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RAISING AWARENESS
for Adapted Scuba: A Case Report

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Abstract

An evaluation of disability awareness programs on a public state university campus demonstrated a need to change format and content to better increase understanding of persons with disabilities. The purpose of this paper was to demonstrate how implementing an adapted scuba program can contribute to just, usable, sustainable, and transformational disability awareness programming. Adapted scuba proved a successful modality to meet the goals of awareness and education without the negative impacts previously found in simulation activities. The therapeutic recreation programming model of APIE—(A) assessment, (P) planning, (I) implementation, and (E) evaluation—was followed to ensure a successful event.

Keywords: *disability awareness; adapted scuba; attitudes*

Self-contained underwater breathing apparatus (scuba) diving is a physical activity historically linked with young, fit, and military populations that did not become available to persons with disabilities until the late 1970s (Carin-Levy & Jones, 2007; Robinson & Fox, 1987). Individuals with adapted needs comprise more than 20% of the U.S. population and often remain involved in physically active employment and recreational activities (U.S. Census Bureau, 2010). Moreover, many university diving programs do not have training standards for divers with disabilities or adapted needs (Greenhalgh & Brousseau, 2005). Research also suggests that purposeful activities such as scuba enhance people's abilities to connect with the natural environment and nurture a self-referenced task goal orientation that builds confidence and promotes well-being (Emerson, 1998). Combined, this evidence implies that although a large percentage of the population could benefit

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from scuba participation, awareness of adapted scuba is lacking. The intent of this paper was to demonstrate how showcasing an adapted scuba program can contribute to just, usable, sustainable, and transformational disability awareness programming. Although adapted scuba can benefit individuals with a variety of disabilities, this report primarily focused on individuals with physical disabilities.

Disability awareness programming on university campuses is typically implemented as a noble means of raising the consciousness of a campus community to the needs of individuals with disabilities. Brief (less than 7 days) annual programming often cooperatively hosted by campus disability departments and faculty and student groups is common. Conceived as a series of exposure-based opportunities for the entire campus, typical programming emphasizes simulations (e.g., wearing blindfolds while completing puzzles) and with sufficient promotional effort has been well attended by students, faculty, and administration. The authors' experiences mirror this format with their own events growing to an annual attendance of over 900 faculty, staff, students, and administrators. Although numerically such events were deemed successful—participants' awareness and understanding of disability were impacted—event success was offset by anecdotal comments from students with disabilities that simulations were "unrealistic" and "demeaning" in their limited portrayal of physical disability. Participant evaluations solicited comments of pity, heroism, or charity. Authors' observations that simulations prohibited participants from fully appreciating the disability experience amplified this feedback and led to awareness that current programming provides only temporary and unrealistic glimpses at the disability worldview. The authors' observations are consistent with a movement in the disabled community to educate without the use of simulations due to the negative stereotypes that simulations reinforce (Burgstahler & Doe, 2004; French, 1992; Karten, 2008; Schwartz et al., 2010). The authors' critical reflection revealed that a redesign of the disability awareness program was required to meet the intended goals without perpetuating stereotypes. Introducing participants to a more realistic view of individuals with disabilities through adapted sports such as scuba was one aspect of the redesign of campus awareness events. Rohnke and Butler's (1995) sequential leadership model (APPLE) was modified to implement adapted scuba programming in four phases: (A) assessment, (P) planning, (I) implementation, and (E) evaluation (APIE; Figure 1). The APIE process is typically used among recreational therapists in treatment settings (Carter & LeConey, 2004).

