

Career Development and Learning Pathways of Paralympic Coaches With a Disability

Scott Douglas

University of Northern Colorado

William R. Falcão and Gordon A. Bloom

McGill University

The purpose of this study was to gain an understanding of the career development and learning pathways of Paralympic head coaches who previously competed as Paralympic athletes. Each coach participated in a semistructured interview. A thematic analysis of the data revealed three higher order themes, which were called becoming a coach, learning to coach, and lifelong learning and teaching. Across these themes, participants discussed interactions with other coaches and athletes with a disability, learning from mentors and coaching clinics, as well as limited formal educational opportunities they experienced transitioning from athlete to head coach. The findings revealed that they acquired most of their knowledge from a combination of knowledge gained as athletes and informal sources, including trial and error. They also stressed the need for enhanced recruiting of parasport coaches and parasport coach education opportunities that would enhance programs for athletes with physical disabilities, from grassroots to Paralympic levels.

Keywords: coach education, coaching, Paralympics, qualitative research

In 1986, the U.S. Olympic Committee on Sport for the Disabled concluded that advancing disability sport would require empirical coaching research specific to this domain, as well as attention to the selection and training programs of these coaches (Reid & Prupas, 1998). More than a decade after the establishment of this committee, Reid and Prupas (1998) analyzed 204 data-based publications in disability sport and found that only five addressed coaching. Furthermore, Rangeon, Gilbert, and Bruner (2012) completed an annotated bibliography on coaching science that listed 946 articles published from 1970 to 2008. Only four of

Douglas is with the School of Sport and Exercise Science, University of Northern Colorado, Greeley, CO. Falcão and Bloom are with the Dept. of Kinesiology and Physical Education, McGill University, Montreal, Quebec, Canada. Address author correspondence to Scott Douglas at Scott.Douglas@unco.edu.

those articles included coaches of athletes with a disability, and none specifically explored the perspectives, opinions, or backgrounds of former Paralympians who have coached athletes with a disability. Historically, this is a rare and marginalized group of coaches who, through their own sport experiences, can offer unique insights into living with a disability and coaching athletes with disabilities. More recently, Lee and Porretta (2013) looked at publications between 2001 and 2011 and found no increase in the number of empirical publications on the selection and training of coaches of athletes with a disability. Consequently, while there are increasingly more sporting opportunities and events for athletes with a disability, the same cannot be said for empirical coaching research within this domain.

Research addressing the career development patterns of elite coaches has focused almost exclusively on coaches of athletes without a disability (Rangeon et al., 2012). For example, Schinke, Bloom, and Salmela (1995) examined the career stages of elite Canadian basketball coaches and found that they went through seven stages divided into three pre-coaching stages and four coaching stages. The pre-coaching stages indicated a relationship between athletic experiences and coaching progression and development. In addition, results revealed that coaches developed fundamental coaching knowledge and skills while still competing as athletes. Schinke et al. (1995) also suggested that formal university education and mentoring helped coaches acquire the knowledge and skills necessary for furthering their careers. In general, Schinke et al.'s (1995) findings illustrated how a collection of expert coaches progressed up the coaching ladder and identified potential sources of knowledge and skill acquisition throughout their journey.

The multifaceted process of sport coaching has been described as both a science and a craft that is honed over a long span of time and involves many variables and contexts (Côté & Gilbert, 2009). Even though the developmental pathways of Paralympic coaches have never been divided into periodic stages, some findings have identified similarities in the career development and learning pathways of able-bodied coaches of athletes with disabilities. For example, Cregan, Bloom, and Reid (2007) interviewed six Paralympic swim coaches (five of whom did not have a disability) and found they never intended to coach Paralympic athletes. They began coaching these athletes when an athlete with a disability came to their club asking to be coached. In a similar manner, McMaster, Culver, and Werthner (2012) interviewed five Paralympic coaches and found that the three individuals who did not have a disability also began coaching in disability sport after coaching able-bodied athletes. Influential others, such as parents or coaches, introduced them to a sport program for athletes with disabilities thinking that it would be a good fit for them. These coaches enjoyed their experience coaching disability sport and remained in this domain. Finally, Douglas and Hardin (2014) explored the life history of a collegiate wheelchair basketball coach with a disability and found the coach learned through his exchanges with more experienced peer coaches and personal experiences as an athlete with a disability. Existing literature lacks the perspectives of coaches with a disability on their development and learning, and therefore, this area of coaching warrants further examination.

