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A Case Study of a Paraspport Coach and a Life of Learning

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The complex process of sport coaching is a dynamic and evolving practice that develops over a long period of time. As such, a useful constructivist perspective on lifelong learning is Jarvis' (2006, 2009) theory of human learning. According to Jarvis, how people learn is at the core of understanding how we can best support educational development. The purpose of the current study is to explore the lifelong learning of one parasport coach who stood out in his field, and how his coaching practice evolved and developed throughout his life. A thematic analysis (Braun & Clarke, 2006) was used to extract themes and examples from three two-hour interviews as well as interviews with key collaborators in his coaching network. The findings reveal a coach whose coaching practice is founded on pragmatic problem solving in the face of a lack in resources; an investment in formal and nonformal adapted activity education at the start of his parasport career; and observation, communication, and relationship-building with his athletes and the parasport community. Suggestions are provided for coach developers on how they might invest resources and create learning opportunities for coaches of athletes with a disability.

Keywords: coach biography, coach learning, disability sport, lifelong learning, Paralympic

Early forays into research for athletes with a disability or parasport began over twenty years ago (DePauw, 1986; DePauw & Gavron, 1991) and indicated a lack of empirical research in the area of coaching in parasport. While there has been an increase in global research exploring coaches' learning situations and how coaches learn throughout their lives (Callary, Trudel, & Werthner, 2012, 2013; Werthner & Trudel, 2006, 2009), the research on how coaches learn within the Paralympic and parasport context remains limited and the questions surrounding how to best support and grow the parasport coaching world are many (Cregan, Bloom, & Reid, 2007;

DePauw & Gavron, 2005; McMaster, Culver & Werthner, 2012; Tawse, Bloom, Sabiston & Reid, 2012). For the purpose of the current study, we use the term parasport to describe sport for athletes with a disability, and the term *Paralympic sport* to describe high performance sport that is governed by the International Paralympic Committee (IPC). We also use the term *adapted sport* as it pertains to formal physical education and it is the official term used in the college and university setting. The purpose of the current study was to explore the lifelong learning of one parasport coach and how his coaching practice evolved and developed throughout his life.

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Human Learning

Given the intricate complexities of the dynamic process of learning, Jarvis' (2006, 2009) holistic constructivist approach to lifelong learning has been used as a conceptual framework to better understand the human learning process. Peter Jarvis is recognized as a lead author on adult learning in the social world. In November 2008 the publisher Routledge selected him as their education author of the month. At the time he had written and edited over 30 books and 200 articles and chapters (Routledge, n.d.). Twenty-nine years ago he cofounded the *International Journal of Lifelong Education* and remains one of its editors. His work has recently been used to understand coach learning in able-bodied sport, disability sport, and school sport (Cushion & Nelson, 2013; Leduc, Culver & Werthner, 2012; McMaster, Culver & Werthner, 2012; Trudel, Culver, & Werthner, 2013; Winchester, Culver, & Camiré, 2011).

Jarvis' (2006, 2009) theory of human learning includes a number of key concepts such as biography, primary and secondary experiences, disjuncture, and meaningful episodic experiences. For Jarvis, the concept of biography plays a central role in any discussion of human learning as it is the sum of all of our past experiences, and determines what, and if, we choose to learn in any particular circumstance. Primary experiences are experiences lived by the learner first-hand, usually taking place in daily life through doing or experiencing something directly. Secondary experiences are mediated by another person, such as a parent, teacher, coach, or various media. There are three types of learning situations in which these primary and secondary experiences can take place: formal, nonformal, and informal. In both formal and nonformal learning situations it is more common to find secondary experiences although primary experiences may occur. However, as informal learning situations are ones in which the learner is self-directed, forming their own meaning through experience, these experiences are exclusively primary experiences. The concept of disjuncture occurs when a person's biography is at odds with exposure to a new situation. A sense of disharmony or tension is created and it is this tension that creates an opportunity for learning to take place. Finally, Jarvis' concept of meaningful experiences emphasizes that it is the learner who will determine if an experience is meaningful or not; this decision usually arrived at through reflection.

Jarvis (2006, 2009) and other learning theorists situated in physical education (Gréhaigne, Caty, & Godbout, 2010; Light, 2008) point to the importance of looking at lifelong learning through a broader scope than just cognition or behaviourism. Jarvis suggests we must start with the understanding of the learner, tracing back to life experiences that have led to the present, and when combined with those in the current life-world, have a profound influence on learning.