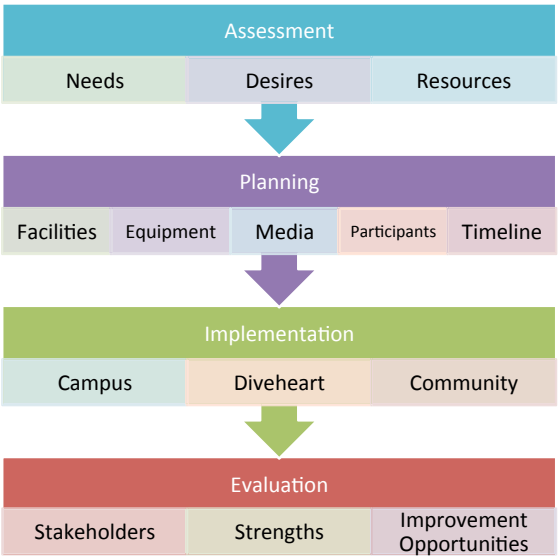

Figure 1. *APIE organizational flow.*

Introducing a more realistic view of individuals with a disability via adapted sports complemented program redesign.

Assessment

The assessment phase revealed a small (~20,000), rural, landlocked, and medically underserved community with a poverty rate more than 1.5 times the statewide average (U.S. Census Bureau, 2010). Although previous campus disability awareness events received large numbers of participants, a common thread within feedback the authors received was the notion that despite improvements, programming fell short of providing a socially just, usable, sustainable, and transformational understanding of disability. The authors concluded the community would benefit most from a redesign of disability awareness programming into an annual sustainable event celebrating the physical activity of individuals with disabilities. Adapted scuba was chosen following the authors' exposure to a nonprofit organization (Diveheart) specializing in sustainable and transformative adapted physical activity experiences. The goals of celebrating disability in this manner were to (a) demonstrate scuba as a viable and novel activity for individuals with disabilities while (b) reducing the "disabled as broken" (medical model) perspective often garnered from traditional simulations. Efforts of the event planners were grounded in the therapeutic recreation process of planning for persons with disabilities and employed a systems theory approach associated with the successful design and implementation of a goal-directed adventure learning activity (Peterson & Stumbo, 2000; Rohnke & Butler, 1995).

Planning

A committee composed of action-oriented and vested campus community members was convened and met weekly for problem-solving purposes, tasking preparatory actions, and sharing of updates and reports. The planning committee began by identifying interprofessional stakeholders both on and off campus and recruiting speakers whose practical experience included physically active individuals with disabilities. Following the National Service Inclusion Project (NSIP, 2004) best practices, stakeholders included not only faculty and administrators that educated about or provided services for individuals with disabilities, but also students and alumni with physical disabilities. In particular, students with disabilities spearheaded the marketing and were intimately involved in the presentations and demonstrations. Diveheart was contacted to determine project feasibility, and the university's liability policy was examined to confirm that proper coverage was in place for the event. The planning phase continued as swimming pool access, accessible meeting spaces, and equipment were obtained and coordinated with campus and community schedules. When barriers to success were identified, organizers sought out collaborators with the skill and influence to effect change.

Implementation

Collectively termed *A Celebration of Disability*, the revised program included hands-on activities and educational opportunities. Among the improvements over previous programming was a physical relocation from a sedentary environment (Student Union) to an active one (Student Recreation Center). Celebration programming emphasized exposing and educating audiences about opportunities for adapted recreation and sport (e.g., scuba) over outmoded simulations and an emphasis on the sociopolitical model of disability. Special consideration was given to speakers and topics capable of eliciting action from the expected audience.

Celebration events included activities emphasizing the physical abilities of the individuals with disabilities. Examples of these activities included a vertically integrated wheelchair basketball tournament, adapted golf, photovoice, shuffleboard, rugby, and an accessible rock climbing tower. Accompanying celebratory activities were movie screenings (e.g., *Murderball*) emphasizing adapted physical activity and tours of newly constructed accessible areas on campus (e.g., residence halls, football stadium). Although select simulations such as demonstrations of augmentative communication devices and usage of sport wheelchairs remained a part of the program, they were redesigned to ensure proper analysis and understanding occurred. Trained facilitators accompanied and debriefed participants to ensure appropriate appreciation of the simulations.

Programming specific to adapted scuba was offered at several venues across the community including the town hall auditorium, collegiate gymnasium, and collegiate recreation center swimming pool. An important component of any program's transformability is the flexibility of design. Organizers addressed program flexibility by making multiple program components available at a range of times and venues for individuals located up to 75 miles away. This type of broad programming permitted greater community exposure and allowed the Celebration to reach audiences from grade school children to retired veterans.

