Adapted Aquatics for Children With Autism

by Coleen A. Martinez

The Individuals with Disabilities in Education Improvement Act (IDEIA; PL 108-446) provides many services for students with disabilities in public school systems. Some of those services include IEPs (Individual Education Plans), as well as providing a free and appropriate education in the least restricted environment for all students with disabilities (Stopka & Todorovich, 2005). What many are unaware of is that within IDEIA students with disabilities are afforded many physical education opportunities. One of those opportunities is skills in aquatics (Sherrill, 2004).

Autism is recognized by IDEIA as a disability that can receive special education services (Sherrill, 2004; please refer to IDEIA's definition of autism [34 C. F. R. 5300.7(1)] for further information). In general terms, individuals who are autistic experience difficulty in the following activities of daily living: "social interaction, language as used in social communication, imaginative or social imitative play, and repetitive, stereotyped patterns of behavior" (Sherrill, 2004).

Aquatic skills have been shown to facilitate positive responses in children who have autism (Yilmaz, Yanardag, Birkan, & Bumin, 2004). Specifically, swimming can help with language development, self concept, and behavior (Yilmaz, Yanardag, Birkan, & Bumin, 2004). Since aquatic skills are included as physical education opportunities in IDEIA, and since autism is a recognized disability needing special services within IDEIA, you might consider including an aquatics unit when planning physical education lessons for your students who are autistic.

There are several teaching strategies that physical educators should consider when working with students with autism in an aquatics environment. The following provides information for physical education teachers to use while teaching their students with autism in an adapted aquatics unit plan.

Sensory Issues

Children with autism have difficulty in regard to sensory stimuli in one form or another (Houston-Wilson, 2005). Some children do not want to be touched, while others may prefer to be squeezed between soft objects like pillows. Also, children with autism may not react at all to sound but some will voice and display their dislikes to sound, when a radio turns on for example.

One of the most noticeable traits that children with autism have is a tendency to recoil from light touching. They respond more effectively when given firm pressure as opposed to a light touch (Sherrill, 2004). For example, a firm hug facilitates a more appropriate response when compared to a tap on the shoulder. So, imagine the water as being a firm, full body hug for students with autism. When a student is fully immersed in the water, it essentially gives the student a full body hug. The converse to this analogy is if the child only puts their toe in the water, which would be similar to a tap on the shoulder, and might elicit a recoiling response.

Luckily, there are many things you can incorporate to prevent a recoiling response. Have students slide into the pool via a sliding board! If a sliding board is not available, you can use an old gymnastics mat. Situate the mat on the edge of the pool so half the mat is on the edge of the pool and the other half is in the water. The student simply slides into the pool from the mat (see Figure 1). Once students are accustomed to the water, gymnastics mats can serve as floating islands in the middle of the pool. For a more advanced entry skill, students can jump off a mat into the water (see Figure 2).
Communication

Children with autism have difficulty with speech, language, and communication (Houston-Wilson, 2005). They will either repeat a phrase spoken to them or repeat something else they have heard that day. Also, children with autism can have difficulty in a conversation and may not know when to respond or how to respond effectively.

Many children who are autistic are also visual learners who respond to and learn more effectively from visual stimulation (Sherrill, 2004). There are many teaching tips that can be employed to facilitate visual learning. If you want to teach a specific aquatics skill, consider using skill card(s) that depict the movement. For example, to teach a child the elementary backstroke, create skill cards for that stroke. This would include a card that pictures a child lying on his back performing the “chicken” part of the skill. [The elementary backstroke can be broken into parts: chicken, airplane, soldier. Chicken is when both arms are bent and the hands are close to the armpits. Airplane is when both arms are stretched out to their sides reaching for something next to them. Soldier is when both arms are down by the sides.] Continue to show the cards to the learner until all three parts of the stroke have been mastered. You might also create a separate card that depicts the proper movement for the kick, whether it’s a simple flutter kick or a modified breaststroke kick. [The kick you choose will be likely based on the skill level of each student. The flutter kick should be used by novices, while more advanced swimmers will use the modified breaststroke kick.] The skill cards can be laminated and displayed on the edge of the pool for students to look at. Review the cards and skills with your students prior to getting into the pool.

