Swim Instructor Education for Adaptive and Inclusive Swimming

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Swim Instructor Education for Adaptive and Inclusive Swimming

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Doctoral Capstone

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My doctoral capstone experience (DCE) focused on swim instructor education in order to promote adaptive and inclusive swimming. The mentors that I collaborated and worked with throughout the capstone experience were both certified aquatic instructors with extensive experience in instructing swim classes, adaptive classes, and one of my mentors has created and implemented an adaptive swim program in the past. The Accreditation Council for Occupational Therapy Education (ACOTE) focus area that I completed my capstone experience and culminating project was on education. I identified several gaps and areas of need within my site and the population served there that I could contribute to and complete my capstone in. I created several resources for my site that include: a training manual for swim instructor’s regarding adaptive swimming, a PowerPoint presentation created for an in-service training for swim instructors on adaptive and inclusive swimming, a pre-survey assessing the swim instructor’s current knowledge, comfortability, and confidence regarding adaptive and inclusive swim lessons, and a post-survey regarding follow up questions to the in-service presentation and how beneficial the information shared was. The documents and resources that I have created throughout the capstone experience provide ample opportunities to be sustained in the future by my mentors, new swim instructors, current swim instructors, and the site itself.
Introduction

My capstone focused on swim instructor education in order to promote adaptive and inclusive swimming. I completed my DCE at the YMCA of Greater Kalamazoo at the Maple Street Branch in Kalamazoo, MI and the Portage Branch in Portage, MI. The individuals served at this site include a wide variety of ages and abilities. Offered services consist of fitness classes, lessons, exercise equipment, etc. Classes can range from adaptive swim classes for children with varying conditions to the Silver Sneakers exercise program for older adults. The population I focused on for my capstone was pediatrics, specifically in the aquatic setting.

The site mentors that I collaborated and worked with throughout my capstone experience were Kat Cyr-Lopez and Kyle Manty. Kat Cyr-Lopez is the Aquatic Director at the Portage Branch YMCA. She instructs lessons and is the primary instructor for the adaptive swim class. She has a history in the implementation of an adaptive aquatics program and used this experience to incorporate this into the YMCA’s current adaptive aquatic program. Kyle Manty was my second site mentor and she is the Aquatics Coordinator at the Maple Street Branch YMCA. She instructs swim lessons and leads in-services for current lifeguards and instructors. Her background is in psychology and she has brought this, along with her extensive 15+ year experience as a swim instructor, into my capstone to positively influence my progression towards my objectives. I was able to assist in swim lessons with both of my mentors throughout my DCE which provided me with excellent insight into what areas to focus on for my educational resource and in-service for the swim instructors.

The Accreditation Council for Occupational Therapy Education (ACOTE) focus area that I completed my capstone experience on was education. I created two resources throughout my capstone that would benefit the education of current swim instructors regarding adaptive and
inclusive swimming. The educational resource focused on ways to support swimmers with various conditions, different disabilities and ways to promote successful outcomes in swim lessons, lesson adaptations, teaching styles, etc. The in-service presentation covered all information in the educational resource with the addition of hands-on practice and demonstration for different techniques, approaches, and skills. For sustainability, the in-service was recorded for my site to have as an additional resource and requirement when training new swim instructors.
Literature Review

Introduction

Swimming is an essential skill set for children to have for many different reasons. These reasons include water safety and confidence, health and wellness, and social benefits. For children with cognitive and/or physical disabilities, this is equally as important because of the benefits that swimming offers for a given condition. It is essential that swimming lessons are adapted and conducted inclusively in order to support the needs of all attendees of a class, regardless of their functional levels and swim instructors need to have a wide base of knowledge and confidence in order to teach lessons inclusively. The main question when it comes to adaptive and inclusive swimming is how can swim instructors best increase their knowledge and confidence in order to address the needs of children with disabilities in an aquatic environment?

Health and Wellness

As previously stated, swimming has a multitude of benefits for children of varying abilities and backgrounds, especially children with physical and/or cognitive disabilities. Nicole Nickell, OTR/L, discussed the benefits of aquatics, specifically aquatic therapy for children with varying needs. The components of water greatly contribute to the child’s wellness. For example, buoyancy of the water can help decrease weight bearing which will reduce the force of stress placed on joints. Water also can help through its viscosity as it can increase sensory input along with body and spatial awareness while they’re in the pool (Nickell, 2021). Adaptive aquatics can also help children learn motor skills and promote development of physical, social, emotional, cognitive, and leisure skills. Swimming enriches life and gives opportunity to increase morale along with physical appearance. Specifically for children with disabilities, being able to be in the water allows for a sense of freedom of movement and a feeling of success that enhances self-
image and satisfaction (Stan, 2012). A study by Hillier, McIntyre, and Plummer (2010), specifically explored the benefits of aquatics for children with developmental coordination disorder. Their findings showed that there was a 20% increase in performance on the Movement Assessment Battery for Children (M-ABC) and Pictorial Scale of Perceived Competence and Social Acceptance (PSPCSA) for children in the aquatics group. These findings tie into those of Jorgic, et al. (2012) as, for children with spastic cerebral palsy, positive effects were found regarding improvements in walking, running, and jumping as well as overall gross motor functions. While these results are beneficial for the researchers seeking results to support their hypotheses, these results also demonstrate how aquatics can aid in promoting occupational performance through activities of daily living (ADLs) for children with disabilities. Aquatics can also help improve motor function, reduce spasticity, and increase enjoyment for children in cerebral palsy, thus further enhancing participation in ADLs and their health-related quality of life. The Halliwick concept is a common framework used in aquatics for children with disabilities. Its main focus is on improving muscle strength, motor control in the trunks and extremities, circulation, breathing patterns, static and dynamic balance for gait patterns, and postural tone (Lai, et. al., 2015). This is a great framework that is integrated into aquatic lessons as it supports gross motor functioning for a child.

Water Safety, Confidence, and Social Skills

Another component as to why children are involved early on in swimming is due to water safety and developing confidence in and near the water to prevent drowning, injury, etc. Drowning is most common as children are often drawn to water exploration which puts them at a high risk for falling into the pool and drowning. This is especially relevant for children with disabilities. Water safety skills are an excellent way to prevent risks of drowning and promote
confidence in the water. Improvement in swim skills and social skills for children with autism are also supported with aquatic based intervention. Peak performance has been found in 16 hours of intervention with aquatics while a response to treatment occurred in as little as 8 hours into intervention for children with autism who engaged in an aquatic session (Alaniz, et. al., 2020). These significant, and relatively fast, improvements show the importance of aquatics for a child with autism and how it can support water safety which will ultimately prevent the risk of drowning.

Socialization is another reason as to why children are involved early on with swimming. Socialization is essential for children as it helps them advance their developmental milestones. These milestones can include, but are not limited to, language, social cues, understanding of others feelings and needs, and interacting with peers. For children with disabilities, this is just as important and can also promote inclusivity. There can also be psychosocial effects regarding participation in an inclusive community based aquatics program for children with and without disabilities. Disabilities for children involved in aquatics can vary and can include spina bifida, attention deficit hyperactive disorder, cerebral palsy, autism, Noonan syndrome, and epilepsy. Typical aquatic sessions can consist of aerobic exercise, strengthening activities, and time for socialization among others in the class. These opportunities for exercise along with socialization can promote functioning in daily occupations, especially in the school setting, with helping a child with a disability develop social skills and feel comfortable being integrated into their environment (Oriel, et. al., 2012).

Why does inclusive swimming and instructor training matter?

