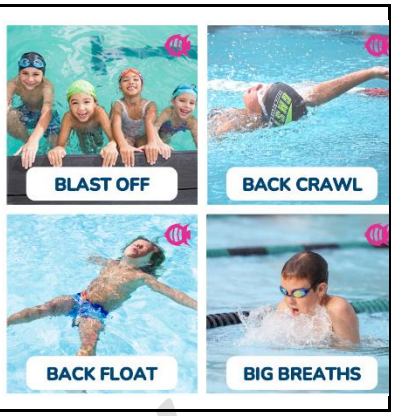
Name of Equipment	**What can it be used for?**	**Photo of Equipment**
Barbell	-Can be put under the swimmer's arms while they float and kick→ This gives swimmers confidence in the water *Be mindful of the size of the grasp, and if the bar is padded or non-padded -Once the swimmer is comfortable they can hold the barbell in front of them while they put their face in the water and work on productive kicks that keep them swimming straight ahead -For more advanced swimmers, the barbell can be held in front of them, while the swimmer is kicking and has their face in the water they will practice freestyle arms while reaching for the barbell *Use for heavy work- the instructor will move the child back and forth while they hold on to the barbell for the child to receive linear vestibular input to wake up their body and their tone	
Dumbbells	-Great for swimmers who are skill-learning how to control their body -Child can work on their grasp by holding the dumbbells -These allow for children to do heavy work with the resistance of the water -If the swimmer is advanced, they can use these to swim to allow for resistance during swim strokes	

	-For swimmers with physical impairments, put dumbbells under their armpits to allow for more independence	
Fins/Flippers	-Help to create propulsion and give range of motion to ankles -This is a great way to modify or adapt a swim lesson for a child who may be a little weaker and cannot kick themselves through the water -Flippers can be used for swimmers who walk on their toes, the use of flippers allows the child to move their foot in plantar dorsiflexion (foot is moving up and down)	
Floatation collars	-Provides support to swimmers who are anxious to go on their back -This tool can impost the swimmer to look up on their own while on their back -Place around swimmer's neck to avoid excess drinking on the water	
Hand floats	-Use these floats for swimmers who might require slightly less buoyancy -This type of grasp may be more comfortable for some swimmers -Provides extra propulsion -These can be used to swim front crawl, elementary backstroke, skulling -If the swimmer has a swim shirt on, this can be placed under the swim shirt on the front or back to allow for a little extra support to allow for successful floating and horizontal swimming	

Kickboard	1. Easier to grasp 2. Improve shoulder mobility and position which creates better automatic kicking reactions from swimmers -Swimmer will hold out the kickboard in front of them to help focus on kicking when swimming forward (this can also help with breath control by allowing time to come up for air if the swimmer is putting their face in the water) -Have the swimmer lay on their back with the kickboard behind them, they will reach above their head to hold on. This can help the swimmer stay afloat on their back while practicing kicking	1.  2. 
Noodle	*The thicker the noodle, the more resistance and more buoyant -Noodles can be used to encourage the child to keep their feet on top of the water when practicing kicks on their front -It can be a support for the child behind their back when practicing back floats or kicking on their back -For a child with less control of their trunk or for children with CP, a noodle can be wrapped around their waist/chest or kept under their armpits to allow for them to be vertical in the pool and work on moving their legs	1.  2. 

Swim rocket	-Can be used for the swimmer to swim on the front or back, as it will provide extra support and floatation	
Wrist weights	-Use on wrists or ankles to help ground anxious swimmers or provide sensory input -Use for swimmers who have a lot of energy in the pool and are seeking sensory input, this provides more resistance	
Diving rings	-Used to teach swimmers breath control -Provides incentive to swim down to the bottom of the pool -Can be used for younger swimmers to swim above the toy, and having them look for the toy is encouraging to keep their head and face in the water and look down rather than forward	
Deflated exercises ball (or beach ball)	*Can be used to teach the swimmer how to control their body and for children who are sensory seekers -The ball creates a slightly sticky surface, allows for easy grasp, and comes in a variety of sizes -Swimmers can use it to roll on their belly and kick and roll on their back and kick -Swimmers can practice holding the ball and sitting up and changing direction then swim to the wall and the instructor	

	-Swimmers can hold the ball and roll on their back or belly	
Wet Vest	-Used for swimmers who struggle with regulating their temperature	
Chewelry	-Water safe, non-toxic, and durable -The design provides sensory input to the mouth, lips, and tongue for swimmers who are sensory seekers and tend to drink the pool water. -This can be used to redirect swimmers from drinking the water or biting pool equipment. -Chewing can have a calming effect and regulate the nervous system. -Chewing provides a satisfying sensory input that can help children feel more calm and focused. -It can help reduce anxiety significantly, which is helpful for children who struggle with sensory overload. -Chewing can be very self-soothing for children.	 
Picture Exchange Communication System (PECS)	-Create your own waterproof visual schedule -A great way to provide a visual for swimmers on what they are going to be completing during the swim lesson	

Sensory Information for Swim Lessons

Why are Swimming Lessons Good for Children with Sensory Difficulties?: While you might think that swimming lessons should be avoided for children with sensory difficulties because they are sensory-rich, they are incredibly important and can be helpful if they are made sensory-friendly.

