**Aquatic Activity Programme for Disables; Importance of Aquatics for Disables and Nature of Aquatic Activity Programme On different types of disabilities.**

## Introduction

Aquatic activities for children with disabilities can foster physical fitness and motor skill development within a physical education program and during recreational pursuits. It is legal right to request swimming as part of IEP (Individualize Education Programme) because aquatic is listed as a component of physical education under the Individuals with Disability Education Act (IDEA). Aquatic Instruction for student with disabilities is neither a luxury nor therapeutic.

Water is a magical medium that helps people with disabilities to be able to walk, jump, and play in a safe way. This buoyancy makes a person ninety percent lighter in the water, which makes some individuals who would not be able to walk on land to take steps in the water (Inverarity, 2008).

## Aquatic Activity Programme for Disables

Adapted aquatics modified the aquatic teaching environment, skills, facilities, equipments and instructional strategies for people for disabilities. Aquatic activities programme can include different types of aquatic activities, including instructional and competitive swimming, small craft boating, water aerobics, and skin diving or scuba diving (AAHPERD-AAALF, 1996).

Individualized instructional planning begins with defining which skills a participant needs to learn and assess the present level of performance in those skills. Before performing the assessment, an instructor should determine the skills to be assessed. To help prioritize the skills, questions such as these should be asked of the participant or caregiver:

- What is the participant interested in learning?
- What are the important safety skills for the participant to acquire?
- Where will the participant use the skills outside the class?
- What are the ages of the peers performing in aquatics?
- What equipment does the family have?

- What are the medical, therapeutic, educational, and recreational needs of the participant?

After looking at all the possible skills that are important for a participant, the instructor looks at the list to determine if there are any repeat skills. Skills common to many of the questions just listed should become the priorities to assess (and then be taught, if they are lacking). Assessment items that determine the present level of performance in these skills should be developed.

**Importance of Aquatics for Disables**

Aquatic activity can enhance physical fitness and motor skills development, within a physical education programme. Physical educators, school administrators, parents, related personals, and special education teacher must be educated about the importance of aquatic activities. The physical and psychological level of aquatics for student with disabilities are more pronounced and significant than for student without disabilities. Because of the buoyancy afforded by water, many people whose disabilities impair mobility on land can function independently in an aquatic environment without the assistance of braces, crutches, walkers, or wheelchairs. Although adapted aquatic does not focus on therapeutic water exercise, warm water facilities, muscle relaxation, joint range motion (ROM), improved muscle strength and endurance (koury, 1996). Swimming strengthens the muscles that enhance the postural stability necessary for locomotors and object- control skills. Water supports the body, enabling a person to possibly walk for the first time, thus increasing strength for walking on land. Adapted aquatics also enhance breath control and cardiovascular fitness. Blowing bubbles, holding one's breath, and inhalation and exhalation during the rhythmic breathing of swimming strokes improve respiratory function and oral motor control, aiding in speech development (Martin, 1983).

Importance is not limited to the physical realm. Water activities that are carefully planned and implemented to meet individual needs provide an environment that contributes to psychosocial and cognitive development. As a student with a physical disability learns to move through the water without assistance, self-esteem and self awareness improve. Moreover, the freedom of movement made possible by water boosts morale and provides an incentive to maximize potential in other aspects of rehabilitation (koury, 1996).

The motivational and therapeutic properties of water provide a stimulating leaning environment. Some instructors even reinforce academic learning, successfully integrating cognitive concepts during water games and activities centered on math, spelling, reading and other concepts. Participants might count laps, drive for submerged plastic letters, or read their workouts from a

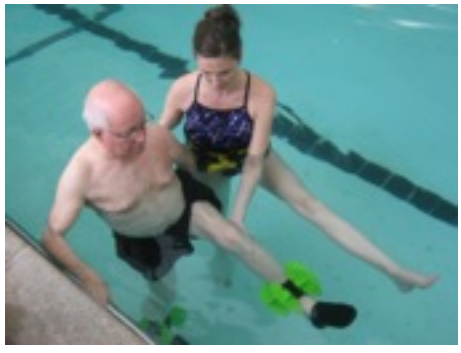
whiteboard. These types of activities also help participants improve judgment and orientation to the surrounding environment