Parasport Coaching Literature

Research in parasport has revealed it to be a relatively deprived context, with not many formal and nonformal parasport-specific learning opportunities, fewer jobs and economic resources, and fewer coaching peers and athletes as in the able-bodied sport context (Burkett, 2013; Cregan et al., 2007; DePauw & Gavron, 2005; McMaster et al., 2012; Sherrill & Williams, 1996). While sport science has begun to show an interest in parasport research (Buchholz, McGillivray, & Pencharz, 2003; Fulton, Pyne, & Burkett, 2009; Keogh, 2011), much of the current literature and resource material tends to be designed by sport science specialists or academics to meet their own needs, and therefore not readily digestible by the parasport coach who is seeking to fill coaching knowledge gaps (Burkett, 2013).

One recent study explored the career development of six Canadian para swim coaches who coached athletes at the national level (Cregan, et al., 2007). Their findings indicated there was a lack of para swimming coaching seminars or applied clinics which meant the coaches often turned to informal learning opportunities such as discussions with their athletes, learning directly from daily training sessions and from interacting with other coaches, mentors, or other collaborators. Swimming has since developed some para swimming-specific training, but only half of the 27 partner sports in the Canadian National Coaching Certification Program (NCCP) who possess a Paralympic program have completed the development of sport-specific training for coaches of athletes with a disability.

Tawse, Bloom, Sabiston and Reid (2012) examined the development of four wheelchair rugby coaches of athletes with spinal cord injuries. The primary focus of this study was how coaches felt they influenced athlete development, but the study also cited a lack of parasport coaching resources, and specifically, coaching resources for wheelchair rugby. The coaches noted the importance of their relationship with their athletes, as well as the importance of focusing on what the individual can do versus on the disability. The findings also noted the importance of an integrated support team (e.g., medical professionals, psychologists, nutritionists) to help meet the wide range of needs on their high performance wheelchair rugby team.

McMaster, Culver and Werthner (2012) explored the learning processes of five parasport coaches from the sports of adapted water skiing, para swimming, wheelchair basketball, wheelchair rugby, and wheelchair tennis. Four of the coaches were volunteer or part-time coaches and one held a full-time, paid position. The full-time coach had a university degree in physical education and was Level IV (NCCP) certified in the Canadian coach education system, while the other four coaches had degrees in other areas such as engineering, leisure, and business. In terms of learning opportunities, the findings indicated that the coaches spoke of a lack of formal coach education opportunities, nonformal coaching clinics,

and financial support. All five coaches relied heavily on nonformal and informal learning situations to address gaps in their coaching practice. From these few studies it appears that learning to coach in parasport is an area that needs further exploration. In particular it is useful to consider how coaches who have made a viable career in parasport have learned, as it may help develop a clearer picture of differing ways to learn and open up a dialogue for coach education developers to think about learning from a variety of perspectives.

Methods

The present study used a qualitative case study methodology seeking greater understanding of the case: the learning biography of Coach Michael, a parasport coach (Merriam, 2002; Stake, 2005). This approach has been employed in other studies in coaching to develop a deeper understanding of one coach's unique learning experience (Jowett, 2003; Lorimer & Holland-Smith, 2012), and to create an in-depth look at the scope and complexity of learning over a period of time (Gallimore, Gilbert, & Nater, 2013). Findings in a single-case study are not generally meant to be extrapolated to the general population but are used to paint a portrait of a particular case to gain a deeper understanding of a particular phenomenon (Stake, 2005).

In this case, the coach was recognized by the Canadian Paralympic Committee and the national parasport community as an exemplary coach, coaching parasport athletes from the development level through to the international level. He has created a unique training centre with a year-round program and training environment for athletes in a wide variety of disability groups. In the year before partaking in this study, the coach was the recipient of the "Coach of the Year" award by the Coaching Association of Canada. This coach also represented parasport on a national working committee for the professional sport coaches' association and was an international technical classifier at the Paralympic level. This coach has also managed to create and sustain a full time career in coaching and importantly, has produced athletes who have competed at all levels of parasport. He was open to collaborating and sharing his life of learning over the course of the study. This openness and willingness to contribute are important prerequisites in qualitative research (Creswell, 2007).

Ethics approval was received from the University of Ottawa Research Ethics Board and a pilot interview was conducted with a parasport coach to aid in the completion and final draft of the interview guide. This guide was then reviewed by an experienced coaching research team and, following the refinement of the interview guide, three interviews were conducted with the coach. Polkinghorne (2005) has suggested that it is important to engage in several interviews with participants and that a sequence of three interviews is ideal to collect rich, in-depth data. The two key research questions that guided the current study and the series of three interviews were: "What life

experiences have influenced your coaching" and "How did you learn to be a para sport coach?"