Water Safety: There are several benefits of swimming lessons for children with sensory issues. One critical benefit is water safety. Participating in swimming lessons helps children gain skills needed to be safe in and around water. Making swimming lessons sensory-friendly, helps children with sensory issues gain important skills to improve their water safety and prevent drowning.

Sensory Exploration: Another added benefit of swimming lessons is the sensory aspect. Sensory exploration is important for all children, including children with and without sensory challenges. By making swimming lessons sensory-friendly, children with sensory difficulties are included. And, with small changes, swimmers can feel comfortable exploring their senses and developing important sensory-motor skills. Swimming also engages a child's sense of movement, sense of balance, and internal body sense. The sensory experience in water allows children to explore all of their senses in a fun way. The repetitive, rhythmic motions used in swimming can be calming. Swimming can be an important therapeutic tool and developmentally supportive tool to help children learn new skills and develop their sensory-motor abilities. Making a sensory-rich experience like swimming, sensory-friendly, supports all children.

Socialization: Swimming lessons provide children an opportunity to learn and practice social skills. For many children with sensory differences, interacting with their peers causes stress and anxiety. Creating fun opportunities for children to participate in swim lessons with other children gives them the opportunity to develop and practice social skills.

What are Sensory-Friendly Swim Hours at a Pool?: Going swimming at an indoor or outdoor pool can be an overwhelming sensory experience. For instance, there are changes in temperature upon entering the water. Water feels different than air. Moreover, public pools are generally busy, and noisy. There can be bothersome fluorescent lights at indoor pools. Noise can also be an issue stemming from things such as pool equipment and lifeguards blowing whistles. Indoor pools are often in large, open spaces that echo. Pools have concrete around them that doesn't absorb sound. Therefore, it is easy for anyone to experience sensory overload in this type of environment.
To help people manage the sensory-rich environment of swimming pools, sensory-friendly swim times are increasing in popularity. Everything from community pools to theme parks, water parks, and tourist attractions are supporting sensory-friendly swimming.

Changes to Create Sensory-Friendly Swimming Times:

- Turn off background music
- No announcements over a broadcast system
- Stop noisy-equipment

- Offer a quiet room
- Limit the number of patrons
- Turn off waves or noisy toys
- Provide extra staff to support and help people
- Put noisy hair-dryer signs on hair dryers (the noise is truly bothersome)
- Offer free caregiver passes
- Staff use whistles only for alerts and emergencies, i.e., not for any other communication
- Set specific "friendly" hours
- Let people know exactly what to expect
- Share details on your facilities website, and social media platforms

How to Create Sensory-Friendly Swimming Lessons: Changes to the pool environment are important to be accessible and inclusive. However, changing swimming lessons themselves is also incredibly helpful.

Change the Environment: There are changes that can be made to the swimming environment to make it sensory-friendly. For children with sensory issues, this may lead to increased stress and sensory overload. However, several simple changes help create a less overwhelming experience during swimming lessons, like all of those mentioned above to create sensory-friendly swim times! So incorporate sensory-friendly hours with swimming lessons.

Be Patient: Especially with children who have sensory sensitivities or who experience sensory overload. It may take children several different sessions to get comfortable just being around the pool. For example, the first couple of lessons may spend lots of time next to the pool. Or sitting on the side of the pool. Exploring water outside the pool, first. If the first few lessons only involve stepping or crouching in very shallow water, consider that a success! It is most important for the child to feel safe in the pool.

Select a Less Busy Area of the Pool: Another technique to create sensory-friendly swim lessons is to run the lesson in the least busy areas of the pool. Or at a less busy time. If possible, try to find a smaller pool or a quiet area in a bigger pool to do your swim lessons. The loud noises of other swimmers, splashes, waves, and bright pool toys are overwhelming for a child with sensory differences. Therefore, begin your swim lessons in less stimulating areas of the pool.

Offer Sensory-Friendly Hours: It is unrealistic to try to eliminate all loud sounds around the pool. Therefore, consider running your sensory-friendly lessons during sensory or autism hours, as previously mentioned. During these hours, changes are made to the pool area. It makes for a less sensory-rich experience. Sensory hours give children the opportunity to practice their swimming skills in a comfortable setting. Ultimately, this helps children focus more on their lessons and less on the overwhelming sensory experience at the pool.