While inclusive swimming has many benefits for a child with disabilities, instructors need to be competent and well prepared in order to foster an inclusive environment and to
address the specific needs of all children in an aquatics class. A study by Jull (2012) looked into the impact of swim training using a workshop and in-pool coaching on the instructional skill acquisition of swim instructors. Results of this study were further explored by the effects of the training on children with autism. All children sampled for the study learned new skills and responded well to instructors. Parent of the children in the study indicated that they were very pleased with their child’s participation and would continue to enroll their children in ongoing swim lessons. Instructors reported feeling more confident from the training and that it was beneficial. This study supports why instructor training is essential when it comes to teaching inclusive swim lessons. Oftentimes, instructors know how to teach lessons but are unsure of how to teach a child with a disability while still maintaining an inclusive environment. By addressing this through education and consultation, instructors can not only improve their knowledge and approach to lessons, but results for children in the classes can improve as well. This will also increase the amount of children who want to participate in swim lessons without being segregated from other students because of their disability. With more instructors being prepared, they can be mindful of considerations for children with and without disabilities. Techniques should always facilitate a safe, successful, inclusive aquatic learning environment for all children (Conatser, James, and Karabulut, 2018).

Conclusion

Swimming is an essential skill set for children to have and contains many benefits. Swim programs should offer inclusive lessons in order to foster engagement and involvement for children with disabilities. It is pertinent that more resources and courses to be readily available for instructors in order to promote knowledge and confidence. For many swim programs, instructors may not have any experience working with children with disabilities let alone
understand the disability itself. By increasing the instructors knowledge on the condition, symptoms, contraindication, benefits of aquatics, and how to best provide lessons, it can help them feel competent and comfortable in delivering excellent swim services for all children in attendance and during adaptive swim lessons.
Needs Assessment

When I completed a needs assessment at my capstone site, I spoke to several different leaders, directors, employees, etc. Through these discussions, I was able to identify several gaps and areas of need within the site and population that I would be able to hone in on and complete my capstone in. My initial idea was to focus on development of the current adaptive swim program, however, after further discussion with my site mentors and other individuals at my site, a significant need was indicated for furthering the education of swim instructors as there is a limited number of current instructors who are equipped and feel comfortable teaching adaptive lessons and they do not have any resources regarding adaptive swim lessons to share with new instructors during training. Additionally, neither of my mentors are occupational therapists (OT) and my site does not have an OT or has ever had an OT student that they have worked with in the aquatic setting. I was able to bring in my knowledge of OT to my site and demonstrate OTs unique scope of practice through my interactions with the instructors at my site, children in swim lessons, and parents.

I identified the area of need for greater education for swim instructors regarding adaptive and inclusive swim lessons. As a result, I decided to create an educational resource that new swim instructors could use as part of their training as well as conducting an in-service for the current swim instructors. The purpose of this resource and the in-service were to provide knowledge on how to promote inclusive swimming and provide adaptive lessons for children with varying needs and conditions. I recognized that an in-service would not be enough for sustainability which is why I created an educational resource that can be used for new instructors. The educational resource I created included why adaptive and inclusive swimming
are important, lesson adaptations, different conditions and how to best support the individual, and so forth.
Objectives Achieved during the Capstone Experience

Throughout my capstone, I achieved four objectives that I addressed through the completion of my DCE. The first objective that I created was to assess the current YMCA adaptive swim program and areas for improvement through hands on involvement and collaboration with program leaders and instructors. I advanced my knowledge in this area by assisting in both general and adaptive swim lessons in the morning and evening at my site’s two locations four days a week. Morning classes consisted of younger children, ranging from parent-child and preschool classes. Evening classes consisted of mainly older children ranging from preschool to school-aged children. Each class was typically thirty to forty-five minutes. The adaptive swim class included individuals of various ages and conditions and was one day a week and ran for forty-five minutes. The experience I gained from engagement and collaboration with my mentors in swim lessons contributed to the information I researched and the educational resource that I created for the swim instructors at my site.

The second objective that I created was to survey current swim instructors regarding their experience/comfort level for inclusivity and teaching adaptive aquatics at the YMCA. The intent for this was to assess the swim instructor’s current comfort and confidence levels in this area and what topics, conditions, etc. to focus on for my educational resource and in-service. The age of the instructors range from fifteen to late forties and so experiences in teaching aquatics varied greatly. Fourteen out of nineteen instructors took the survey and results varied, but most were lower on the scale in terms of their confidence and comfortability in instructing adaptive swim lessons. Another aspect of this survey was to assess the swim instructors post in-service and after viewing the resource I created in order to determine whether or not the instructors increased in
their confidence and comfortability and found the material I researched beneficial to their learning.

The third objective was to create an educational resource manual for the YMCA swim instructors regarding how to conduct adaptive and inclusive swim lessons involving children with a variety of physical and cognitive disabilities. A majority of my capstone was spent researching topics for this manual. Additionally, I was able to connect with certified occupational therapists around the country who specialize in aquatic therapy and adaptive aquatics. They were able to share about their adaptive program and give me further guidance on topics to focus on, what conditions to explore, and what they wished they knew prior to starting adaptive lessons. Topics in the manual pertained to: what is occupational therapy, the importance of inclusive swimming, occupational therapy and their role in adaptive sports, lack of instructor training and confidence, benefits of swimming, different types of disabilities, common conditions, lesson adaptations, adaptive equipment, the “Just Right Challenge”, challenges to instructing swim lessons, developing swimmer’s skills, improving your skills, teaching styles, and parent education. I created this manual in a virtual format, but also provided my site with an option to provide it as a physical copy if preferred. Information in the manual was broken down and further explained, with ample opportunity for questions, during the swim instructor in-service. The intention behind creating a manual was due to a need as indicated by my mentors. The identified need was for improvements and resources in training for adaptive swimming and that this was lacking. The creation of this manual will be incorporated into new swim instructor training and will also promote sustainability at the site. Additionally, while I held an in-service at my site, it is not feasible for me to do this monthly, so the manual will supplement information shared at the in-service.
The fourth objective was to conduct an in-service training for current YMCA swim instructors on how to provide adaptive and inclusive swimming lessons in order to increase competency and comfortability. Information covered in the in-service was also included in the educational manual titled *Swim Instructor’s Guide to Inclusive and Adaptive Swimming* which all swim instructors were provided with, either virtually or physically. The swim instructors were provided with a post-survey in order to assess their confidence and comfort levels after the in-service and viewing the educational resource. There was opportunity for further questions and resources were provided as needed in order to help further learning.

Aside from being in the pool assisting in lessons, I primarily worked remote 5 days a week. I remained in constant communication with my mentors and had informal meetings weekly in order to assess progress towards objectives and ask any questions as needed. I made sure to send emails to both mentors including my progress with my survey, presentation for the in-service, and creation of my educational resource. They approved outlines for each of these resources prior to me creating each one and sending them to the swim instructors. Additionally, my mentors provided me with resources that would be beneficial to me and helped connect me with others at my site who could assist in progressing my capstone and provide suggestions for additional topics to research.

In addition to all the planned experience I had, I also had several unplanned, however extremely beneficial experiences, that enhanced my learning in this area, specifically within OT’s scope of practice. One was providing parent education to a parent whose child was experiencing increased anxiety in the water due to a aversive past experience. I talked with the parent about how to talk with their child in order to help process this event and how they could help transition the child from home to lessons more easily. I also worked directly with this child
in the water and utilized therapeutic use of self in order to meet them where they were at, validate their feelings, address their needs, and ultimately provide them with a just right challenge to help them feel more comfortable in the water. At the end of the eight week session, the child was able to swim with the use of flotation and fully submerge themselves underwater without any negative or fearful response. Another example of parent education was explanation of sensory sensitivities in the aquatic environment. Many children in the class struggled with submerging their head underwater and laying on their back in the water and would often cry or act out when this occurred. I explained to the parents that this type of response is normal and that it is due to the new sensation of being in a pool and having water enter the eyes, nose, mouth, and ears when submerged or laying on the back. I provided parents with different ways to address this such as easing a child into a skill (i.e sticking their chin in the water first or “kissing” the water before putting their mouth in), laying their child’s head on the shoulder and gradually leaning them back in the water, and so forth. Through these adaptations, each child could develop the required skills at their own pace while also increasing tolerance to different sensory stimuli in the environment. Through these experiences, I was also able to advocate for the field of OT and utilize evidence based practice in order to support my recommendations.
Implications of Capstone

The resources that I created throughout my capstone experience, provide opportunities to be utilized and sustained in the future by my mentor(s), swim instructors, and site. The post-survey of my in-service indicated that swim instructors found the information presented helpful and beneficial to their learning as it helped increase their comfort and confidence in adaptive and inclusive swim lessons. My mentors and I have discussed how my educational resource can be a new requirement for new swim instructor training as well as viewing a pre-recorded presentation of my in-service. All resources I created have been shared with my mentors and my site with full permission to use in order to advance knowledge of their aquatic employees. All resources and surveys created during my capstone experience can be found in the Appendices for reference.
Conclusion

Results

Throughout my capstone experience, I produced several resources in order to meet the needs of my site and better prepare new swim instructors for providing adaptive and inclusive swim classes. I created an educational resource that can be incorporated into the new instructor training titled *Swim Instructor’s Guide to Adaptive and Inclusive Swimming*. I also hosted an in-service at my site where I presented the information in a PowerPoint titled *Swim Instructor Education for Adaptive and Inclusive Swimming* where I shared in the resource and provided hands on demonstrations as needed in order to further explain techniques, concepts, etc. I shared both resources with my site and made them both available for my mentors and swim instructors both virtually and physically.