In the first interview, the coach was asked about his life and, in particular, about the ways he had learned to coach. The interview questions were guided by Jarvis (2006, 2009) and explored many facets of his life experiences, revealing thoughts, feelings, and behaviours that helped provide a vivid picture of his past and current learning situations. This interview helped establish rapport, gathered biographical information, and established a first glimpse of the coach's many learning experiences. The interview was transcribed verbatim, analyzed using Braun and Clarke's (2006) thematic analysis (see below) and reviewed by the researcher and the supervisor who is a coaching research expert. A nonparticipant observation took place during a weekend training camp following Interview #1 to enhance trustworthiness (Creswell, 2007). The goal of this observation was to familiarize the researcher with the parasport context in which this coach was working each day and to contribute to a deeper understanding of the unique vernacular, various equipment, and training practices to best interpret the interviews (Stake, 2005).

Based on the analysis of the initial interview, the second interview was conducted to follow up and probe the coach's learning situations more deeply. The second interview was conducted four months after the first. Time between interviews according to Polkinghorne (2005) provides an opportunity for the coach to reflect more deeply on what was discussed in the first interview. In the first and second interviews, the coach identified four individuals who he felt were key collaborators in his coaching practice and learning. These four individuals were subsequently interviewed about their working relationship with the coach. Finally, a third interview was conducted with the coach, probing for further reflection about his learning and on how he saw his relationship, from a learning perspective, with each of his self-declared collaborators. This third interview also provided an opportunity for the coach to add any newly recalled information (Polkinghorne, 2005). Each of the three coach interviews ranged from 120 to 180 min, with transcripts ranging from 30 to 40 pages double-spaced. The four collaborator interviews were approximately 60 minutes each with transcripts of 15 pages each double-spaced. Please see Appendix A for the Interview Guides.

Barbour (2001) reminds us that qualitative research is messy and cautions against the tendency of some reviewers in certain domains to want to reduce qualitative research to a checklist of technical procedures. Such an inclination runs the risk of "compromising the unique contribution that systematic qualitative research can make" (Barbour, 2001, p.1115). Our thematic analysis was largely deductive, using the concepts of Jarvis' work on lifelong learning (2006, 2009) such as primary and secondary socialization. However, given the lack of research about coaching athletes with a disability, inductive (in vivo) themes also surfaced. The analysis process involved a six-step ongoing approach that began with

the transcription process in the first interview phase and ended in the writing of the article. First, there is a process of familiarization with the data through the transcription process, noting themes, ideas and reflections. Secondly, the transcribed interviews were coded using NVivo QSR 2010 (Version 9.0) data management system to help organize, code and interpret the data. Thirdly, the data were analysed for themes (e.g., coaching experience, learning situations, parasport context). In the fourth stage, these themes were then mapped and organized to show relationships between themes. In step five, the data and themes go through a final review for coherence and any gaps. The resulting themes focused on the coach's biography, learning situations, and contextual factors in parasport. Please see Appendix B for learning themes and examples. Trustworthiness was enhanced through member checking of all transcripts by the participant (Guba & Lincoln, 1994) and by the lead researcher observing the coach at a weekend training camp. Only grammatical changes were requested by the coach.

Results

The results section of the current study consists of two sections: the coach's biography and the coach's learning situations within parasport. Coach Michael and the other identified individuals referred to in the interviews have been assigned pseudonyms and all references specific to the coach's family and sport have been eliminated to maintain confidentiality.

Coach Biography

According to Jarvis, (2006, 2009) an individual's biography will determine if an experience is meaningful or not. With this in mind the following section provides an in-depth exploration of one coach. For over 15 years, Michael has been a full-time coach in parasport, coaching athletes from grassroots to the international level. Throughout the series of three interviews, coach Michael offered candid and detailed responses, creating a vivid portrait of how his learning evolved throughout his lifetime and, in particular, his life as a parasport coach. For the purpose of this section, the theme of meaningful experiences has been divided into three subthemes: family and environment, school and peers, and transition through adversity into parasport.

Meaningful Experiences: Family and Environment. Michael cited the influence of both his father and mother and indicated that much of his approach with others came from his mother and a sense of practical, solution-oriented pragmatism he learned from his father. As the middle child of five children, his childhood was spent in both rural Canada and Europe. He described watching his father actively solve problems and recalled how he was encouraged to do the same. Michael said, "My dad was a handy man. He built his own bikes and could do anything. I grew up watching him and doing all of it, too.