According to Nelson, Cushion, and Potrac (2006), coaches learn through three pathways: formal, nonformal, and informal. These pathways offer benefits and drawbacks for coaches of athletes with disabilities, as demonstrated within the

literature. First, formal learning pathways are mostly represented by coach education courses and certifications developed and implemented by the specific sport association or national governing body. Although formal education helps standardize coaching knowledge (Mallett, Trudel, Lyle, & Rynne, 2009), most coaches have not valued these experiences because they failed to meet their needs, divided theory from practice, and lacked context and meaning (Erickson, Bruner, MacDonald, & Côté, 2008; Irwin, Hanton, & Kerwin, 2004; Mallett et al., 2009). Specific to Paralympic coaches, although they still valued formal education as a way to improve their general coaching knowledge, they have also noted how it lacked specific information about their sport and the disability of their athletes (Duarte & Culver, 2014; McMaster et al., 2012; Tawse, Bloom, Sabiston, & Reid, 2012).

Second, nonformal learning situations referred to conferences, clinics, seminars, and workshops provided to coaches (Nelson et al., 2006). These opportunities offered specific and authentic learning experiences in contextualized situations, yet some coaches who trained athletes without disabilities felt it lacked entry standards and was too brief (Mallett et al., 2009). Despite the limitations of nonformal learning in able-bodied sport contexts, Paralympic coaches seem to have appreciated and looked forward to attending conferences even though they were not as abundant as those for coaches training athletes without disabilities (Cregan et al., 2007; Duarte & Culver, 2014; McMaster et al., 2012).

Third, informal learning entails knowledge acquisition from personal experiences and social interactions taking place in situations where the prime purpose of the activity is not learning and where people are not always conscious of it (Cushion et al., 2010; Mallett et al., 2009). Previous research indicated that coaches first learned informally through different types of experiences while they were athletes (Douglas & Hardin, 2014; Irwin et al., 2004; Schinke et al., 1995). Moreover, Erickson et al. (2008) noted that interactions with other coaches were the most important sources of knowledge. Similarly, Carter and Bloom (2009) identified how learning from athletes was an informal method of coach learning, especially for elite coaches who never played the sport at a higher competitive level. Finally, research on Paralympic coaches identified various forms of informal learning including communications with specialists, other coaches, athletes with disabilities, and the families of athletes with disabilities (Cregan et al., 2007; Duarte & Culver, 2014; Falcão, Bloom, & Loughead, 2015; Tawse et al., 2012; Taylor, Werthner, & Culver, 2015).

Paralympic coaches also learned from more experienced coaches, such as mentors (Duarte & Culver, 2014; Fairhurst, Bloom, & Harvey, 2017; McMaster et al., 2012). Mentoring involves a nonfamilial and nonromantic relationship in which an experienced individual has a direct and personal impact on the development of a less experienced individual (Bloom, 2013). Mentors help coaches to shape one's personal coaching style and philosophy through positive role modeling and communication (Bloom, 2013). Although a formalized and structured mentoring program has been considered an important factor in the development of able-bodied sport coaches (Bloom, Durand-Bush, Schinke, & Salmela, 1998), there are few examples of formalized coach mentoring programs in disability sport (Fairhurst et al., 2017). This is disappointing because mentoring in disability sport can be a particularly beneficial way for novice coaches to advance their knowledge and to learn the uniqueness of coaching athletes with a disability (Bloom, 2013; Duarte & Culver, 2014; Fairhurst et al., 2017).