## Nature of aquatic activities for disables

Each person is unique, and individualization is the key to safe, effective, and relevant programming. Thus, it should never be assumed that all characteristics associated with a disability are endemic to each person with that diagnosis. Generalizations merely present a wide scope of information that might pertain to swimmers with any particular disability. Each swimmer should be taught sufficient safety and swimming skills to become as safe and comfortable as possible during aquatic activities. Choice and presentation of skills should be tailored to meet the needs of each individual (Lepore, Gayle, & Stevens, 2007).

Before instruction begins, the teacher must gather information from written, oral and observational sources. In addition to reading previous records and interviewing the swimmer and significant others, an aquatic assessment must be conducted to determine present level of functioning. General instructional suggestions include writing long-term goals and short-term performance objective, task analyzing aquatic skills, determining proper lift and transfer methods, establishing communication signals, and developing holding and positioning techniques to facilitate instruction. Knowledge of typical growth and developmental patterns is helpful in understanding the difference between movements that are developmentally inappropriate and movements that have just not developed yet. For example, doing a bicycle kick is a developmentally appropriate sequence for most children who are learning to swim, but after more experience and decrease fear, this type of kick is inappropriate during freestyle movements.

Teaching basic safety skills first, such as mouth closure, rolling over from front to back, changing directions, recovery from falling into the pool, vertical recovery from front and back positions and holding onto the pool wall, helps to alleviate fear of more difficult skills. A balanced body position in the water is an important prerequisite for skills. The instructor must experiment with horizontal and vertical rotation and appropriate placement of arms, legs, and head to teach the development of proper buoyancy, balance and water comfort in relation to the student's unique physical characteristics. One method of teaching balance and body positions in adapted aquatics is the Hall wick method (Stanat & Lambeck, 2001). Finally, presetting swimming cues in a concise manner and connected to something that the student already is familiar with strengthens learning. Because swimming takes place in a unique setting, swimmers with disabilities need cues that refer



to situations or movements they already know or know how to do. An example is using the phrase, “Move your hands as if you are opening and closing curtains” to depict the movement of the hands while treading water or sculling.

**Adapting Swimming Skills**

Before adapting skills to meet a student’s needs, the instructor must first look at why the skill is needed and how and where the skill will be used. Some swimmers might want to pass the competencies for higher levels, some might want to improve cardio respiratory functioning, and yet other might want to enter a swim meet. These differing purposes for performing the front crawl (freestyle) might cause an instructor to take a different approach to adapting strokes and other aquatic skills .Important considerations in adapting stroke include the following:

- What are the physical constraints for the disability?
- What is the most efficient way to propel through water, given the constraints?
- What movement will cause or diminish pain or injury?
- What adaptation can be used to make the stroke or skill as much like the non adapted version as possible?
- What equipment is available to facilitate the skills?
- Why does the swimmer want to learn this skill (competition, relaxation)?

The instructor might need to

- Adjust the swimmer’s body position by adding flotation or light weights
- Change the propulsive action of the arms or legs, or
- Adapt the breathing pattern

Adjusting the swimmer’s body position is typical for people who have disabilities such as cerebral palsy (CP), stroke, traumatic brain injury, spinal bifida, obesity, limb loss, muscular dystrophy, post polio syndrome, or traumatic spinal cord injury.

Because of variations from the norm in regard to muscle mass and body fat in many people with physical disabilities, the centre of gravity and center of buoyancy might be atypical. It is important to find an efficiency body position.

**Indication for aquatic activities**

The contra-indications for aquatic activities are:

- Sensory Disorders
- Limited range of Motion
- Weakness
- Poor motor Coordination
- Pain
- Spasticity
- Perceptual /Spatial Problem
- Balance Deficits
- Respiratory problems
- Circulatory Problems
- Depression/Poor Self -Esteem
- Cardiac Diseases
- Joint Replacement
- Orthopedic Injuries/Trauma
- Obesity
- Prenatal Neurological (MS)

- Osteoporosis
- Rheumatology(Arthritis/Fibromyalgia)

**Orientation to Water**

Orientation to water focused on the readiness of the learners and other psychological and physiological factors.