Sensory-Friendly Swim Toys: Another common strategy in sensory-friendly swim lessons is using pool toys. This can include things such as pool noodles, and flutter boards. Noodles and boards can help children slowly ease into the process of swimming independently while feeling safer.

Use a Graded Approach in your Swimming Lessons: Using a graded approach during your swimming lessons is an effective strategy. A graded approach simply means breaking down a larger task into smaller, easier steps.

Sensory Strategies/Products

Products or strategies to support a sensory-friendly Swim: There are many tools that help support sensory-friendly swimming. Make them available and suggest them to parents and adult swimmers!

Product	**What it is used for**	**Photo/Example**
Ear bands or earplugs	-Water in the ears potentially resulting in ear infections and noise sensitivity is a particular challenge for many children, both with autism and other disabilities. -This issue can be alleviated with wax earplugs which tend to stay in the ears the best. --- -However, some children do not tolerate earplugs. If this is the case, ear bands can be an alternative solution which is a swimming headband that covers the ears. -The added pressure of the headband is calming on the sensory nervous system. *However, be extra cautious if a child does not hear as well with them. This may increase the safety risk while the child is swimming.	 
Hammer Head swim cap	-Like headbands, the compression has a calming effect on the sensory nervous system too. -Hammer Head swim caps are specially designed caps that are sensory-friendly. They offer head protection from injury and are less likely to pull on hair -They are made with tear-resistant premium silicone for easy-on and easy-off and won't pull your hair.	

Swimming goggles	-Frogglez Goggles unique design keeps goggles from slipping, won't get stuck or tangle long, curly hair, and is easy for little hands to manage. -They are also the only swim goggles in the world that are a Certified Autism Resource; found to improve the lives of individuals on the autism spectrum.	
Nose clips	-Nose plugs are often a big help to prevent water going up the nose and often come together with earplugs.	
Fully bodysuit	-Swimsuits come in all shapes and styles. -For example, full-body suits or swimsuits that are long-sleeve, shorts, or full-body are a good choice. -Rashguard sets are also an option. -They offer compression, which helps to calm the sensory nervous system. -They help regulate the changes in body temperature while swimming. *Always choose bright colors for swimsuits. Remember drowning is the leading cause of accidental deaths in children and the third major cause of death overall. Choose swimsuit colors that ensure children are easily seen!	

Chewelry	-Water safe, non-toxic, and durable -The design provides sensory input to the mouth, lips, and tongue for swimmers who are sensory seekers and tend to drink the pool water. -This can be used to redirect swimmers from drinking the water or biting pool equipment. -Chewing can have a calming effect and regulate the nervous system. -Chewing provides a satisfying sensory input that can help children feel more calm and focused. -It can help reduce anxiety significantly, which is helpful for children who struggle with sensory overload. -Chewing can be very self-soothing for children.	 

Pool Safety Tips

Creating a SAFER, Positive Aquatic Environment

- **Prepare:** Read *Learn to Swim with Lou!* with your child. Before you practice in the water, discuss and demonstrate the skills that Lou learned from his water friends.

- **Stay positive:** Smile, speak calmly and AVOID using negative language such as, "You're not going to DROWN" or "Don't be SCARED." Instead say, "This is EXCITING," "Swimming is FUN," and "I'm here to HELP you."

- **Relax:** Your child is watching your behavior in this new situation. If you are comfortable, he will be comfortable. Stay relaxed, calm and confident.

- **Make it fun:** Create a FUN and enjoyable experience in the water. Play games, sing songs and use your imagination.

- **Get your child's face wet:** In order to develop a safe, healthy relationship with the water, your child must be comfortable with water on his face. Start by using the cue "1, 2, 3" to slowly pour a cup of water on your child's hands, arms, shoulders and back of the head. Next, using the cue, gently pour water on his head, letting a few drops run down his face. Show him how to blink his eyes to clear the water. Continue the cue, allowing more water to stream down his face. Use the SAME CUE EVERY TIME: "1, 2, 3."

- **Always encourage:** If your child doesn't like water on his face, don't get a towel, wipe his eyes and ask if he's okay. Give him a high five and say, "Good job! You're okay." If you don't make a big deal about it, then he won't either. Move on to the next activity.

- **Don't give up:** If this is not your child's activity of choice, don't worry, but do not give up. Swimming is an essential, lifesaving skill that everyone should learn.