To date, research in disability sport coaching has mainly been conducted with able-bodied coaches. This is not surprising because most Paralympic coaches are able-bodied and most completed coach education programs that were designed on skills and tactics focused on able-bodied athletes (Cregan et al., 2007; Douglas & Hardin, 2014). Paralympic sport is growing in participation and popularity, and thus, coaches of athletes with a disability need continuing support and meaningful learning opportunities to enhance their coaching skills and knowledge. The purpose of the current study was to gain a better understanding of the career development and learning pathways of Paralympic head coaches who previously competed as Paralympic athletes. The research questions guiding this work were as follows: What are the coaching development pathways of Paralympic coaches who previously competed as Paralympic athletes? and What are the different kinds of learning situations through which Paralympic coaches who previously competed as Paralympic athletes acquired knowledge and learned to coach?

Methods

Following a constructionist approach, the present study was underpinned by ontological relativism (i.e., the belief that realities are multiple and subjective constructions, socially and experientially based) and epistemological transactional/subjectivism (i.e., the investigator and the object of investigation are assumed to be interactively linked) (Lincoln, Lynham, & Guba, 2011; Smith & Sparkes, 2017). Our epistemological and ontological commitments shaped the data collection and analysis of our study.

Methodology

This study followed the methodological assumptions of collective case studies (Creswell, 2013; Stake, 2013). According to Creswell (2013), case studies explore real-life cases through detailed in-depth data collection. The researcher engages in purposeful sampling to select participants who meet specific criteria and can use multiple cases to show different perspectives of the issue being studied (Creswell, 2013). Instead of answering questions such as “how much” or “how many,” case study research answers “how” and “why” questions (Sparkes & Smith, 2014). Specifically relevant to this study, collective case studies analyze more than one case to gain a better understanding of an overarching issue or concept (Creswell, 2013). The collective case study methodology allows researchers to hear from multiple perspectives, providing an opportunity to identify common patterns or themes emerging from the cases (Stake, 2013). For example, Wright, White, and Gaebler-Spira (2004) used collective case studies to investigate the individual experiences of youth participants of an adapted martial arts program. This methodology provided an in-depth understanding of their participants’ experiences and allowed them to examine the relevance of the program. In the present study, a collective case study approach allowed the researchers to describe the unique experiences of Paralympic coaches with a disability by identifying their career trajectory and the methods of acquiring information to allow them to effectively coach in this setting.

Participants

Purposeful sampling (Creswell, 2013) was used to select five current Paralympic head coaches who had all previously competed as U.S. Paralympic athletes. All the participants achieved success during both their athletic and coaching careers, including winning numerous World Championship and Paralympic medals. The study included four male and one female head coaches with ages ranging from 36 to 58 years. Two participants coached individual sports, and three coached team sports. Participants possessed head coaching experience at the Paralympic level ranging from 2 to 12 years, with an average of just under 6 years. Detailed information about each coach was obtained during the data collection (e.g., about their disability and experiences playing and coaching sports) and is presented below. Pseudonyms were randomly assigned to protect coaches' identities.

Coach Melvin had a disability from birth as a result of a genetic condition. He was the only person in our sample who did not acquire his disability. He grew up in a poor neighborhood and was often teased about his disability. His interest in sport started in the third grade and continued until he competed in the Jr. Olympics while in high school. Coach Melvin competed at the college level before becoming a multiple medal winner at the Paralympics. Soon after his last competition, Coach Melvin was fast tracked into the position of assistant coach on the Paralympic Team. One year later he took over as head coach after the resignation of his predecessor.

Coach Simon acquired his disability when he was an infant. His early sport experiences were exclusively pick-up games with other children in the neighborhood. Coach Simon had early struggles with independence until he started playing adapted sport with a local team during high school. He became a national team member and medal winner at the Paralympics after gaining national success and acclaim as a player and coach with his club team. Immediately after his athletic retirement, Coach Simon was recruited and hired as a Paralympic head coach, a title he has maintained for over 10 years.

Coach White acquired her disability from an accident as a young child. She had difficulty accessing sport growing up but remained active on the playground and playing outside. After attending a sports camp as an adolescent at a nearby university, Coach White met and was recruited by the university's head coach and began specializing in her main sport throughout high school. She won multiple Paralympic medals during her career. She has been a head coach at the intercollegiate level for 6 years and at the Paralympic level for 3 years.