The capstone experience provided me with opportunity and knowledge that enhanced skills related to the specialized area of education. I learned how valuable OT’s scope of practice is and how to incorporate it into the aquatic setting. I also learned how important and beneficial evidence based practice is when communicating with my site mentors or parents regarding different techniques or sharing resources. Through this experience, I advanced an abundance of professional skills including leadership, collaboration, efficiency, interdisciplinary communication, and advocacy.

Future Work with Site and Mentor

For future work with this site and mentor(s) during a capstone experience, I would recommend education on aquatics and the site’s general swim lesson curriculum. I would also recommend research on various adaptive swim programs and aquatic adaptive equipment. A passion for aquatics and education is recommended as hands on involvement in swim lessons
and time in the pool had a significant positive impact on my capstone experience and completion of my project.
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SWIM INSTRUCTOR EDUCATION FOR ADAPTIVE AND INCLUSIVE SWIMMING

SWIM INSTRUCTOR’S GUIDE TO ADAPTIVE AND INCLUSIVE SWIMMING

Anna Griesbach
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AUTHOR’S NOTES

Hello, my name is Anna Griesbach and I am a Doctor of Occupational Therapy student at Western Michigan University. I created this resource to fulfill my capstone project for my program. Aquatics has always been a passion of mine. I was a competitive swimmer for 11 years and in college. I have also spent time as a swim instructor and Special Olympics assistant swim coach. Swimming has given me so much and has helped shape me into the person I am today. Through this sport, I created lifelong relationships, found confidence in myself, learned how to work hard towards goals, and developed work and life skills.

When deciding what topic to explore for my capstone, I knew from the start that I wanted to merge my two passions of swimming and occupational therapy together. I believe everyone should learn how to swim and be able to enjoy this sport if they desire to. I reviewed literature and various studies regarding adaptive aquatics and found this area to be lacking. I started thinking about how, if there are limited resources out there, how are swim instructors able to be properly trained in providing lessons for children with disabilities and promoting an inclusive environment? I wanted to bring my knowledge from an OT standpoint and merge it with education to create something that could benefit swim instructors to help them feel comfortable and confident in providing lessons for and interacting with children with disabilities. From what I’ve learned, I’m a firm believer that an occupational therapy approach can promote positive outcomes when teaching swim lessons to children and hope that the information shared in this book helps swim instructors feel more prepared and competent in this area.
WHAT IS OT?

Occupational Therapy (OT) helps get individuals back to doing what they want, need, and love to do.

‘Occupation’ is defined as an activity that is purposeful or meaningful to an individual. This can be anything that an individual uses to occupy their time such as work, leisure, daily routine, sports, play, etc.
OT AND ADAPTIVE SPORTS

Adaptive Sports are competitive or recreational sports for individuals with disabilities. They often run parallel to typical sport activities; however, they allow modifications necessary for people with disabilities to participate. Examples of adaptive sports include, but are not limited to, cycling, basketball, tennis, lacrosse, swimming, etc. Adaptive sports can provide typical and atypical individuals with opportunities for social interaction, increased wellness, and normalization of disabilities. For aquatics, lessons do not only focus on water safety and skill development. Lessons can also be used as a form of trying a new activity, interacting with peers, and learning important life skills.

Occupational therapy’s role in adaptive sports is utilizing activity analysis to a fast paced, challenging variety of activities in order to better fit the goals of the athletes. Activity analysis is defined as, “a process by which properties of a given activity are identified for their ability to elicit targeted responses or enable a person to successfully accomplish the activity.” OT also brings in knowledge regarding adaptive equipment and appropriate use which can be beneficial to some athletes. Additionally, OT can provide education to coaches, instructors, etc. through various approaches, techniques, and skills to support their athletes and promote successful outcomes.
WHY INCLUSIVE SWIMMING? WHAT’S THE IMPORTANCE?

Research has found that adaptive sports programs can empower individuals to try new sports, build friendships, identify new possibilities, and create a bond with a group to find identity. For children with disabilities, being in the water allows for a freedom of movement and a feeling of success that enhances self-image and satisfaction. Socialization is another reason as to why children are involved early on with swimming. Socialization is essential for children as it helps them advance their developmental milestones. These milestones can include, but are not limited to, language, social cues, understanding of others feelings and needs, and interacting with peers. For children with disabilities, this is just as important and can also promote inclusivity. There can also be psychosocial effects regarding participation in an inclusive community-based aquatics program for children with and without disabilities. These opportunities for exercise along with socialization can promote functioning in daily occupations, especially in the school setting, with helping a child with a disability develop social skills and feel comfortable being integrated into their environment. Additionally, inclusiveness in sports can help decrease disability-based exclusion in children without disabilities and can help promote positive moral judgements and emotion through socialization and engagement with children with disabilities.
LACK OF INSTRUCTOR CONFIDENCE AND TRAINING

While inclusive swimming has many benefits for a child with disabilities, instructors need to be competent and well prepared in order to foster an inclusive environment and to address the specific needs of all children in an aquatics class. While the American Red Cross includes a chapter in their Water Safety Instructors Manual about “teaching people who move, learn, communicate or behave differently,” it provides limited information on the adaptation process of an aquatics curriculum to meet the unique needs of students with significant disabilities. Oftentimes, instructors know how to teach lessons but are unsure of how to teach a child with a disability while still maintaining an inclusive environment. By addressing this through education and consultation, instructors can not only improve their knowledge and approach to lessons, but results for children in the classes can improve as well. This will also increase the amount of children who want to participate in swim lessons without being segregated from other students because of their disability. Additionally, lack of instructor training and experience may lead to unfavorable attitudes towards working with swimmers with disabilities in general swim programs. With more instructors being prepared, they can be mindful of considerations for children with and without disabilities. Techniques should always facilitate a safe, successful, inclusive aquatic learning environment for all children.
BENEFITS OF SWIMMING

Swimming has been shown to have physiological, psychological, and behavioral improvements for individuals. It is a low-impact activity that not only works the body but can also enhances the body's movement on both sides of the body.