10 Essential Swimming & Water Safety Skills

By: Michelle Kennedy OT/s

Get your face wet: The goal is to put your entire face comfortably into the water

Blow bubbles: The goal is to inhale in the air and exhale into the water

Front float: The goal is to have a calm, quiet body with your face down in the water

Front glide with kicks: The goal is to keep your whole body on top of the water, with your face down in the water in a horizontal position, while moving forward by kicking

Arm pulls: The goal is to use your arms to move forward through the water

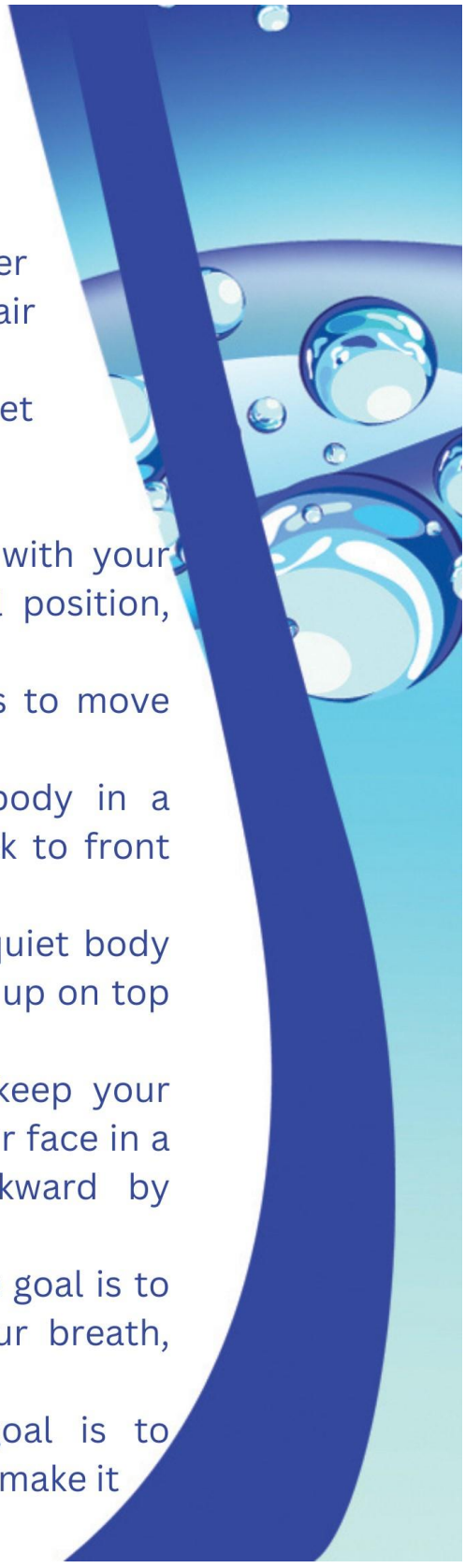
Roll over: The goal is to keep your body in a horizontal position as you roll from back to front and front to back

Back float: The goal is to have a calm, quiet body and to be able to breathe with your face up on top of the water

Black glide with kicks: The goal is to keep your whole body on top of the water, with your face in a horizontal position while moving backward by kicking

Retrieve an object from the bottom: The goal is to change your body position, control your breath, and get to safety

Jump in, turn, grab the wall: The goal is to submerge, come back to the surface, and make it to the wall safety



RITUAL AND ROUTINE

FOR A SAFE POOL ENVIRONMENT

BY: MICHELLE KENNEDY OT/S

ASK AT HOME FOR THE BATHTUB

Swimmer should verbally or nonverbally gesture/point before entering a body of water. This creates a sufficient delay between asking and entering the water.

TAKE SIDE AND PROVIDE A PROMPT

Have the swimmer hold the wall, while repeating "the side is safe". Have them hold for 5 seconds. Never take the child off the wall. You should tap their shoulder and get them to look at you, then take a hand.

EQUIPMENT USE SHOULD NOT BECOME A ROUTINE

Use equipment when needed but have structured swim time without floats and goggles. Use equipment as a tool, not a permanent solution. Be mindful of flippers and floats that give a false sense of security. If your swimmer is independent only with flippers, what happens if one falls off?

ROUTINE TO ALLOW TIME OR DELAY ENTER

Create a routine that will delay entry into the water. An easy movement activity such as "clap your hands, touch your toes" and then ask again before entering the water. For children who seek out the pool, create a longer routine such as 'head, shoulders, knees, and toes. This allows time to intervene in the unlikely event they wander towards the water ahead of you.

MONITOR AND INTERVENE

FOR A SAFE POOL EXPERIENCE

BY: MICHELLE KENNEDY OT/S

OBSERVE EXCESSIVE DRINKING

Some swimmers love to drink, suck and spit the water. Watch the amount or number of times water is swallowed. Try having them swim on their back, bite on a chew toy, or move to a preferred game on top of the water.