Coach Blair was a competitive athlete in both individual and team sports before acquiring his disability during an accident while in college. He was introduced to adapted sport during his hospital rehabilitation and transitioned into adapted sport after trying out a custom-built sports wheelchair. Coach Blair started training and competing at the Paralympic level after becoming a student-athlete in college. This transition into everyday training allowed Coach Blair to accelerate his opportunities to compete on the national and international stages, ultimately winning a medal at the Paralympic Games. Coach Blair became a head coach at the university level near the same time he was named to his Paralympic coaching position.

Coach Koch was injured in an accident late in his teenage years. After his injury, he was encouraged to participate in sports by other athletes with disabilities

and played numerous recreational and competitive adapted sports. Soon after acquiring his disability, he started club-level adapted sport coaching. He won several national championships throughout his career as a player, coach, and player-coach, including winning multiple medals as an athlete at the Paralympics. He was first hired as a head coach of the Paralympic team after serving as an assistant coach during the Paralympic Games 4 years prior.

Data Collection

After receiving university ethics approval, the principle researcher contacted coaches by e-mail with an invitation to participate. The coaches were informed of the time commitment, method of data collection, and purpose of the study. Upon agreement, the coaches were sent a consent form and invitation to arrange a Skype interview. Each coach participated in an individual semistructured interview. Interviews are a guided conversation where the interviewer uses open-ended questions to introduce a topic of discussion and allow participants to answer freely (Rubin & Rubin, 2012). The interviews lasted between 60 and 100 min and were audio recorded using a Sony Electronics (San Diego, CA) ICD-PX720 digital recording instrument and Domit UK Ltd. (Middlesex, UK) Skype recording software.

The Interviewer. Given the relativist ontology and transactional/subjectivist epistemology, it is important to provide background information on the interviewer. The first author and interviewer was a three-time Paralympian and medal winner, who coached athletes with a disability from high school to the intercollegiate level, served as Director of Athletics of the U.S. Olympic Committee Olympic & Paralympic Training Site, and has been Assistant Chef de Mission for the U.S. Paralympic Team. His experiences as a Paralympic athlete and coach enabled him to build rapport with the participants and helped him gain a deeper understanding of their experiences. During each interview, a reflective journal was kept by the first author that noted his general perceptions and observations of body language, voice inflection, or other noticeable behaviors. The notes on general perceptions included how the topics discussed in the interviews were similar or different from his own experiences transitioning from being an athlete to a coach. These notes were important for him to interpret the participants' experiences and write the results section. Additional information about this process is included in the Data Analysis subsection.

Interview Guide. The research team created a 12-question interview guide that was divided into four sections. The first section contained introductory questions designed to initiate discussion (e.g., "Please explain your disability."). The second section addressed participants' background (e.g., "Describe your athletic experiences from childhood to present." and "How did you get involved in coaching?"). The third section addressed the key questions that focused on coach development within the context of coaching Paralympic athletes (e.g., "Describe your career evolution from when you first got into coaching up to the Paralympic level." and "Describe your learning experiences as a coach."). The final section addressed participants' plans to further develop their knowledge and what advice they would give to aspiring coaches (e.g., "How do you plan to improve your coaching

knowledge and coaching practices?” and “What advice would you give coaches with a disability aspiring to coach at the Paralympic level?”).

Data Analysis

An inductive thematic analysis was used to analyze the interview data. In particular, the analysis followed Braun and Clarke’s (2013) six-step guidelines: (a) familiarization with data, (b) generating initial codes, (c) searching for themes, (d) reviewing themes, (e) defining and naming themes, and (f) interpreting and producing the report. The first four steps will be described in this section whereas the fifth and sixth steps will be detailed in the Results section.