- Increase bilateral coordination by crossing midline and coordination movement on both sides of the body
- Strengthen the cardiovascular system
- Promote independence
- Increase heart rate without stress on the body
- Build endurance and strength
- Improve flexibility in muscles and joints
- Build self-confidence and
- Increase self-esteem
- Increase socialization
- Improve mood
- Provide proprioceptive and vestibular input
- Enhance normal muscle tone
- Decrease stress levels
- Decrease stress on joints
- Increase coordination
- Increase sensory input
- Increase body and spatial awareness
- Build relationships
- Reeducate paralyzed muscles
- Positively impact physical and mental wellbeing
- Increase feelings of inclusivity
- Increased quality of life (QOL)
- Increased overall functioning

Improvements and skills that are developed in the water can be transferred into other occupations or activities that can also help achieve land-based goals and wellness.
DIFFERENT DISABILITIES:

A disability is any condition of the body or mind (impairment) that makes it more difficult for the individual with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions).
A wide range of congenital and acquired conditions and impairments that impact an individual’s ability to engage in daily occupations and activities. Some conditions are progressive, but others can improve with treatment. Mobility, speech, cognition, vision, and hearing can be impacted.
Impairments in how the brain processes information and stimuli in the environment. An individual with this type of disability will have more difficulty than average completing mental tasks. Attention, memory, problem-solving, reading, verbal, and language comprehension, and visual comprehension can also be impacted. Examples include dementia, traumatic brain injury, down syndrome, and autism.
Disruptive behaviors that impact functioning at home, school, work, or in social settings. Individuals often demonstrate aggressive, angry or defiant behaviors that are uncommon for the individual’s age and go against what’s appropriate in society’s standards. Common examples include oppositional defiant disorder (ODD), conduct disorder (CD), inattention, impulsivity, hyperactivity, and inattention\textsuperscript{18, 19}.
Dysregulation of emotions or improper funneling of emotions. They can also be categorized as internalizing (such as depression and anxiety) or externalizing (such as ADHD and conduct disorder). Other examples include but are not limited to generalized anxiety disorder, social anxiety, separation anxiety, bipolar disorder, specific phobias, obsessive-compulsive disorder (OCD), and depression.\(^{20}\)
DEVELOPMENTAL

A group of conditions due to an impairment in physical, learning, language, or behavior that start during the developmental period and can impact day to day functioning²¹.
A wide range of mental health conditions and involve disorders that affect mood, thinking, emotional regulation, and behavior. Type, severity, and extent vary from person to person and can impact daily functioning at school, work, life, and/or relationships\textsuperscript{22}. Examples can include depression, anxiety, bipolar disorder, post-traumatic stress disorder (PTSD), schizophrenia, and eating disorders\textsuperscript{23}. 

MENTAL HEALTH

SWIM INSTRUCTOR EDUCATION FOR ADAPTIVE AND INCLUSIVE SWIMMING
COMMON CONDITIONS

- Autism

- Attention Deficit Hyperactivity Disorder (ADHD)

- Sensory Processing Disorder (SPD)

- Cerebral Palsy

- Limb Loss and Limb Difference

- Down Syndrome
AUTISM SPECTRUM DISORDER (ASD)

Impairment in social communication and interactions, and includes restricted or repetitive behavior, interests, or activities that occur in early childhood resulting in significant impairment in social and occupational engagement.\(^\text{24}\)

- Considerations
  - Short verbal cues vs long drawn-out explanations
  - Hand over hand movements are a good way to slow down an impulsive child and let them know expectations
  - Visual cues if opposed to physical touch to guide to the pool (incentive)
  - Positive social feedback\(^\text{25}\)
  - Physical prompting and guidance\(^\text{25}\)
  - Modeling the skill/technique\(^\text{25}\)
  - Decreasing prompting as swimmer progresses to promote independence and skill mastery\(^\text{26}\)

DOWN SYNDROME

A condition in which an individual is born with an extra copy of chromosome 21. This additional chromosome changes how the individual’s body and brain develop as a baby which results in both mental and physical challenges. Down syndrome is also known as Trisomy 21.\(^\text{36}\)

- Considerations
  - Short verbal cues vs long drawn-out explanations
  - Exploring one skill/technique at a time\(^\text{37}\)
  - Motor, physical, and mental particularities can impact the rate of learning\(^\text{37}\)
ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

Decreased attention, hyperactivity, and impulsivity as well as difficulty in school, home, and other community environments. The lack of attention, hyperactivity, and impulsivity may cause children and adolescents to have difficulty in social settings.

- Considerations
  - Establish a routine and write it on a whiteboard prior to lessons so the swimmer is able to know what to expect
  - Manage distractions
  - Limit choices during lessons to avoid overstimulation
  - Be clear and specific with directions
  - Use goal-directed activities and rewards for incentives

SENSORY PROCESSING DISORDER (SPD)

A neurological condition that affects the way the brain processes information from the senses. This can include increased or decreased sensitivity to sensory input such as light, sound, and touch. An individual may avoid or seek out specific sensory stimulation as a result. Aversions can include loud environments, bright lights, or strong smells. They may seek out specific sensory input that can increase their senses for additional stimulation such as spinning, jumping, crashing, putting things in their mouth, chewing, etc.

- Considerations
  - Regarding aquatics, there are significant sources of sensory input. For example, auditory stimulation can include muted sound due to being submerged underwater. Water pressure and temperature can provide a source of a constant calming sensation or can create sensory avoidant behavior due to factors such as a cooler water temperature, strong chlorine smells, or discomfort with water in the ears.
CEREBRAL PALSY (CP)

A group of disorders that affect’s an individual’s ability to move and maintain balance and posture. Cerebral means having to do with the brain and palsy means weakness or problems with using the muscles. It is the most common motor disability in childhood. The cause of CP is abnormal brain development or damage to the developing brain that affects the individual’s ability to control their muscles. The child will have difficulty integrating information that the brain needs to correctly plan and direct movements in the trunk and extremities that are used in everyday interactions with the environment. The muscles are activated in incoordinate and inefficient ways and are unable to work together to create smooth, effective motion. Symptoms include abnormal muscle tone affecting posture, postural control and movement, and hand and upper extremity functioning.

- Four main types:
  - Spastic
    - Increased muscle tone making the muscles stiff resulting in awkward movements.
    - Characterized by hypertonicity, retained primitive reflexes in affected areas of the body, and slow, restricted movement. Spasticity increases during physical activities and emotional excitement.
  - Types:
    - Spastic diplegia- muscle stiffness mainly in the legs resulting in difficulty walking
    - Spastic hemiplegia- only one side of the individual’s body is affected
    - Spastic quadriplegia- the most severe form of CP affecting all four limbs, the trunk, and the face. Individuals usually cannot walk and often have other developmental disabilities such as intellectual disability, seizures, or difficulty with vision, hearing, or speech.
- Dyskinetic
  - Difficulty controlling the movement of hands, arms, feet, and legs, making it difficult to sit and walk. Movements can be slow and writhing or rapid and jerky.

- Ataxic
  - Difficulty with balance and coordination. Gait may be unsteady, and the individual may have a hard time with quick movements or movements requiring a lot of control (i.e. writing)

- Mixed
  - More than one type of CP. The most common type of mixed CP is spastic-dyskinetic.

Considerations
- Movements are completed more easily in the pool vs on land. To promote the carryover of skills, focus on the strengthening of the muscles in order to promote improved mobility on land\(^{31}\). The resistive forces of buoyancy and drag permit a variety of aerobic and strengthening activities that can be easily modified to accommodate the wide range of motor abilities of swimmers with CP\(^{32}\). Additionally, a benefit of aquatics is that it can help support gross motor functioning\(^{32}\).
LIMB LOSS AND LIMB DIFFERENCE

Limb loss is the surgical removal of an extremity and can be caused by vascular disease, trauma, or cancer. Limb difference is when an individual is born without an upper and/or lower limb (33).

- Considerations (34)
  - A swimmer with a unilateral amputation may find that the body tends to pull or drift to one side. Swimming within the lanes of a pool or using a specific markers will help in keeping on a straight course.
  - Bilateral amputation: A swimmer is encouraged to touch the wall with one hand and then push off with one or both hands.
  - A prosthesis is not required but may be used. A prosthesis can provide balance in the water through even weight distribution. It can add power to swimming strokes and provide easier ease of access into and out of the pool.
  - Many swimmers with limb difference or loss will use compensatory strategies in order to carry out specific skills as technique will vary in order to generate increased swimming speed (35). These strategies may include greater use of the upper or lower extremities to compensate for a missing limb and provide greater stability and speed in the water.
  - Energy conservation techniques (frequent rest breaks)
ASSISTIVE AND ADAPTIVE EQUIPMENT

Any piece of equipment can be used and/or adapted to help meet the swimmer’s needs, promote performance, support engagement, be used as an incentive, etc. Examples of commonly used equipment includes:

- **Ramp**
  - If there is a ramp at the facility, it can be used to slowly ease the swimmer into the water. This can be an easier alternative to a chair lift.