You can also create memory games that involve imitating your own movements (Sherrill, 2004). For example, when teaching the front crawl, use the Hokey-Pokey to teach students the various parts of the stroke. *You put your left arm in* [have students reach their arms in as if performing the stroke]. *You put your kickers in* [have them hold onto the edge of the pool and kick their feet]. *You put your face in* [have them put face in the water]. To enhance imitation, make sure you do the skills yourself and have the students follow your exact movements.

For children who are non-verbal communicators, make sure you collaborate with them to devise necessary communication methods, e.g., to signal the need for a bathroom break. You might alternatively create a poster with the pool rules on them, with one rule stating that “when I need to use the restroom I will point to this rule for permission first.” Or, you can teach them the sign language for restroom, [the R handshape [index finger crossed over middle finger] making a small arc moving from the middle to the outside of the body].

Dealing With Behaviors

Some children with autism will have trouble communicating with you and repeat everything you say. If this happens, simply repeat the correct phrase. For example, if you say, “Corbin, swim to the other end of the pool using the elementary backstroke,” and he replies, “Corbin, swim to the other end of the pool using the elementary backstroke;” you reply back, “Yes, Corbin, swim to the other end of the pool using the elementary backstroke.” Eventually, if you continue with this type of command and response with your students, the habit of repetition can be broken. Then, when you ask them to perform a skill, they will respond by simply doing the task and not repeating the command. It is important to note that consistency is required to break that cycle. Always give the same commands and reply the same way. The teacher must also always be the same person.

A one-to-one ratio is ideal for an aquatics unit with children who are autistic (Reid & O’Neill, 1989), but if that ratio is not possible, consider using a buddy or a partner (Sherrill, 2004). The buddies can keep your students on task and help you facilitate skill progressions.

One of the most pressing issues teachers face in the aquatics environment is behavior. Children with autism can appear uncooperative, easily distracted, and unable
to listen. It is important to reward good behavior continually. When you ask a student to perform a skill, reward the action immediately. In a gymnasium, this reward can be in the form of food such as a Goldfish cracker. But, since eating while swimming is not safe, use toys as rewards instead. Place reward buckets at the edge of the pool. When students perform a skill, give them a small pool toy (e.g., a small squirt toy shaped like an animal, dive rings, or anything small that can be accumulated throughout the swim lesson and then played with at the end of the lesson). When students do not perform a skill as requested, it is not appropriate or effective to take away a toy; simply do not give them a toy for that particular round. It’s sometimes necessary to give the students small breaks during the lesson to play with their earned rewards, then return to instruction.

**Conclusion**

Your own students may or may not have characteristic traits mentioned in this article. For example, some children display characteristics similar to ADHD (attention deficit hyperactivity disorder) or they may have emotional disturbances. For a complete guide to the multitude of traits that children with autism may exhibit, please refer to *Adapted Aquatics Programming: A Professional Guide* (Lepore, Gayle, & Stevens, 1998). That text provides teaching tips for specific characteristic traits. For example, the authors suggest that children with tactile system disorders benefit from activities such as swimming underwater and playing games that require body contact with other classmates or the teacher. They also suggest that children with communication barriers use the thumbs up or down motion to indicate yes or no, use sign language, and use a parent or friend to act as a translator.

Crollick, Mancil & Stopka (2006) have found that activities such as running, cycling, or swimming can reduce inappropriate behaviors in children who are autistic. They recommend further that “teachers should promote eye contact, use clear language, be aware of sensory preferences and over-selectivity, balance social skills training and physical activity objectives, use prompts and reinforce appropriate behaviors with a ‘high five’ or being given a favorite toy, adapt tasks, and motivate” (pg. 32). Reid (2005) also recommends the use of peer tutors, social stories, and stations to maximize the time spent in physical education class, time that otherwise might be spent in managerial tasks.

This literature makes it clear that students with autism can benefit from an aquatics program. If you embark on an aquatics program for your students, feel confident that inappropriate behaviors will be reduced and physical education objectives will be met (psychomotor, cognitive, and affective) as they learn how to react in social situations. Most importantly, they will have fun!

**References**


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