In the first stage of the analysis, the audio-recorded interviews were transcribed verbatim with minor edits to ensure clarity and anonymity of the content. The first author became familiar with the data by taking notes during the interviews, listening to the audio recordings, and repeatedly reading the transcript. The second step, generating initial codes, involved identifying features of the data that expressed a single idea. In the third and fourth steps (i.e., searching for themes and reviewing themes), similar codes were combined and labeled using lower order themes. Similar codes were assigned the same lower order themes. The research team reviewed each code to ensure the lower order themes assigned accurately represented participants’ experiences and meanings attached to those experiences. The lower order themes were combined into themes, which were eventually combined into overarching themes. The fifth stage entailed defining and naming themes by finding the essence of each theme, writing a detailed description for them, and creating a concise name. The sixth and last step involved combining all the accounts to tell participants’ stories.

The analysis of the qualitative data followed a sequential manner, beginning at an individual level for each of the participants before proceeding to a group-level analysis. Members of the research team had different roles in the analytic process. The first author conducted the first two steps followed by a collaborative effort with the second author to complete the third step. The authors met regularly to discuss the first authors’ experiences. This process helped ensure that the results reflected a collaborative effort between researcher and participants and did not focus solely on the first authors’ personal experiences. The third author then assisted with the last three steps by critically reviewing the themes and challenging the other coauthors with thought-provoking questions that yielded discussions and personal reflections. This process was followed in both levels of the analysis and reflected the efforts made to capture the subjective experience of the participants.

Quality Standards

Aligned with the ontology and epistemology of this paper, we used criteria tailored to the study’s goals and researchers’ methodological approach (Burke, 2017). It is important to note that these criteria are not universal or preordained but rather reflect the unique qualities of this research. More specifically, bracketing, rich rigor, width, and transparency were used in the current study (Burke, 2017; Creswell, 2013; Smith, Sparkes, & Caddick, 2014). Bracketing helps diminish the potential effects of preconceptions related to the research (Creswell, 2013). Given

the close relationship between the interviewer and the research topic, the first author kept a reflective journal that allowed him to consider how his values and experiences might influence the data collection and analysis while still allowing his valuable personal experiences to assist in the interpretations. Rich rigor was enhanced by the decades of experience the first author had in the parasport context, the makeup of our unique sample, the theoretical constructs used in the study, as well as the methods of data collection and analysis (Smith et al., 2014). The width of the research was accomplished using numerous quotations that gave voice to the participants (Burke, 2017). Finally, transparency was accomplished using the second and third authors as “critical friends” who encouraged deeper reflection and exploration of alternate explanations to the data (Burke, 2017). These steps allowed the first author, as a former Paralympian and coach, to reflect on the findings from a personal perspective and enabled the coresearchers to get an accurate perspective of parasport experiences from the viewpoint of head coaches who were once Paralympic athletes.

Results

Three overarching themes emerged from the inductive data analysis process: becoming a coach, learning to coach, and lifelong learning and teaching. Each overarching theme contained one or two themes. More specifically, becoming a coach encompassed the theme *pathways to high performance coaching*, the overarching theme learning to coach included the themes *sources of knowledge* and *mentorship*, whereas the overarching theme lifelong learning and teaching contained the theme *recommendations for disability sport*. Quotes from the interviews were used to illustrate the information presented.

Becoming a Coach

This overarching theme encompassed participants’ unique pathways to become a head coach. More specifically, coaches discussed their initial contact with coaching, their transition from athlete to coach, the positive impact of their reputation as parasport athletes on their evolution in coaching, and their progression from assistant coach to head coach. To begin, the participants were asked to coach by the head coaches who were still coaching them as athletes. These early learning experiences under their head coach began the development of their practice and sparked their interest in the coaching profession. Two coaches shared similar experiences:

I started out by helping my head coach with her community program. She brought me in to help her and earn a little money. I started going to all her local youth camps as an instructor. I showed my students all the techniques I learned while training with the national team at the Paralympic camps. Eventually, I was running all the advanced practices by myself. (Coach Melvin)

I saw my athletic career from a national team perspective come to an end, but I didn’t really start thinking about being a coach early. It was more when the

head coach asked me to be part of their staff as an assistant coach. (Coach Koch)