As a result, I'm more inclined to solve problems myself rather than call someone."

Michael remembered his mother creating a welcoming and inclusive home that included caring for individuals with varying degrees of ability, including a family member who was an amputee, a neighbour who used a wheelchair, and a friend of his father who was visually impaired. Michael noted that daily interactions with such individuals had a significant influence.

We always had all kinds of people in my house, there was no *normal* or ability or disability. It was an amazing environment to grow up in. Anyone and everyone was welcome in my house. I guess I learned through my parents that in the end we are all the same more than we are different.

Early Experiences: School and Peers. During his childhood, Michael's family had spent several years in Europe, and once Michael returned to Canada, school, sport, friends and teammates became a significant source of primary and secondary learning, as well as a place to learn leadership and early coaching skills:

I came back to Canada and I was a year older than my friends – the more responsible one, slightly older and independent. We all used to ride our bikes around, but when my friends got their cars, I continued to ride my bike. In high school I was the captain of the volleyball team. I remember teachers writing on my report card "Michael is very independent and isn't easily swayed by others."

Michael's passion for sport inspired him to compete in cycling and volleyball. A thirst for knowledge on human performance and the sport science led him to complete a university degree in kinesiology. Interested in sport science and diverse hands-on activities, Michael talked about how he enjoyed a balance of applied as well as academic pursuits, always trying to understand the scientific theories behind human performance.

Meaningful Experiences: Transition Through Adversity Into Coaching Parasport. When asked about his transition into coaching, Michael shared how his own unexpected illness led him to consider coaching more seriously.

I developed a heart virus and nearly died (pericarditis). I was on a rehabilitation program and couldn't walk or drive, and I saw how fragile life is. But you can make the best of anything ...through all of the tests we discovered I had a hole in my heart. I knew then I'd never be a pro cyclist. So I really started transitioning to para coaching in the mid-90s after that. Another door opened leading down another path. I learned to create opportunities from something challenging.

It was also Michael's mother's illness that influenced his transition to para coaching. Michael made a detour from his original plan to finish his university studies in

kinesiology to return to his hometown so he could be near his mother after a cancer diagnosis. It was there that he found a job working with a young visually impaired person and went on to expand his program to several athletes with cerebral palsy, amputees, and spinal cord injuries. Early success in coaching developing athletes to a world championship level led Michael to develop confidence and a spot as parasport head coach culminating with coaching at the Paralympic Games.

His mother's ten-year battle with the disease influenced how Michael balanced personal and professional priorities in his coaching. Though his mother's health was frail, he followed her wishes and went on to coach at the Paralympic Games:

Through that difficult Games I learned that you are a lot stronger than you think you are. And how vulnerable. I sat in the coaches' lounge and the other coaches were so supportive and amazing, and they knew what I was going through ... I know it made my mother proud. There are all these milestones in your life that set you on your path.

It can be seen from Michael's comments that influences in his early life, whether parental, friends, or significant experiences, played an important role in his learning.

Coach Learning and Social Context

This section explores Michael's learning situations (formal, nonformal and informal) and how the social context of parasport influenced these learning opportunities.

Formal: Kinesiology, Adaptive Sport, National Coaching Certification Program

Michael completed an undergraduate degree in kinesiology and his keen desire to understand his athletes' disabilities from a theoretical perspective led to further specialization in parasport (called "adaptive sport" in the university curriculum).

That's when I took the university classes in adaptive sport. It gave me the confidence to move forward. However, without that formal education I would have been missing out on a lot of important information. It wasn't just that I learned about Cerebral Palsy (CP), I also learned about Spina Bifida, Down's Syndrome, everything there was information on.

When asked about what he thought he had learned through his studies in kinesiology and adapted physical activity, Michael reflected on why he felt it was important in the early stages of his coaching career:

I think early on in my career I didn't want to hurt any of my athletes. I was so uncertain of how far I could push. I was afraid working with CP kids at first, as I didn't want to damage muscle structure and soft tissue. I was concerned because my sport is one with inherent risk. Early university education and training

helped ground me and gave me the confidence to say "I can do this," and the base to go out and work with CP, do some trial and error and push a bit.

Michael also made reference to the evolution of his reliance on formal education as his practical experience and reflection increased:

These days, obviously I am not referencing the formal learning pieces as much as I did seven or eight years ago. The problem-solving back then was a lot different. More problems that I had never seen before. And then I did a lot of mentoring of Alex, once the pieces were in place. Setting up training plans. Running events. Practices. Working with each athlete. There was still a lot of independent discovery on my part too, going out there and solving things in the field.