LIFEGUARD EDUCATION

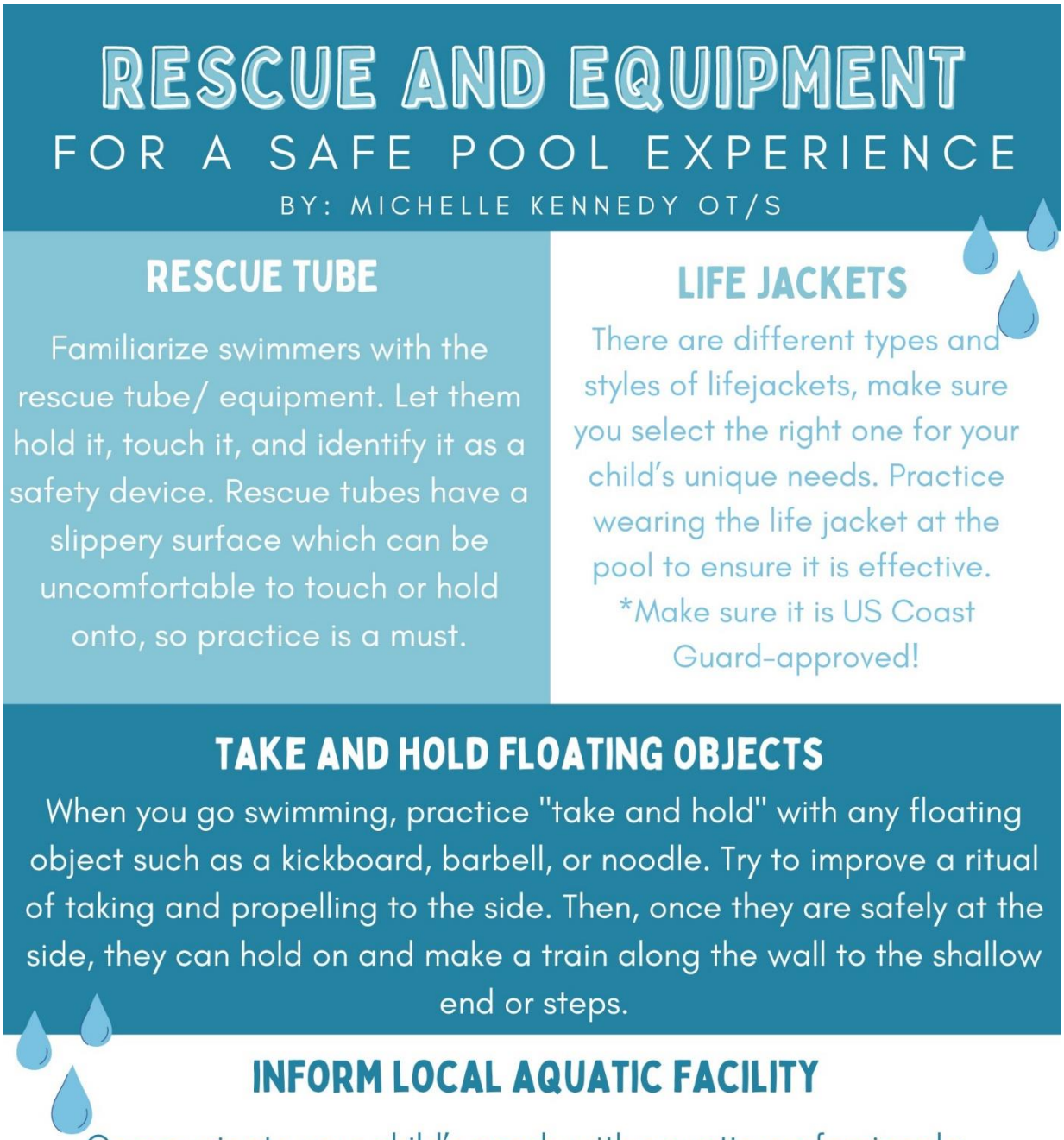
Lifeguards are trained professionals who prioritize aquatic safety, but understanding your child's unique needs is crucial. Inform the lifeguard about your child's specific challenges.

REDUCE UNDERWATER BREATH-HOLDING

Some swimmers love being underwater due to the hydrostatic pressure. The deeper you go the more pressure there is. Some swimmers repeatedly submerge with disregard for breathing. Visually monitor and physically intervene to ensure appropriate breaks for above-the-surface water play.

BRIGHTLY COLORED SWIMWEAR

Pools get busy and lakes get dark. One tip is to wear brighter-colored swimwear. This will make it easier when you are the 'Water Watcher' for your swimmer who might be trying to swim off. Consider a swim cap and shirt that is a brighter color for ease of identifying where they are located in the water.