Awareness events included a press conference with Diveheart founder Jim Elliott, a meeting with campus researchers to collaborate opportunities related to adapted scuba, three dry land presentations, and a water demonstration (Table 1). Media attention for

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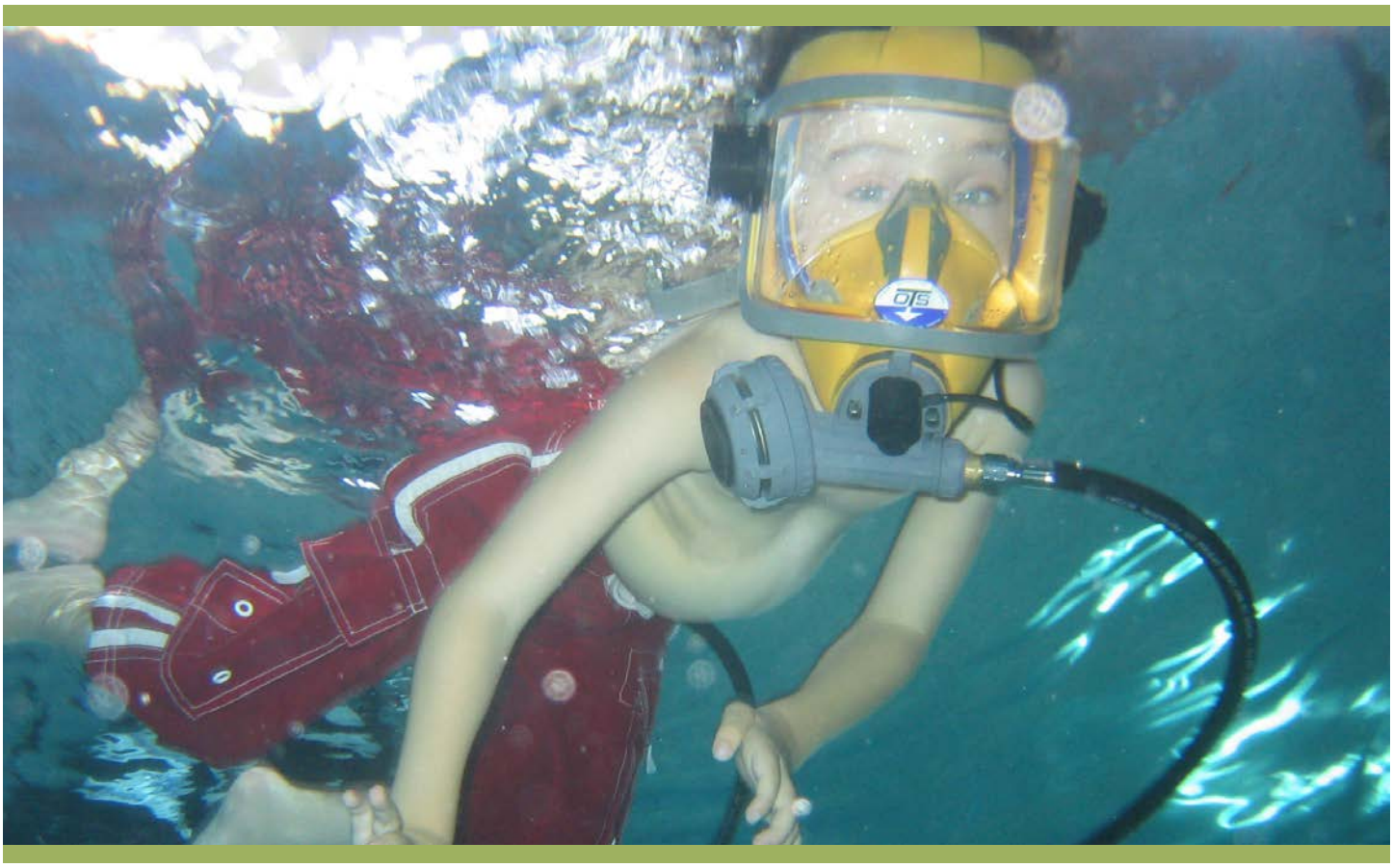

Participant feedback demonstrated growth in knowledge of the sport and viability of adapted aquatic equipment.

the Celebration allowed organizers to both advertise the offerings transpiring on campus and educate the public on opportunities for accessible recreation. Researchers met with organizers, presenters, and participants to design future collaborations in the fields of disability study and adapted sport.