Michael also sought formal coaching education through Canada's National Coaching Certification Program (NCCP) in three sports. He described his NCCP courses as being a good basic foundation but sometimes lacking in technical pieces that were important to innovation in parasport.

Nonformal: Welder's Assistant Apprenticeship; Braille and Orientation Mobility Certificates; Coaching Clinics and Conferences

Michael sought many nonformal learning experiences, such as conferences, certificates from clinics, apprenticeships or weekend training camps. When encouraged to reflect on his early career, Michael arrived at a long list of other specialized nonsport specific certifications, clinics, and skills such as training in orientation mobility (for the visually impaired), and Grade 1 Braille instructor training. When asked about equipment adaptations for para athletes, Michael spoke to how he had learned to make the necessary detailed adjustments for his athletes:

Well, I was a sheet metal worker, a welder's helper, in high school. I built steel structures right to brass finishing. It was a really diverse program. It was a sheet metal shop. One day it was industrial steel for a building, the next it was building kitchen stainless steel for garbage cans in homes.

The nonformal learning situations provided Michael with opportunities to put his theoretical knowledge into practice. In some cases, training was undertaken for one purpose (a part-time job) and it also provided important life and vocational skills that were called upon later (such as the welding program that proved to be a useful skill for equipment adaptations). These nonformal opportunities also expanded his exposure to like-minded persons who were interested in similar areas of parasport. These were the beginnings of a network of persons that he could later call upon to fill some of his knowledge gaps throughout his coaching development.

Informal: Mentoring, Key Coaching Collaborators, Athletes, Family, and a Process of Regular Reflection

Michael discussed a wide variety of informal learning situations that he used to help him to coach. He spoke of a mentor coach from his early years as a coach, four key collaborators, his athletes, and his family. His ongoing process of reflecting within each of these informal learning situations helped him learn and develop as a coach.

Michael talked about seeking out a mentor coach (an Olympic coach at the training centre) early in his coaching. "I studied under him at the training centre and he took me in as an apprentice coach. Every day for that season I was at the track from 9 – 4, absorbing all I could from him." This mentor coach helped Michael understand how to organize training sessions, how to communicate effectively with athletes, and how to work with athletes training and competing in multiple events.

Michael also described the importance of working with four key individuals in the disability community who became key collaborators. The first individual of the four collaborators he referred to was the chairperson of a provincial disability organization. She helped him understand how to build relationships with the disability sport community, make contacts in amputee sport, run clinics and presentations, and find funding within the parasport community "She's not a technical coaching resource, but she's been really good at helping me with support, funding, and problem-solving."

A second key collaborator was a coach who was a para athlete himself who became an assistant coach in Michael's program. This individual provided Michael with information on the unique needs of para athletes, particularly those with a spinal cord injury. Michael said "We have a long history – I coached him in the past and he's back in the system now doing endurance wheelchair sports. He does a lot of really good things, and brings a lot of experience from his days in racing." Michael also cited periodic interactions with coaches from other sports, comparing problem-solving approaches between sports, managing logistics, maintaining motivation or solving funding or resource challenges.

A third key collaborator was an exercise physiologist who validated Michael's training programs and helped his athletes to taper for major events. This physiologist was also a researcher in parasport and highly motivated to gain more understanding from Michael and his athletes. Thus, the learning and collaboration was reciprocal.

Finally, Michael also collaborated with a professor of adapted physical activity who served as a sounding board and provided graduate students to help with Michael's parasport program. Michael also described this as a means for his own professional development as he was a guest speaker in the adapted physical activity classes.

Another example of informal learning was Michael's relationship with his athletes. He reported

that listening to his athletes, and getting to know their personalities, was extremely important in knowing how to coach them effectively and how far he could push:

Sometimes the people who have the odds the most against them, have the biggest drive to prove people wrong. I've had athletes who in the beginning I have coddled, and then they get soft and go backwards. I see that, and think, "that's not working." So you're tougher on them for a few months and then that doesn't work anymore. I've learned that what works today may not work tomorrow. Athletes' needs will change over time. You have to watch, listen to them, and to experiment with each athlete.

Michael also reported being stretched for time and resources, wishing he could do more of the things that he was most interested in, but having to take on other roles since there were no resources to pay someone, nor a volunteer to do them. This meant he sometimes turned to the Internet for information on classification, rule changes or disability-specific information, to advice from experts in the field, or to trial and error. At different points in the series of three interviews, Michael described his multiple roles: fundraiser, mechanic, manager, recruiter, nutritionist, trainer, prosthetics specialist, and coach for varying para athlete classifications (visually impaired, CP racing, athletes with brain injuries, amputee).