- **Kickboards**
  - Kickboards can be used to help keep the swimmer’s head above water and can work on core strength along with kicking and body movement. Swimmers can hold them at the bottom or the top for greater support.

- **Noodles**
  - Noodles can be used for stability and keeping a swimmer afloat. They can be placed under the swimmer’s arms, across their chest, under the hips, or can be used as a kickboard.

- **Fins**
  - Fins can be used to help propel the swimmer down the pool and can promote appropriate form. Fins may be beneficial to use at the start of learning skills for speed and power and can also increase the swimmer’s confidence. For swimmers with limb loss or limb difference, prosthetic legs are available that are made into fins.

- **Barbells**
  - Barbells can be used as an alternative to a kickboard or noodle and can provide greater support if placed under the arms. They can also be used for kicking and stroke development.

- **Toys**
  - These can include rings, balls, dive toys, etc. and can be used as an incentive or reward. Some swimmers may benefit from bringing in their own preferred toy. Always make sure that you ensure that the toy is age appropriate for the swimmer!
LESSON ADAPTATIONS

“An adaptation is one’s adaptive response to meet an occupational challenge,
when ordinary response is insufficient to master the activity”

Adaptations:
- Adjustments to teaching style
- Communication skills
- Visual vs verbal cueing (utilizing a hands-on approach)
- Incorporating adaptive equipment

Remember:
- Set rules, goals, and expectations at the start of each lesson
- Safety first! Provide pool safety rules (no running, pushing pulling, etc) and do not forget to teach the swimmers the safe way to enter and exit a pool.
- Break down the skill/activity into smaller steps (keep in mind some swimmers may require further breakdown of skills than others)
- Grade up or down you lesson (if it is too easy for your swimmer, provide them with a challenge. If it is too difficult, explain or break down the skill or provide a modified version of the skill until they are ready to progress)
- Use toys as motivation. Swimmers can bring their own or utilize those at the facility as an incentive or way to help them stay engaged. Toys can also be incorporated into learning specific skills (i.e going under water, paddling, kicking). Toys can also be used at the end of a successful lesson as a reward.
- Use visual and verbal reminders frequently! These can be used to help the swimmers remember swimming skills and gain confidence in their abilities.
- Repetition is key! Some swimmers may get a skill right away, but it is still good to practice! For other swimmer’s, a skill may be more difficult for them to grasp and so repetition can help reinforce learning!
“JUST RIGHT CHALLENGE”

Many swimmers will benefit from what is called the “just right challenge”. If a lesson is too easy, then your swimmer may lose interest. If the lesson is too hard, the swimmer may give up and feel frustrated. The “just right challenge” is when the individual is provided with just the right level of complexity. This includes the activity that matches the individual’s developmental skills and interests, provides a reasonable challenge to current performance level, engages and motivates the individual, and can be mastered with the individual’s focused effort. During lessons, this can look like breaking down or modifying a skill as needed in order to find a happy medium between a skill or technique being too easy or too difficult. As a swimmer develops their skills, the just right challenge will continue to evolve, and you will have to make modifications as needed for each lesson. The benefits of using this are that the swimmer can feel empowered and confident in their abilities and can also know that challenges are okay. They will learn how to process new emotions from these challenges and how to handle them which will promote self-efficacy and self-determination. Immediate success is not guaranteed, but hopefully, your swimmers will feel encouraged and empowered to continue working towards their goals in order to continue to progress forward.
CHALLENGES TO INSTRUCTING SWIM LESSONS

Sensory sensitivities can greatly impact a swimmer’s engagement and are fairly common. Sensory sensitivity can be related to tactile (touch), verbal, hearing, taste, smell, and visual factors that may affect their participation. Examples of these in the aquatic setting are:

- Wearing a swim cap
- Wearing goggles
- Wearing a specific bathing suit
- Putting their head or mouth in the water
- Floating on their back
- Smell of chlorine
- Water temperature
- Touch from others
- Swimming in the deep end
- Loud swimming environment
Fear of the water is another very common challenge for swimmers. Each individual is at a different swimming stage, and some may not want to learn to swim or be in lessons. Due to these difficulties, engagement can be limited, and the swimmer may have a hard time remaining for the entire lesson. It’s important to try and see things from your swimmer’s perspective and make the effort to build a trusting relationship with your swimmer and their guardian, if present. Make sure to encourage your swimmer to instill confidence and ability to successfully accomplish specific skills. You may have to get creative or improvise in order to help meet the swimmer where they’re at to meet their goals. If appropriate, it may be beneficial for the guardian to be present on the pool deck or in the water with the swimmer initially to help increase comfortability.

Another challenge is the pool environment. Outdoor pools tend to have increased distractions such as noise, light, temperature, etc. that can impact swimmers who have difficulty with attention. If able, try to alert others at the pool that lessons are taking place in order to eliminate people coming in and out of the pool area and creating distractions for a swimmer. Pool temperature is another factor as a cold pool can create an aversive reaction from a swimmer. If able, you may have to adjust pool temperature but, if this is not possible, try to ease the swimmer into the pool starting with the feet and legs and slowly moving up the body. You could create a game in which you and the swimmer take turns getting each other wet by splashing each other. A strong odor of chlorine and/or different levels of chlorine (typical vs salt-water pools) may also impact a swimmer’s sensitivity.
DEVELOPING SWIMMER’S SKILLS

Swim lessons do not only benefit physical abilities and increase water safety. Additional skills swimmers gain from participation in swim lessons include:

Social Skills\textsuperscript{6, 26}
- Improvements in social skills
- Social acceptance
- Promote language
- Listening
- Communication
- Attention and concentration
- Self-regulation

Life Skills\textsuperscript{6, 26, 38}
- Socialization
- Inclusion
- Confidence
- Build and maintain relationships
- Identity formation
- Emotional growth
- Intellectual growth
- Improve motor skills
- Promote independence
- Positive behavior
- Self-concept
- Self-discipline
- Self-efficacy
- Progress towards life goals
- Improve adaptive behaviors

Skill development takes time, and each swimmer learns at their own pace. Get to know your swimmer’s and learn what works best for them and provide feedback and positive reinforcement with each small or big step forward. Some lessons will be better than others and this is okay. Remind swimmers and parents/guardians that some skills and techniques may take longer than others to master.

Get creative with your lessons and know that you may have to make up or modify lessons on the spot. This can include your lesson plan, how you provide directions, cueing, pace, etc. When teaching young swimmers, more oftentimes than not, Plan A will not always work so have a few back up plans and ideas ready to go. Make concepts fun and relatable to your swimmers in order to help them understand the skill better. If something isn’t working, use critical thinking skills and take a step back to think about the reason why and what can be done. Sometimes, you may need to break up a skill in order to help with understanding. Once the swimmer has mastered part of a skill, continue to build off it until they are ready to put everything together. Remember that it is better for a child to feel comfortable and confident with a skill and that there is no rush.
IMPROVING YOUR SKILLS

Communication Skills

- Communicate expectations and rules at the start of each lesson to swimmers (and their guardians when appropriate)
- Communicate with the swimmer’s guardian for more information on the swimmer along with their condition to help get an idea of what to expect, however, never make assumptions!
- Communicate what to expect and goals to swimmers and their guardians
- Communicate with other coworkers about your swimmers and any individual’s specific needs.
- Communicate with and get to know your swimmer and learn their interests, goals, abilities, etc. never assume a swimmer knows a skill or what they’re capable of.
- Communicate with your swimmer and learn their pace, the way they learn best, and what teaching style they respond to best.