Psychologically, each person is unique, learns at an individual rate, depending on several psychological factors. Individuals with disabilities might have psychological characteristic that hinder acquisition of aquatic skills .Some psychological factors, such as anxiety and cognitive readiness, should be examined before developing instructional strategies. Physiological factors are those in which anatomical and physiological variations in an individual's body effect how and what he or she learns. This includes how disability and medication affect each body system. A swimmer might not be neurologically ready to perform a skill because of brain damage, lack of central nervous system maturity, or a developmental delay. When the instructor understands the effect of a disability on learning and provides developmentally appropriate skill progressions, learning is increased (Langendorfer & Bruya, 1995).

Most anxiety during swim instruction stems from fear and discomfort and inhabits mental adjustment to the aquatic environment. Factors that might cause anxiousness in a swimmer include fear of drowning, past frightening water experiences, submerging unexpectedly and choking on water, fear reinforced by warning (e.g., "Don't go near that water or you'll drown"), capsizing in a boat, being knocked down by a wave, or feelings of insecurity caused by poor physical ability or unfamiliar surroundings (Lepore, Gayle & Stevens, 1998)

Fear stimulates physiological responses, such as heightened muscle tone, increased involuntary muscle movements, and inability to float. Fear and insecurity prevent success in swimming. Helping participants gets past fear and anxiety to practice aquatic skills that will make them safer in the water is an initial step in teaching swimming. When participants are free of fear, they are free to learn. The following tips, taken from the YMCA of the USA Parent/Child and Preschool Aquatic Program Manual (1999a), will promote comfort and reduce fear. These suggestions can be used for all ages of participants:

- Allow more reluctant participants extra time for water acclimation activities.
- Use patience without pampering
- Gently guide, don't force.
- Explain everything in a calm, quiet, matter of fact voice.
- Teach in shallow water (e.g. on pool steps, water tables, or water docks) or on a gradually sloping ramp.
- Emphasize non-competitive activities.
- Provide a mask or goggles if water in the eyes is an issue.
- Provide redirection of crying of anxious behaviours by using a colourful of piece of equipment or a discussion of the swimmer's favourite food.
- Use the swimmers' name frequently; smiles and praise small steps in the Progression of water adjustment.
- Assess an individual's readiness for swim lessons. Use an assessment such as the Aquatic Readiness Assessment tool by Langendorfer & Bruya (1995).

Areas to assess with this tool are water entry, breath control, buoyancy and body position, arm actions, leg actions and combined movements.

Fear is diminished when the aquatic instructor and swimmer easily communicate. In addition to communication skills, a thorough understanding of proper participant positioning, guiding, and supporting is essential. Proper methods of transferring, touching and supporting participants in the locker room, on the pool deck, and in the pool will also develop relationship based on trust. Knowing how to use and work all the adopted equipment, wheelchairs, and flotation devices provides an atmosphere of efficiency and safety that makes everyone feel comfortable. Likewise holding someone with firm and balanced grip, as close as safety and comfort allow, communicates care and establishes trust and rapport (Lepore, Gayle, & Stevens, 1998). In addition, an environment in which the instructor exhibits a consistent personality provides discipline methods that are flexible but consistent, uses caring verbal assurances, and provides balanced and controlled physical handling promotes trust, security and mental adjustment.

**Conclusion**

Aquatic Activities can enhance physical fitness and motor skills for disabilities. It improves muscle strength and endurance. Swimming enhance the postural stability necessary for locomotors and object control skills .Water support the body , enabling a person to possibly walk for the first time .Adaptive Aquatic also enhance breath control and cardio vascular fitness.The motivational and the therapeutic properties of water provided a stimulating learning environment. Participant improves judgment and orientation to the surrounding environment. Due to buoyancy body movement in water is easier, because, body weight in water is 90% lighter than normal. So, aquatic activity is the best modality for disables.