Table 1
Celebration of Disability: Adapted SCUBA Programming

Time	Sessions	Audience
Morning	Press Conference Research Meeting	Media Faculty
1:00 p.m. 2:30 p.m. 4:30 p.m. 6:00 p.m.	Dry Land Presentation 1 Dry Land Presentation 2 Dry Land Presentation 3 Aquatic Demonstration	Campus Open Session College of Education Students Community Open Session Open Session

Dry land presentations occurred on campus and in the community. Multiple presentations permitted the largest number of individuals representing any community organization access to the material, Celebration speakers, and an alumnus diver with a disability. Faculty, staff, students, local residents, service providers, potential divers, and dive buddies attended two of the dry land sessions. A third dry land session focused on matching Celebration speakers with future educators interested in learning about adaptations in high-risk sports. This unique session focused on the educational aspects of adapted sport. Future educators were invited to gain a unique perspective on the impact of inclusion outside of the classroom.

Although each dry land presentation was geared toward unique audiences, the format for the sessions was essentially the same. An invested committee member served as host, introducing the guest speakers and thanking those in attendance. First, the Diveheart founder discussed the benefits of scuba in general followed by a joint presentation by him and an alumnus diver with a physical disability. Their presentation explained the minimal adaptations required to modify this sport for individuals with spinal cord injuries. Video and photographs provided visual and auditory understanding of the dive experience. Presenters concluded by answering questions from the audience.

The day culminated with a narrated water-based demonstration staged by an alumnus diver and multiple buddy divers. The alumnus diver is certified to dive with one buddy diver; however, due to intense program interest among student divers, organizers involved more participants. This portion attracted the largest crowds and incorporated student divers from the campus scuba club. The water-based demonstration allowed observers a firsthand view of how to enter and exit the water, use weights, and make minor modifications to allow for the greatest level of independence while diving.

The water-based demonstration was auditory and visual in nature. We used a portable amplification system to ensure all observers could hear the descriptions as actions were performed. The demonstration began with a committee member explaining the intent of adapted sport and recreation. The Diveheart founder then narrated as divers donned wet suits, were equipped with appropriate weights, entered the pool, navigated various depths of the pool, and exited the pool. Narration included information on buddy divers and entrance techniques using lifts, ramps, zero-degree entry, and pool ledge drop. Safety was emphasized as well as minor adaptations required to make the aquatic environment not only usable but also equitable for divers with physical disabilities.

Safety was emphasized along with minor adaptations required to make the aquatic environment usable and equitable for divers with physical disabilities.

Evaluation

The last phase of the APIE process is evaluation. Attendance served as the quantitative measure of success. However, as this measurement did not adequately assess program goals during past awareness events, evaluators looked to qualitative measures. Qualitative findings speaking to project success included actions and statements of attitude transformation. The qualitative results observed are addressed in the outcomes section.

Observed Outcomes

The outcomes from these events indicate that adapted scuba programming is a just, usable, sustainable, and transformational experience for all involved. The explanation of scuba as both a recreational and an employment opportunity for divers with and without disabilities exemplifies the justice of this event. Participants at the event demonstrated behaviors that give evidence to the ability of adapted scuba to bring about lasting awareness and change. These behaviors included personal donations to Diveheart, internship placements, and requests for future programming. Students with disabilities noted a more realistic interaction with peers without disabilities. The introduction of a recreational sport that could and is enjoyed by many individuals regardless of their physical abilities allowed the students to be viewed equally, as peers with a common sport interest rather than people with physical differences.