RESCUE AND EQUIPMENT
FOR A SAFE POOL EXPERIENCE
BY: MICHELLE KENNEDY OT/S
RESCUE TUBE
Familiarize swimmers with the rescue tube/ equipment. Let them hold it, touch it, and identify it as a safety device. Rescue tubes have a slippery surface which can be uncomfortable to touch or hold onto, so practice is a must.
LIFE JACKETS
There are different types and styles of lifejackets, make sure you select the right one for your child's unique needs. Practice wearing the life jacket at the pool to ensure it is effective. *Make sure it is US Coast Guard-approved!
TAKE AND HOLD FLOATING OBJECTS
When you go swimming, practice "take and hold" with any floating object such as a kickboard, barbell, or noodle. Try to improve a ritual of taking and propelling to the side. Then, once they are safely at the side, they can hold on and make a train along the wall to the shallow end or steps.
INFORM LOCAL AQUATIC FACILITY
Communicate your child's needs with aquatic professionals: Provide a photo of your child and some ideas for keeping them safer. Introduce the aquatic director to your swimmer and explain how to best interact with your swimmer. If your child has a physical limitation and needs a lift, schedule a time to use the lift and improve poolside entry safety.

ADAPTIVE SWIM SKILLS

FOR A SAFE POOL EXPERIENCE

BY: MICHELLE KENNEDY OT/S

SPECIFIC ADAPTIVE AQUATICS TRAINING

Research and find adaptive swim lessons that fit your child's unique needs. Instructors have specific training to identify and implement strategies to overcome underlying problems to help your swimmer reach swim skills benchmarks

ROLLOVERS & BREATH CONTROL

Being able to rollover and take a breath is a vital safety skill. Use these tips to practice at home and then head to the pool. Log rolling on the floor or your bed. Get comfortable tilting your head back in the bathtub.

REDUCE ANXIETY

Buoyancy can be anxiety-provoking because it feels unstable. A solution to counteract this, is to wear a long sleeve cotton shirt, pajamas, or cotton socks to provide increased body awareness. Show social stories and videos of successful and happy swimmers in the water. Teach the mantra that in the shallow we 'stand' and in the deep 'we just keep swimming'.

LEARN TO SUBMERGE

Successful submerging will improve a safe rescue as the swimmer will be more comfortable holding their breath. Identify body parts "mouth, nose, eyes, hair." Practice immersing these body parts in order one at a time and say the word "under". Firm wiping of the face, with the chin down as they come out of the water, will help desensitize the face.

Parent Resource
Adaptive Safety Tips and Education

P - Properties of the Water

- Surface Tension - This is like breaking an elastic band at the surface of the water, it also gives a large amount of sensory input.
- Buoyancy - Can help physically impaired swimmers to float & move. Can also cause anxiety due to the lack of gravity and decreased stability of the water.
- Hydrostatic Pressure - Pressure acts like a big calming hug, the deeper you go the more
- pressure there is.

A- Awareness

- Get comfortable with a rescue tube by discussing videos, showing photos, or practicing with a real rescue tube.
- Identify and learn (shallow/ deep). “I stand in the shallow, I swim in the deep.”

R- Routines

- Create a routine of asking to get into any body of water, asking even for bath time.
- Practice and plan transition times.

E- Equipment

- Use equipment when needed (like a life jacket) but be sure to have structured swim time without floats.
- Use equipment as a tool, not a permanent solution.

N- Never Give Up

- Every swimmer has the potential to swim, be creative with time, space, and location.
- Every swimmer has the ability to propel independently with or without floats/assistance.

T- Time, Temperature, and Training

- Time of day and temperature of the pool can make an enormous difference in a swimmer’s comfort level!
- Feel empowered to ask about the training of the staff at your facility. Specifically, ask “how long is the training?” “Can I see an outline of the training?”, “Is there a specific systematic approach that is taught?” and “Does it address all abilities?”

S- Swim Ideas

- Take side - Have your swimmer hold the wall, while repeating the sentence "the side is safe.”
- Underwater - Identify facial parts “mouth, nose, eyes, hair, under.”
- Reducing anxiety - Wearing cotton shirts/ pants/ shoes in the pool to add extra weight and help counteract buoyancy and increase comfort.

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Appendix P

Receipt of manuscript submission will be inserted upon completion.

Appendix Q

Implementing a Sensory-Friendly Adaptive Aquatics Program for Children with Intellectual and/or Developmental Disabilities.

Conference:

INSPIRE 2025

Type Of Proposal:

General

Session Format:

Poster

Primary Speaker:

Michelle Kennedy
Western New England University

Contributing Author(s):

Dorothy Linder
N/A
Erin Wells
Western New England University

ABSTRACT SYNOPSIS:

Caregivers of children with disabilities participated in a sensory-friendly adaptive aquatics program. Pre- & post-surveys were used to understand how effective the program is in improving safety awareness and basic swimming skills.

LEARNING OBJECTIVES:

Understand pool safety as it relates to children with I/DD and their caregivers with the use of session outlines and caregiver education handouts.

Summarize ideas for collaboration with community-based agencies for developing aquatic programming.