Michael also noted the influences of his nuclear family on his learning. His wife is an athlete and a personal trainer, and he described her as a sounding board and confidante. Michael also felt that being a parent provided him with more insight into relating to sport parents and to seeing adapted sport through the eyes of his children: "My children have no fear when approaching my athletes. They have a much broader sense of what people look like, and what our bodies can do now, because of exposure to my athletes... I've learned that many of our prejudices and boundaries are created by us, as adults. My son's innocence and curiosity inspires me."

Finally, Michael spoke of reflecting regularly on his past educational experiences, his daily coaching, and his encounters with others. He reported taking on new experiences and reflecting on them on a continual basis.

I love discovery and seeing a problem, thinking about it, and finding an answer. Is it from my courses? Something I've seen? Do I know someone who might know? Where can I find out more? Or should I think and grind it out and find my own solution from inside or a combination of all those things? Even when resources are available, I still like to figure some stuff out on my own. That's going on now, all the time.

Discussion

The purpose of the current study was to explore the lifelong learning of one parasport coach and how his coaching practice evolved and developed throughout his life, using Jarvis' (2006, 2009) comprehensive theory on

human learning as a conceptual framework. One of the key findings from the series of interviews with this coach was how he drew on his formal education, particularly in his early days as a coach. While there have been numerous discussions in the coaching literature on the value, or lack thereof, of formal education in a sport coach's life, a few studies have suggested that it can form an important basis for coach learning (Trudel et al., 2012; Werthner & Trudel, 2006, 2009) and this was very much the situation for the coach in the current study. This coach made a deliberate decision to be well educated in physiological and neurological foundations in his early years, including specifics about a wide range of disability groups. NCCP coaching clinics provided other learning situations in which Michael reported developing some foundational technical and coaching skills, providing him with the initial confidence to move forward in his coaching practice, and this appears to be in line with other studies that pointed to coaching confidence arising from participation in formal coach education early on in their careers (Leduc, Culver & Werthner, 2012; Werthner, Culver, & Trudel, 2012).

A second key finding was the coach's use of learning through his interactions with others, including a mentor relationship early on in his career, and the creation of a network of four key collaborators who helped him navigate and learn within the parasport context. This finding differs from several studies in the able-bodied context in which it was found that coaches were less open to sharing information, especially with other coaches, partly due to the competitive nature of sport (Culver & Trudel, 2006, 2008; Lemyre, Trudel, & Durand-Bush, 2007; Trudel & Gilbert, 2004). This coach took the initiative to seek out a mentor within his sport early on in his career who helped him learn how to develop training plans and work effectively with his athletes. His interactions with four key individuals also helped him in a wide variety of ways such as addressing unique para athlete physiological demands (physiologist), navigating the disability sport system (a parasport leader), recruiting athletes and tailoring programs (assistant coach / former Paralympic athlete), and maintaining links with the adapted sport community (adapted physical activity professor). Looking further at interactions that aid coach learning warrants further study, as several studies have begun to explore the merits of using learning networks in sport coaching (Culver & Trudel, 2006, 2008; Occhino, Mallett, & Rynne, 2012).

A third key finding is the initiative that Michael took that helped him learn and create a full time career in parasport coaching. As his proficiency as a para coach evolved, Michael began to test and challenge the foundations he had studied in the classroom and sought out many nonformal learning situations in the form of sport-specific technical clinics and conferences. Given the nature of parasport, with coaching education and sport science resources in disability sport being comparatively sparse (Cregan et al., 2007; DePauw & Gavron, 2005; McMaster et al., 2012), he used his creativity and resourcefulness to address deficiencies through additional

nonsport specific learning opportunities. He took courses in welding which helped him significantly in managing the equipment demands of the sport. He became adept at both repairing and adjusting equipment for specific athletes which allowed him to regularly modify his own equipment and ensure he had what he needed for his athletes. He also learned to read Braille, and became orientation and mobility certified to guide persons with visual impairments.

Early in his coaching career, this coach drew on his primary experience as an athlete, which is certainly consistent with coach learning studies in the able-bodied sport literature (Cushion, Armour, & Jones, 2003; Lemyre et al., 2007; Werthner & Trudel, 2006, 2009). However, given that he was not himself disabled, he also used a combination of keen observation, effective communication skills, and an ability to build productive relationships to help him learn about the athletes he coached and the unique environment of parasport.