Work Skills

- Leadership skills
- Communication
- Time management
- Interdisciplinary communication
- Parent collaboration and education
- Adaptability
- Professionalism
- Confidence
- Flexibility
- Critical thinking

Cues

Depending on the swimmer’s condition, they may benefit from different forms of cueing. Different forms of cueing include:

- **Verbal**
  - Break down directions and try and avoid long, drawn out explanations when possible (i.e. one-step commands)
  - Use words and phrases that your swimmer understands (i.e. “1, 2, 3, Go!”)
  - Articulate directions clearly and at an appropriate volume
  - Lead with a strengths-based approach and provide consistent positive feedback

- **Visual**
  - Write the lesson/expectations out on a whiteboard so the swimmer knows what to expect next
  - Demonstrate a skill that you are trying to teach using either yourself or another willing swimmer
  - Use hand gestures for common directions, commands, etc. (i.e. go, stop, eyes on me, thumbs up)

- **Tactile**
  - Hands on assistance can help learn new skills and develop a swimmer’s comfortability
  - Hand over hand assistance to demonstrate a skill to a swimmer
  - Tapping on a specific body part can help remind the swimmer of the skill (i.e. legs to kick, belly to push up to the surface during a back float)
  - Be careful with using tactile cueing. Some swimmers may respond adversely to touch and, if this is the case, tactile cueing should be avoided.

Learn through observing other instructors. It has been found that observational practice can be just as effective for learning a physical skill as physical practice, and that when observational and physical practice are combined, their effectiveness is even stronger. You can also ask another instructor to observe your lesson and provide feedback regarding areas for improvement. It’s never too late to learn something new!
TEACHING STYLES

Authoritative
- Lecture style
- Instructor-centered approach
- Students are expected to pay attention to the information, take notes, and ask questions
- Can be difficult for children because there is little to no interaction and can become easily bored
- Beneficial for older students

Demonstrative
- Coach style
- Incorporates the authoritative style with activities to support learning and engagement
- The instructor shows rather than tells supporting information with visuals, demonstrations, and presentations
- Can use a variety of formats

Delegator
- Group style
- Most beneficial for lessons as group learning is emphasized
- Instructor is an active observer and encourages students to work together to accomplish goals

Facilitator
- Activity style
- Focuses on promoting self-learning and helping students develop their skills through learning and thinking
- Encourages students to ask questions and use exploration to find solutions

Hybrid
- Blended style where elements of multiple styles are integrated in order to blend the instructor and student's needs
- Uses the instructor's personality and interests alongside the student's needs
- Very inclusive. Allows the instructor to tailor to their student's needs
- Can be difficult to maintain for a large class as the instructor is trying to focus on each student's individual needs which can dilute overall learning as a whole
PARENT EDUCATION

Parent/guardian education is an essential component of working with children with disabilities. You must become comfortable communicating with a swimmer’s guardian and providing updates regarding a swimmer’s performance, needs, progress, etc. It also important to encourage carryover whether swimming at home, another facility, lake, etc. Repeated practice strengthens new, more adaptive responses and weakens old, maladaptive ones. Much like when learning to speak a new language, immersing oneself in a new language outside of a classroom has a bigger contribution than just taking a class\textsuperscript{43}. Communicate with guardians about skills taught during a class and ways to support their swimmer’s performance at home. If necessary, a guardian may need to sit in on a class to observe the skills taught in order to fully understand how to support and encourage their swimmer. When communicating with families it’s important to\textsuperscript{34}:

- Be aware of communication needs and/or preferences of swimmers and their families
- Share resources (i.e methods to use at home, equipment, additional information)
REFERENCES
SWIM INSTRUCTOR EDUCATION FOR INCLUSIVE AND ADAPTIVE SWIMMING

Anna Griesbach

OVERVIEW

About Me
What is OT?
OT and Adaptive Sports
Why Inclusive Swimming? What’s the Importance?
Lack of Instructor Training and Confidence
Benefits of Swimming
Different Disabilities
Common Conditions
Assistive and Adaptive Equipment
Lesson Adaptations
“Just Right” Challenge
Challenges to Instructing Swim Lessons
Developing Swimmer’s Skills
Improving Your Skills
Teaching Styles
Parent Education
SWIM INSTRUCTOR EDUCATION FOR ADAPTIVE AND INCLUSIVE SWIMMING

Education
Bowling Green State University
- Bachelor's of Science in Human Development and Family Studies
Western Michigan University
- Doctorate of Occupational Therapy

Clinical Experience
- Spectrum Health Butterworth ICU (Adult)
- Paper Plane Therapies Outpatient Pediatrics

Aquatic Experience
- Women's Division I Collegiate Swimming (BGSU)
- 11 years competitive swimming
- 10+ years swim instructor
- Assistant Swim Coach– Special Olympics 2018

WHAT IS OT?

Occupational Therapy (OT) helps get individuals back to doing what they want, need, and love to do.

‘Occupation’ is defined as an activity that is purposeful or meaningful to an individual. This can be anything that an individual uses to occupy their time such as work, leisure, daily routine, sports, play, etc.
OT AND ADAPTIVE SPORTS

Adaptive Sports are competitive or recreational sports for individuals with disabilities. Examples of adaptive sports include, but are not limited to, cycling, basketball, tennis, lacrosse, swimming, etc. Adaptive sports can provide typical and atypical individuals with opportunities for social interaction, increased wellness, and normalization of disabilities.

OT's Role:
- Utilizing activity analysis in order to better fit the goals of the athletes.
- Knowledge regarding adaptive equipment and appropriate use.
- Education through various approaches, to coaches, instructors, etc.

WHY INCLUSIVE SWIMMING?
WHAT'S THE IMPORTANCE?

Adaptive sports programs can empower individuals to try new sports, build friendships, identify new possibilities, and create a bond with a group to find identity. For children with disabilities, being in the water allows for a freedom of movement and a feeling of success that enhances self-image and satisfaction.

Inclusiveness in sports can help decrease disability-based exclusion in children without disabilities.

Can help promote positive moral judgments and emotion through socialization and engagement with children with disabilities.

Helps advance developmental milestones. These can include, but are not limited to:
- Language
- Social skills
- Understanding of others feelings and needs, and interacting with peers.
LACK OF INSTRUCTOR CONFIDENCE AND TRAINING

1. Address specific needs of all swimmers
2. Increase competency
3. Foster a safe, inclusive environment
4. Adapt lessons on the spot
5. Learn techniques for adaptive swimming

PRE-SURVEY RESULTS

Q1 - How long have you been a swim instructor?

Options:
- 4 years
- in training my first day in April 3rd, 2023
- 10 years
- 10 plus years
- 10 years (seasonal)
- 15 years
- 6 years
- 1 year
- 21 years
Q2 - Does your current workplace offer an adaptive or inclusive aquatics program?

Q3 - Have you ever received any formal training or education on how to provide adaptive services for individuals with disabilities in the aquatic setting?

Q4 - How comfortable do you feel with the resources you currently have available regarding teaching swim lessons to individuals with disabilities?

Q5 - How confident do you feel making various adaptations/modifications to teaching swim lessons to individuals with disabilities?
Q6 - How confident do you feel teaching swim lessons to individuals with disabilities?

- Not at all
- Somewhat
- Neutral
- Very
- Extremely

Q7 - What do you wish you knew or were taught about teaching swim lessons to individuals with disabilities? Please be as specific as possible.

- How to adapt to their needs and make everyone feel safe and comfortable
- Sensory awareness is information that helps any talked about enough
- Methods used for different behavior types
- How basic or specific to be
- Special tools? Certain techniques? What to expect? How to best help or be accommodating

I wish I knew more about best ways to communicate and how to best support the individuals. I think it would also be beneficial to learn about various techniques to incorporate to promote learning.

Full disclosure here: I am a licensed SPED/EC teacher by trade. This is blending both of my worlds and love the opportunity to work with people with disabilities in the pool! I am open to any and all classes made to fit this precious population of humans.

I was not a part of the adaptive program that took place here at the YMCA, so I don’t know what type of resources or information was given to the instructors. We don’t currently have an adaptive program. I have worked with individuals in the past, but did not receive any formal training. What I wish I knew was how to best support them and techniques to use in order to do so.