ABSTRACT:

Intellectual and developmental disabilities (I/DD) can impact children's intellectual functioning, social participation, and intelligence, as well as their sensory processing and adaptive behaviors, such as social and ADL skills (NICHD, 2021). The physical activity levels of children with I/DD are often below the World Health Organization's recommended daily sixty

minutes (Kreinbucher-Bekerle et al., 2023). Support from aquatic programs can improve many aspects of a child's well-being, such as mentally, physically, and emotionally.

Aquatic therapy can help clients improve strength, balance, range of motion, and cognition. These sessions can also incorporate social interactions, such as turn-taking, to develop emotional regulation skills. With repetition, these therapeutic benefits will become familiar for enhanced carryover to other environments such as in the home, at school, or in the community (Yagow, 2018).

A 5-week swim program designed for caregivers of children with I/DD was implemented in conjunction with the Springfield Jewish Community Center for the researcher's doctoral capstone project. This presentation will address how to work with community-based agencies to develop an adaptive aquatics program. The program was evaluated utilizing stakeholder feedback and qualitative data to determine program efficacy. This holistic program included aquatic therapy for the child alongside their caregiver, as well as caregiver education to increase efficacy.

This program was designed to be implemented in an aquatic setting with an instructor qualified based on the needs of the facility. This presentation will discuss the collaboration between the occupational therapist and the aquatic site, as well as ideas for the weekly aquatic sessions to be implemented. These lesson plans aim to help other adaptive swim instructors to be more effective during the swim program by providing a detailed outline to follow for each class and ideas for caregiver education.

Primary Topic Category:

Children & Youth

Secondary Topic Category:

Sensory Integration & Processing

Level of Material

Level of Material

Introductory level is geared to practitioners with little or no knowledge of the subject matter. Focus is on providing general introductory information.

Level Rational

This presentation is designed to provide basic information on how to develop relationships with community-based agencies and utilize researcher-developed session outlines to begin exploring the development of aquatic programming.

References

Reference 1:

"National Institute of Child Health and Human Development [NICHD]". (2021). About intellectual and developmental disabilities. Retrieved from https://www.nichd.nih.gov/health/topics/idds/conditioninfo

Reference 2:

Kreinbucher-Bekerle, C., Ruf, W., Bartholomeyczik, A., Wieber, F., & Kiselev, N. (2023). Recommending physical activity for people with intellectual disabilities: The relevance of public health guidelines, physical activity behaviour and type of contact. "International Journal of Environmental Research and Public Health", (20)8, 5544-5556. https://doi.org/10.3390/ijerph20085544

Reference 3:

Yagow, S. (2018). "Aquatic therapy for children with special needs". Occupational Therapy & Assistive Technology Services for Children, Families, and Educators. Retrieved from https://www.adaptandlearn.com/post/aquatic-therapy-for-children-with-special-needs

Appendix R

MAOT/RIOTA Annual Conference CONTINUE

Submission ID

32

Title of Presentation (required)

Efficacy of a Sensory-Friendly Adaptive Aquatics Program.

Presenters and Affiliations (required)

Michelle Kennedy Entry-Level Occupational Therapist (Presenting) michellekenn5@gmail.com

Western New England University, Springfield, Massachusetts

Biographical Sketch (100 words max.) Used for introduction at the conference.: Michelle graduated Magna Cum Laude from Western New England University's Doctor of Occupational Therapy program in 2024. She also graduated from WNEU with a Bachelor's degree in Health Studies and minors in Biology and Psychology. Michelle is a certified Lifeguard and Water Safety Instructor. With these certifications, Michelle provided adaptive swim lessons to community members of all ages with physical, intellectual, and developmental disabilities. Michelle's areas of interest include Long-Term Acute Care, Pediatric acute care rehabilitation, Assistive Technology, Aquatic Therapy, Spinal Cord Injuries, and Traumatic Brain Injuries.

Kehillah Director of Special Needs Programming Dorothy Linder OT, MOT OTR, MSEd dorothyjlinder1012@gmail.com

Springfield Jewish Community Center, Longmeadow, Massachusetts

Biographical Sketch (100 words max.) Used for introduction at the conference.: Dorothy Linder, OT, MOT, OTR, MSEd is the Kehillah Director for Special Needs Programming at the Springfield JCC. She has her Master of Early Childhood Education and Master of Occupational Therapy. Dorothy has been active in aquatics programs for over 25 years, including teaching adaptive swim lessons, typical swim lessons, and coaching artistic (synchronized) swimming. She believes all individuals should learn about aquatic safety and feel comfortable in various aquatic environments

Assistant Professor of Occupational Therapy Erin Wells OT, OTD, MSOT, OTR erin.wells@wne.edu

Western New England University, Springfield, Massachusetts

settings, including school-based, outpatient, and specialized school settings.