Michael also drew on his primary and secondary childhood experiences (Jarvis, 2006; 2009). From his father he learned about practical training in the trades and developed a strong work ethic. His early recollections of the communication and relationship-building skills modelled by his mother also had influenced how he developed relationships with his athletes and his coaching network. These findings are consistent with authors who have linked meaningful episodic experiences with an impact on learning and future behavior (Callary et al., 2012; Jarvis, 2006; 2009; Lorimer & Holland-Smith, 2012). Michael appeared to embrace change and creativity in his coaching, characteristics that again link back to skills learned initially in his family environment where he was encouraged to solve his own problems, often in collaboration with others. This willingness to seek out creative solutions and to use both self-reflection and reflective discussions with others seems to be consistent with past studies on successful coaches in the Olympic context (Werthner & Trudel, 2009).

Important links can also be drawn between the coach's biography and his primary and secondary experiences and a preference for particular ways of learning. Throughout his career, this coach preferred self-discovery and practical ways to problem solve, where possible, which links back to his childhood where he was encouraged by his father to innovate. These skills were honed throughout Michael's coaching career to form an approach to coaching that blended tactile and work-related skills with his own experiences as an able-bodied athlete. Callary et al.'s (2012) study on women coaches illustrated how learning was influenced by primary and secondary experiences as an athlete, learning from family and from other coaches. Other researchers have also written that coaches will view and interpret coaching events in the future on the basis of their early experiential foundations and that "such formative experiences carry far into a coach's career and provide a continuing influence over perspectives, beliefs, and behaviors" (Cushion et al., 2003, p. 218).

This coach also emphasized the role that his personal values, learned from his parents, played in how he viewed the importance of building effective and long-lasting relationships with his athletes and other members of the parasport community, including his key collaborators. Callary et al. (2013) also found that values played an important role in how women coaches developed their approach to coaching and Lorimer and Holland-Smith (2012) found that early experiences and passion for sport can lead to development of values required for sharing their knowledge with others.

In the end, despite the numerous challenges, such as few sport-specific para coaching resources, funding challenges, and a small resource network, Michael has been navigating these challenges with enough success to still be coaching in parasport well into his second decade.

Limitations

This study has afforded an in-depth look into one coach's life of learning although we cannot generalize to all coaches in parasport. While there is significant value to using self-reporting as a form of inquiry, there are also inherent limitations to participants having access to their past experiences through retrospection. One way to address this challenge is to triangulate the accounts of others who may add additional dimensions. As well, researchers could consider using observations and artifacts from the coach's life history to prompt richer data. Future research might also consider longitudinal case studies in different sporting contexts.

Conclusion and Recommendations

This coach spoke of the influence of his parents and early exposure to persons with disabilities, the importance of his formal education in physical education and the numerous situations and individuals he sought out that helped him learn as he progressed in his coaching career. As a result of the current study we have three recommendations for coach educators who are working to provide support for coaches in the parasport context. First, parasport educators might consider accessing high school students who are required to accumulate a certain number of hours of volunteer work. Providing an early exposure to parasport coaching and provision of the appropriate learning support to such young adults might allow parasport organizations to identify individuals who have the motivation to work in the parasport context. Second, it is suggested that coach educators recognize the relevance of a formal education while also understanding that parasport will require the development of other learning situations given the myriad of disabilities and various equipment needs. Third, given the coach in the current study found it important to build a network of key collaborators to help him navigate the parasport context, sport organizations and coach educators should explore ways to create and nurture such coaching networks. It is hoped that the current study will provide valuable

information to those in national sport organizations who are committed to para coach support and education, and that formal coach education programs will work to enhance support and resources to improve coaches' learning within the parasport context.

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Appendix A: Interview Guide

Interview #1 Guide—Parasport Coach

Introduction—Purpose of the study is explained, coach asked to bring mementos or artifacts that might help provoke reflection and more in depth discussion regarding the different contexts in which they coach and learn.

- 1) Please tell me about your life/your background (social context; life history)
 - Where/when did you grow up?
 - What is your family background (parents/siblings/extended family)?
 - Tell me about your schooling/education?
 - Did you play sports when growing up? If yes, please describe.
 - Do you have a partner/children?—if so, please tell me about them and how they are part of your life.

- 2) How did you enter the world of coaching? (coaching specific context)
 - When did you begin coaching?
 - How long have you coached?
 - Who/athletes/teams you have coached?
 - Able-bodied? With disabilities?

- 3) Tell me about your current coaching and life experiences that have influenced your coaching? (learning environments; approaches to learning)
 - How do you think you have learned to coach?
 - Have you taken any coaching courses at university, NCCP, other?
 - Have you taken applied clinics, other courses that were part of your learning?
 - In recent years, and in past, what/who stands out for you?
 - What kinds of things or experiences/people/situations have been important to you, in learning to coach?