I have a nephew with brain damage and we have to be so careful getting him in the water but once he is in he loves it and it helps him build strength and mobility. All I know is from what I’ve done with him but I would love to learn how to teach an adaptive and inclusive swim lesson for children like him. I would definitely need all the training though.

I wish I was taught more about how to connect/interact with autistic children.
### BENEFITS OF SWIMMING

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Examples</th>
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<tbody>
<tr>
<td>Increase bimanual coordination by moving fingers and coordination movements on both sides of the body</td>
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<tr>
<td>Strengthen the cardiovascular system</td>
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<tr>
<td>Promote independence</td>
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<td>Increase heart rate without stress on the body</td>
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<td>Build endurance and strength</td>
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<tr>
<td>Improve flexibility in muscles and joints</td>
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<tr>
<td>Build self-confidence and self-esteem</td>
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<tr>
<td>Increase socialization</td>
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<tr>
<td>Improve mood</td>
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<tr>
<td>Provide proprioceptive and vestibular input</td>
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<tr>
<td>Enhance normal muscle tone</td>
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<td>Decrease stress levels</td>
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<td>Decrease stress on joints</td>
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<tr>
<td>Increase coordination</td>
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<td>Increase sensory input</td>
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<tr>
<td>Increase body and spatial awareness</td>
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<tr>
<td>Build relationships</td>
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<tr>
<td>Mediate paralyzed muscles</td>
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<tr>
<td>Positively impact physical and mental wellbeing</td>
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<tr>
<td>Increase feelings of stability</td>
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<tr>
<td>Increased quality of life (QOL)</td>
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<tr>
<td>Increased overall functioning</td>
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### DIFFERENT DISABILITIES

- Physical
- Cognitive
- Behavioral
- Emotional
- Developmental
- Mental Health
A wide range of congenital and acquired conditions and impairments that impact an individual’s ability to engage in daily occupations and activities. Some conditions are progressive, but others can improve with treatment\(^\text{16}\). Mobility, speech, cognition, vision, and hearing can be impacted.

Impairments in how the brain processes information and stimuli in the environment. An individual with this type of disability will have more difficulty than average completing mental tasks. Attention, memory, problem-solving, reading, verbal, and language comprehension, and visual comprehension can also be impacted. Examples include dementia, traumatic brain injury, Down syndrome, and autism\(^\text{17}\).
Disruptive behaviors that impact functioning at home, school, work, or in social settings. Individuals often demonstrate aggressive, angry or defiant behaviors that are uncommon for the individual’s age and go against what’s appropriate in society’s standards. Common examples include oppositional defiant disorder (ODD), conduct disorder (CD), inattention, impulsivity, hyperactivity, and inattention.”

Dysregulation of emotions or improper funneling of emotions. They can also be categorized as internalizing (such as depression and anxiety) or externalizing (such as ADHD and conduct disorder). Other examples include but are not limited to generalized anxiety disorder, social anxiety, separation anxiety, bipolar disorder, specific phobias, obsessive-compulsive disorder (OCD), and depression.”
A group of conditions due to an impairment in physical, learning, language, or behavior that start during the developmental period and can impact day to day functioning.21

A wide range of mental health conditions and involve disorders that affect mood, thinking, emotional regulation, and behavior. Type, severity, and extent vary from person to person and can impact daily functioning at school, work, life, and/or relationships.22 Examples can include depression, anxiety, bipolar disorder, post-traumatic stress disorder (PTSD), schizophrenia, and eating disorders.23
COMMON CONDITIONS

Autism
Attention Deficit Hyperactivity Disorder (ADHD)
Sensory Processing Disorder (SPD)
Cerebral Palsy
Limb Loss and Limb Difference
Down Syndrome

AUTISM

Impairment in social communication and interactions, and includes restricted or repetitive behavior, interests, or activities that occur in early childhood resulting in significant impairment in social and occupational engagement.

Considerations:

<table>
<thead>
<tr>
<th>Short verbal cues vs long explanations</th>
<th>Hand-over-hand assist</th>
<th>Visual cues/schedule</th>
<th>Positive social feedback</th>
<th>Physical prompting</th>
</tr>
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</table>
ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

Decreased attention, hyperactivity, and impulsivity as well as difficulty in school, home, and other community environments. The lack of attention, hyperactivity, and impulsivity may cause children and adolescents to have difficulty in social settings.

Considerations:

<table>
<thead>
<tr>
<th>Establish a routine</th>
<th>Manage distractions</th>
<th>Limit choices</th>
<th>Clear, specific directions</th>
<th>Goal-directed activities and rewards</th>
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SENSORY PROCESSING DISORDER (SPD)

Neurological condition that affects the way the brain processes information from the senses.

Increased or decreased sensitivity to sensory input such as light, sound, and touch. An individual may avoid or seek out specific sensory stimulation as a result.

Aversions:
- Loud environments
- Bright lights
- Strong smells

Sensory input that can increase their senses for additional stimulation:
- Spinning
- Jumping
- Crawling
- Putting things in the mouth
- Chewing

Aquatics:
- Auditory stimulation
- Water pressure and temperature
- Pool deck
Group of disorders that affect’s an individual’s ability to move and maintain balance and posture. It’s caused by abnormal brain development or damage to the developing brain that affects the individual’s ability to control their muscles.

The individual will have difficulty integrating information that the brain needs to correctly plan and direct movements in the trunk and extremities that are used in everyday interactions with the environment.

Symptoms:
- Abnormal muscle tone affecting posture
- Postural control and movement
- Hand and upper extremity functioning

Four Main Types:
- Spastic
  - Increased muscle tone making the muscles stiff resulting in awkward movements
  - Spastic diplegia- muscle stiffness mainly in the legs resulting in difficulty walking
  - Spastic hemiplegia- only one side of the individual’s body is affected
  - Spastic quadriplegia- the most severe form of CP affecting all four limbs, the trunk, and the face
- Dyskinetic
  - Difficulty controlling the movement of hands, arms, feet, and legs, making it difficult to sit and walk
- Ataxic
  - Difficulty with balance and coordination
- Mixed
  - More than one type of CP. The most common type of mixed CP is spastic-dyskinetic
Considerations:
- Movements are completed more easily in the pool vs on land. To promote the carryover of skills, focus on the strengthening of the muscles in order to promote improved mobility on land\textsuperscript{31}. The resistive forces of buoyancy and drag permit a variety of aerobic and strengthening activities that can be easily modified to accommodate the wide range of motor abilities of swimmers with CP\textsuperscript{32}. Additionally, a benefit of aquatics is that it can help support gross motor functioning\textsuperscript{32}.

**Limb Loss and Limb Difference**

Limb loss is the surgical removal of an extremity and can be caused by vascular disease, trauma, or cancer. Limb difference is when an individual is born without an upper and/or lower limb\textsuperscript{33}.

**Considerations:**
- Swim within the lanes of a pool or use markers to help swimmers keep a straight course.
- A prosthesis or prosthesis are not required, but may be used.
- Compensatory strategies.
- Energy conservation.
**DOWN SYNDROME**

A condition in which an individual is born with an extra copy of chromosome 21. This additional chromosome changes how the individual's body and brain develop as a baby which results in both mental and physical challenges. Down syndrome is also known as Trisomy 21.

**Considerations:**

| Short verbal cues vs. long drawn-out explorations | Exploring one skill/technique at a time | Motor, physical, and mental particularities can impact the rate of learning |

**ASSISTIVE AND ADAPTIVE EQUIPMENT**
Any piece of equipment can be used and/or adapted to help meet the swimmer’s needs, promote performance, support engagement, be used as an incentive, etc. Examples of commonly used equipment includes:
- Chair Lift
- Ramp
- Kickboards
- Noodles
- Arm Floats
- Noodle Boats
- Barbells
- Toys (i.e., rings, balls, dive toys—ensure that the toy is age appropriate for the swimmer!)