Presentation Content Area (required)

Other

Presentation Proposal (required)

Intellectual and developmental disabilities (I/DD) can impact children's intellectual functioning, social participation, and intelligence, as well as their sensory processing and adaptive behaviors, such as social and ADL skills (NICHD, 2021). The physical activity levels of children with I/DD are often below the World Health Organization's recommended daily sixty minutes (Kreinbucher-Bekerle et al., 2023). Support from aquatics programs can improve many aspects of a child's well-being, such as mentally, physically, and emotionally.

Aquatic therapy can help clients improve strength, balance, range of motion, and cognition. These sessions can also incorporate social interactions, such as turn-taking, to develop emotional regulation skills. With repetition, these therapeutic benefits will become familiar for enhanced carryover to other environments such as in the home, at school, or in the community (Yagow, n.d).

A 5-week swim program designed for caregivers of children with I/DD was implemented in conjunction with the Springfield Jewish Community Center for the researcher's doctoral capstone project. This presentation will address how to work with community-based agencies to develop an adaptive aquatics program. The program was evaluated utilizing stakeholder feedback and qualitative data to determine program efficacy. This holistic program included aquatic therapy for the child alongside their caregiver, as well as caregiver education to increase efficacy.

This program was designed to be implemented in an aquatic setting with an instructor qualified based on the needs of the facility. This presentation will discuss the collaboration between the occupational therapist and the aquatic site, as well as ideas for the weekly aquatic sessions to be implemented. These lesson plans aim to help other adaptive swim instructors to be more effective during the swim program by providing a detailed outline to follow for each class and ideas for caregiver education.

References (required)

1. Kreinbucher-Bekerle, C., Ruf, W., Bartholomeyczik, A., Wieber, F., & Kiselev, N. (2023). Recommending physical activity for people with intellectual disabilities: The relevance of public health guidelines, physical activity behaviour and type of contact. *International Journal of Environmental Research and Public Health, (20)*8, 5544-5556. https://doi.org/10.3390/ijerph20085544
2. *National Institute of Child Health and Human Development [NICHD]*. (2021). About intellectual and developmental disabilities. Retrieved from https://www.nichd.nih.gov/health/topics/idds/conditioninfo
3. Yagow, S. (n.d). *Aquatic therapy for children with special needs*. Occupational Therapy & Assistive Technology Services for Children, Families, and Educators. Retrieved from https://www.adaptandlearn.com/post/aquatic-therapy-for-children-with-special-needs

caregiver education, were created. Topics addressed include safety, comfort, and sensory strategies. Caregivers completed a pre- and post-survey of their experience. This presentation will discuss how to collaborate with a site and develop an aquatic program using the session outlines and caregiver education created for this researcher's doctoral capstone project.

Learning Objectives (3) LONG TEXT (required)

1. Participants will understand pool safety as it relates to children with I/DD and their caregivers.
2. Participants will able to summarize ideas for collaboration with community-based agencies for developing aquatic programming.
3. Participants will understand the topics covered and utilize session outlines and caregiver education handouts.

Educational Level (required)

Introductory

- [ ] Intermediate
- [ ] Advanced
- [ ] Student

Presentation Type - Primary (required)

Oral Presentation - 30 minutes

Presentation Type - Secondary (required)

Poster Presentation

Presentation Type - Poster Presentation (required)

- (•) Yes
- ( ) No

No

Presenter's Agreement (required)

By checking the box below, I am indicating that as the primary presenter for the 2024 MAOT/RIOTA Annual Conference, I am responsible for and agree to abide by MAOT's policies of professional behavior. Additionally, I understand that I am responsible for ensuring co-presenters are aware of these policies: I will respect ownership of materials developed by others (adherence to copyright laws); provide release of information (consent forms) if using materials that depict clients; disclose in advance proprietary interests in any product, service, or product discussed in presentation; respect all participants and their needs for any approved reasonable accommodation(s); behave in accordance with AOTA's core values and code of ethics; and highlight educational learning objectives at the start of the presentation and permit MAOT's practice to assess each participant's attainment of learning objectives at the end of the presentation.

Presenter approval (required)

I confirm that this submission has been approved by all authors

Presenter will attend (required)

I confirm that at least one author will register in full to attend and present at the Conference on November 1, 2024 in Norwood, MA.

Appendix S

Michelle Kennedy

12/13/2024

Presentation Title: Concurrent 102 - Implementing a Sensory-Friendly Adaptive Aquatics Program for Children with Intellectual and/or Developmental Disabilities.
Type: Concurrent
Time: 9:00 AM - 10:00 AM
Presented During: Concurrent 102
Presented During Time: 9:00 AM - 10:00 AM
Location: Sheraton Grand Seattle, Cirrus Ballroom
Role: Primary Speaker