- 4) Please describe a particular learning experience(s) that stands out for you. (strong illustrative disjuncture)
 - Do you think this affected/influenced your coaching? If so, how? If no, why not?
 - Are there any other experiences you would like to describe now?
 - Does anything stand out from your past as being most influential (specific family members, friends, early life experiences and influences)?
 - What are some of the key lessons you learned from your background/childhood etc. that resonate with you in your life as a coach?

- 5) What are some of the different ways you feel you learn?
 - Any specific challenges in your life and how you learned from them?

- 6) Tell me more about coaching athletes with physical disabilities.

If you have coached athletes with and without physical disabilities, what are some of the similarities and differences in your coaching in both environments? Are there things that are unique? Please explain.

- 7) How do you feel you have learned to be a good coach? What do you feel has helped you develop as a skilled coach:
 - a. Formal experiences (NCCP, others—probe for specifics)?
 - b. Working with other coaches/colleagues, from other countries, from your athletes, from your experiences?
 - c. Being a past competitor?
 - d. Conferences, clinics?
 - e. Anything else?

- 8) If courses, (or other workshops, continuing ed. etc.) tell me about those courses (probes):
 - a. How they have helped or not helped?
 - b. What have you learned?
 - c. What do you use/don't use? (explore specific examples)
- 9) How do you feel you learn best?
 - a. Do you ever contact/talk with other coaches who were in those courses with you? If yes, what do you discuss? (admin., specific coaching issues?)
 - b. Do you ever talk with coaches from other countries to discuss training issues? If yes, what do you discuss?
 - c. Are there other individuals with whom you collaborate or share these learning experiences? If yes, can you give me an example?
- 10) Are there collaborators in your paracoaching or outside your paracoaching world? (*does not have to be just coaches. Could be athletes, parents, administrators, mentors, other. . .)
 - If coach lists people, ask about role in learning, and their names/roles/detail (probe specifics here)
 - Are these ongoing relationships? Please give me an example.
 - Discuss the next interview with the coach (time to reflect on this interview, will be following up on ways they learn, and we may want to interview some of the individuals they identified as collaborators)
 - Contact information

Interview #2 Guide—Parasport Coach

Introduction: Restate the goal of the study (coach learning) and the participant's role in the study.

In our first interview you provided descriptions and context for many important experiences that helped to form the person you are today—the coach you are today.

Now I'd like to probe a bit further into some of the learning situations that you spoke about in the first interview. (questions on the various learning situations—tell me more about i.e., the coaching clinic

After full probes of areas above bring forth the following:

During those earlier discussions, you indicated that several people have been important collaborators in your current program and that you learn with or from them. I would like to interview them to discover more about the types of interactions you—and they—share. This is so I can better understand your coaching context, given that this study is about how coaches learn throughout a lifetime, and a wide variety of experiences, interactions, and internal reflections. I have also had the chance to see your training environment, and observe your parasport context.

*Interview guide personalized to explore themes touching biographical detail (primary and secondary experiences; early family, school, sport and coaching experiences); Complete gaps in timelines, logistical detail, more precise examples of training; additional experiences or detail surrounding learning contexts (formal, nonformal, informal) and para coaching environment descriptors.

Interviews with Collaborators: Interview guide for coaching practice participants

Introduction: Describe the study and the participant's role in the study.

This is a study on the various ways coaches learn to coach in parasport. I will be asking you questions about your interactions with this coach and the role you play in this sport.

- 1) Please describe your role in this team/program. (Probe for details regarding their profession or role: team physiotherapist, manager, assistant coach, other expert etc.) Please describe how (and/or the ways in which) you interact/work with the coach. How often, in what ways (phone, e-mail, in person etc.)
- 2) What got you into this role in sport?
- 3) Time spent with the coach?
- 4) Paid or volunteer?
- 5) Level of expertise or education?
- 6) Other important information that would be useful in learning more about the relationship you have with this coach's learning

Interview #3 Guide—Parasport Coach

Further probing on the patterns/themes from Interview #1 and #2 will guide the interview:

- 1) Probing more details on the learning experiences (in and out of sport)
- 2) Coaching practice/collaborator development/relationships/roles (if any)

Appendix B

Diagram demonstrating how themes were derived from coded data.

Using Jarvis as a theoretical framework for the interview guide, a semantic approach was used, similar to Werthner and Trudel’s (2009) study examining elite Olympic level coaches.