The implementation of an adapted scuba event is a doable feat for nearly any community as evidenced by the over 500 individual participants attending the day's activities. Moreover, the mechanical breakdown less than 24 hours prior to event necessitating the moving of the pool session to another aquatic venue depicts this program as adapted to a variety of community resources. The physical coordination and use of community venues and two campus pools is a testament to the flexible nature of this versatile programming. Attendance at the various events spanned several groups: students with and without disabilities, faculty, administrators, community members, divers, and non-divers. The cross appeal of this event furthers the flexibility and usability of adapted scuba as an awareness tool.

Although the programming of adapted scuba is sustainable over time, our experiences indicate that it needs nurturing to install it as a perennial activity championed by students and administration in addition to faculty sponsors. We acknowledge that our timeline of hosting the first demonstration of adapted scuba in the fall and hoping to follow it with a 3-day dive buddy training program the subsequent spring was too ambitious. That said, we are optimistically scheduling dive buddy training within 2 years of the initial program and anticipate that this event will become a regular part of our scuba curriculum. This is evidence that true change takes time. The immediate impact of this event was an increase in scuba club participation and dive buddy training. Participant feedback on-site demonstrated growth in knowledge of the sport and viability of adapted aquatic equipment (pool lift, universal design of pool facility, etc.). These enlightened outcomes differ drastically from the feelings of pity elicited during table fairs or simulations (Burgstahler & Doe, 2004; French, 1992; Karten, 2008; Schwartz et al., 2010).

The collaborative effort on the part of four campus departments (i.e., Recreation, Park, and Tourism Administration; Kinesiology; Educational and Instructional Services, University Relations; Office of Equal Opportunity and Access) and three student clubs (Student Therapeutic Recreation Society, Marketing, and Scuba) supports the transformational nature of adapted scuba. Program transformability at the program's conclusion is further evident as several scuba volunteers expressed their desire to continue their education and become adapted diver certified instructors. These indications of collaborative work and interprofessional education highlight adapted scuba as a viable activity supporting diverse community interests. Moreover, continued student interest in scuba as well as buddy certification and internship/employment opportunities in the field speak to the ability of this modality to effect real change. Taken together, these observed outcomes depict adapted scuba as transformational programming involving multiple disciplines from both campus and community.

Demonstrating an actual activity in which persons with disabilities can and do participate served to be realistic and valuable toward the goal of awareness. Having this activity be facilitated by guest speakers with specialized training and participants with disabilities with real experiences ensured clear communication of the intended outcome to the general public. In short, participants left this awareness event more aware, aware of an adapted sport they may have otherwise not heard of and aware of barrier removal strategies to ensure equal participation for persons with disabilities. These results are a far cry from the feelings of pity elicited with previous awareness activities. Adapted scuba proved to be a successful modality to meet the goal of awareness and education without the negative impacts previously found in simulation activities.

Participants demonstrated behaviors that give evidence to the ability of adapted SCUBA to bring about lasting awareness and change.

Implications

In light of medical advances leading to large numbers of active individuals with disabilities (including many veterans), another implication is that the number of individuals who will benefit from exposure to adapted scuba continues to grow. The authors' adapted scuba programming demonstrates that although interdepartmental collaboration is possible, it is not automatic. Similar events supported by multiple units or using multiple venues will do well to initiate systematic planning at least 6 months in advance and obtain redundant resources to ensure a successful event. Future programming should also include a thorough assessment of participants' knowledge and opinions on adapted physical activity contrasted against a noninvolved control group. Findings would shed light on participants' attitudes toward and knowledge of adapted physical activity while offering return on investment for administrators keen to know that monies used are contributing to the development of socially just perspectives. Longitudinal follow-up of participants could demonstrate how well content and lessons are retained, thereby further enhancing future programming. In summation, adapted scuba promotes human-centered practices, promotes equitable design strategies, and proves that a successful adapted scuba demonstration has value to everyone, not just those in the water.

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For more information on scuba, contact

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