LESSON ADAPTATIONS

“An adaptation is one’s adaptive response to meet an occupational challenge, when ordinary response is insufficient to master the activity”

Adaptations:
- Adjustments to teaching style
- Communication skills
- Visual vs. verbal cueing (utilizing a hands-on approach)
- Incorporating adaptive equipment

Remember:
- Set rules, goals, and expectations at the start of each lesson
- Safety first!
- Break down the skill/activity into smaller steps
- Grade up or down your lesson
- Use toys as motivation and/or reward
- Use visual and verbal reminders frequently!
- Repetition!
**“JUST RIGHT” CHALLENGE**

If a lesson is too easy, then your swimmer may lose interest. If the lesson is too hard, the swimmer may give up and feel frustrated. The “just right challenge” is when the individual is provided with just the right level of complexity. This includes the activity that matches the individual’s developmental skills and interests, provides a reasonable challenge to current performance level, engages and motivates the individual, and can be measured with the individual’s focused effort.

During lessons, this can look like breaking down or modifying a skill as needed in order to find a happy medium between a skill or technique being too easy or too difficult. As a swimmer develops new skills, the just right challenge will continue to evolve, and you will have to make modifications as needed for each lesson. Remember that immediate success is not a guarantee.

**Benefits:**
- Empowerment
- Increased confidence
- Processing of new emotions
- Self-efficacy and self-determination

---

**CHALLENGES TO INSTRUCTING SWIM LESSONS**

<table>
<thead>
<tr>
<th>Sensory sensitivities can greatly impact a swimmer's engagement and are common:</th>
<th>Examples of those in the aquatic setting are:</th>
<th>Fear of the water:</th>
<th>Pool environment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textile (Touch)</td>
<td>Wearing a swim cap</td>
<td>Negative past experiences</td>
<td>Noise</td>
</tr>
<tr>
<td>Verbal</td>
<td>Wearingoggles</td>
<td>Decreased comfortability around water</td>
<td>Light</td>
</tr>
<tr>
<td>Hearing</td>
<td>Wearing a specific bathing suit</td>
<td>Size of the pool/facility</td>
<td>Water temperature</td>
</tr>
<tr>
<td>Taste</td>
<td>Putting their head or mouth in the water</td>
<td></td>
<td>Strong chlorine smell</td>
</tr>
<tr>
<td>Smell</td>
<td>Floating on their back</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual</td>
<td>Swimmers in the deep end</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DEVELOPING SWIMMER’S SKILLS

Swim lessons do not only benefit physical abilities and increase water safety. Additional skills swimmers gain from participation in swim lessons include:

- **Social Skills**:
  - Improved social skills
  - Better empathy
  - Improved language
  - Listening
  - Communication
  - Attention and concentration
  - Self-regulation

- **Life Skills**:
  - Independence
  - Confidence
  - Build and maintain relationships
  - Healthy boundaries
  - Emotional growth
  - Emotional control
  - Improve motor skills
  - Promote independence
  - Positive behavior
  - Self-concept
  - Self-discipline
  - Self-esteem
  - Responsibility
  - Copes with the stress
  - Improve adaptive behaviors

Skill development takes time, and each swimmer learns at their own pace.

Get creative with your lessons and know that you may have to make up or modify lessons on the spot.

It’s better for a child to feel comfortable and confident with a skill and that there is no rush.

IMPROVING YOUR SKILLS

**Communication**
- Communicate expectations and rules at the start of each lesson
- Communicate with the swimmer’s guardian for more information on the swimmer along with their condition to help get an idea of what to expect
- Communicate what to expect and goals
- Communicate with other coworkers
- Communicate with and get to know your swimmer
- Never assume a swimmer knows a skill or what they’re capable of

**Work**
- Leadership skills
- Communication
- Time management
- Interdisciplinary communication
- Parent collaboration and education
- Adaptability
- Professionalism
- Confidence

**Cues**
- Verbal
  - Break down directions and try and avoid long drawn out explanations when possible
  - Use words and phrases that your swimmer understands
  - Articulate directions clearly and at an appropriate volume
- Manual
  - Lead with a strengths-based approach and provide consistent positive feedback
  - Tactile
  - Hand on assistance
  - Tapping on a specific body part can help remind the swimmer of the skill
  - Be careful with use of this cue
- Visual
  - Write the lesson out on a whiteboard so the swimmer knows what is expected next
  - Demonstrate a skill
  - Use common hand gestures
TEACHING STYLES

<table>
<thead>
<tr>
<th>Authoritative</th>
<th>Demonstrative</th>
<th>Delegator</th>
<th>Facilitator</th>
<th>Hybrid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture style</td>
<td>Coach style</td>
<td>Group style</td>
<td>Activity style</td>
<td>Blended style</td>
</tr>
<tr>
<td>Instructor-centered approach</td>
<td>incorporates the authoritative style with activities to support learning and engagement</td>
<td>Most beneficial for lessons as group learning is emphasized</td>
<td>Focuses on promoting self-learning and helping students develop their skills through learning and thinking</td>
<td>Blended style where elements of multiple styles are integrated in order to blend the instructor and student’s needs</td>
</tr>
</tbody>
</table>

PARENT EDUCATION

Parent education is an essential component of working with children with disabilities.

Why?
- Updates regarding a swimmer’s performance, needs, progress, etc.
- Encourage carryover whether swimming at home, another facility, lake, etc.
- Communicate with guardians about skills taught during a class and ways to support their swimmer’s performance at home.

Things to remember:
- Be aware of communication preferences of swimmers and their families
- Share resources (i.e. methods to use at home, equipment, additional information)
REFERENCES

POST SURVEY
Adaptive and Inclusive Swimming: Assessing Swim Instructor Confidence and Comfortability

Start of Block: Default Question Block

Q1 How long have you been a swim instructor?

_________________________________________________

Q2 Does/did your current workplace offer an adaptive or inclusive aquatics program?

  ○ Yes (1)
  ○ No (2)
Q3 Have you ever received any formal training or education on how to provide adaptive services for individuals with disabilities in the aquatic setting?

- Yes (1)
- No (2)

Q4 How comfortable do you feel with the resources you currently have available regarding teaching swim lessons to individuals with disabilities?

- Not at all (1)
- Somewhat (2)
- Neutral (3)
- Very (4)
- Extremely (5)
Q6 How confident do you feel making various adaptations/modifications to teaching swim lessons to individuals with disabilities?

- Not at all (1)
- Somewhat (2)
- Neutral (3)
- Very (4)
- Extremely (5)

Q7 How confident do you feel teaching swim lessons to individuals with disabilities?

- Not at all (1)
- Somewhat (2)
- Neutral (3)
- Very (4)
- Extremely (5)
Q8 What do you wish you knew or were taught about teaching swim lessons to individuals with disabilities? Please be as specific as possible.

__________________________________________________________________________

End of Block: Default Question Block
POST SURVEY- Adaptive and Inclusive Swimming: Assessing Swim Instructor Confidence & Comfortability

Start of Block: Default Question Block

Q1 Did you find this in-service helpful?
   ○ Yes (1)
   ○ No  (2)

Q2 Would you have found an educational resource and/or formal training, on how to provide adaptive services for individuals with disabilities in the aquatic setting, beneficial prior to becoming an instructor?
   ○ Yes (1)
   ○ No  (2)
Q3 I feel confident teaching swim lessons to individuals with disabilities.
  ○ Not at all (1)
  ○ Somewhat (2)
  ○ Neutral (3)
  ○ Very (4)
  ○ Extremely (5)

Q4 I feel confident making various adaptations/modifications to teaching swim lessons to individuals with disabilities.
  ○ Not at all (1)
  ○ Somewhat (2)
  ○ Neutral (3)
  ○ Very (4)
  ○ Extremely (5)
Q5 Do you feel like you learned all that you wanted to through this in-service?

- No (1)
- Yes (2)

Q6 How could this in-service be improved?

____________________________________________________
____________________________________________________
____________________________________________________
____________________________________________________
____________________________________________________
____________________________________________________
____________________________________________________
____________________________________________________
____________________________________________________

End of Block: Default Question Block