Three of the coaches were still training to compete in the Paralympic Games when they were unexpectedly asked to be assistant coaches on their national team. As Coach Koch noted, “even though my ego was telling me I was ready to be a head coach, I knew I wasn’t. I wanted the head job but was immediately told I needed more experience on the sidelines.” This quote suggested that coaches were surprised and hesitant moving into the coaching ranks. This reluctance was also mentioned by two coaches:

My evolution into coaching at the Paralympic level was unexpected. I was still playing competitively when I received a job offer from my alma mater. My last year on the national team was my first year as a head coach. I started to see that coaching the national team was a possibility for me. I kept using the excuse that I was too young to be a national team coach. It hurt my heart when we weren’t on the medal podium. At that point, I applied to be the head coach, not really expecting to get it, but was selected after the interview process. (Coach White)

I did not always want to be a coach. It never crossed my mind that I would or could do that, even though I really enjoyed the design, periodization, and coaching theory. I didn’t like the idea of having to deal with personalities on a day-to-day basis, and motivating people who didn’t necessarily want to participate and engage in the way I thought they should. Eventually, I realized that there was an opportunity for me to do some positive things and have a positive influence on athletes. (Coach Blair)

All five participants discussed the positive impact their athletic careers had on their evolution as coaches. While competing, their leadership, success, and aptitude for coaching were recognized by prominent coaches in their sport. They later used their reputation and personal connections with former coaches toward improving their position and standing during the formal application process for national team coaching positions. For example, some coaches discussed how their reputation and relationship within the parasport community helped them rapidly progress up the coaching ladder:

I don’t think they knew whether I could coach or not. I think it was all on reputation and relationship, and looking back I really didn’t know how to coach. It’s not something that a player is just born with. (Coach Koch)

I had accelerated my growth being surrounded by the folks (mentors) I was surrounded by. I was gaining a lot of knowledge very quickly. They encouraged me to apply. I had no idea I would become the national team coach so fast. (Coach White)

Once they started coaching, all of the participants ascended rapidly to head coaching positions. Two of the coaches went through a formal application and interview process, one was named coach of the team because no one else applied, one became the coach after the head coach abruptly resigned, and one was hired by

another country. The participants shared some of the contextual factors that helped them get their first head coaching job. For example, Coach Melvin was named head coach after his predecessor resigned even though he had no previous head coaching experience:

The head coach abruptly resigned. They called and said “you’re the coach now.” I was scared to death at World’s but we did well. They said, “you put in the work . . . you put in the time . . . you got the skills, you get the job.”

An international Paralympic committee sought out Coach Simon and made him a significant financial offer that made it difficult for him to turn down at that time:

Their Paralympic Committee made me an offer I couldn’t refuse. They basically said, name your own price. I couldn’t say no. I wanted to send my boys to college.

Alternatively, after his predecessor was let go, Coach Koch saw an opening, applied, interviewed, and was selected for the job.

I think they got tired of their old coach even though he was winning. I put my name in the hat. I was able to say, “look, I’ve done everything that you said I needed to do as far as gaining experience. I believe I have it.” So I went through their interview process and I got the (national team) job.

Learning to Coach

All coaches reported learning from a variety of sources, including personal experiences as athletes and coaches, peer coaches, formal coach education, and mentors. Coach Blair spoke about the importance of having been in similar high-pressure competitive environments as his Paralympic athletes:

I’ve had experiences of winning and losing at the Paralympic Games. These experiences are valuable for athletes who haven’t been to the Games and don’t understand the stresses that accompany a competition like that.

Coach Koch cited a story he told his players about visualization during one of his experiences at the Paralympic Games:

I envisioned my first shot was going to be a 3-pointer. I saw that moment over and over months before. I caught the tip and whirled into a 3 and drained it. I told my players it didn’t just happen. It happened because I started believing it would happen and seeing it happen many times before I ever got to that point.

Gaining usable knowledge from authentic coaching experiences at instructional camps, clinics, and during competitions was a key component of the developmental coaching pathway discussed by participants. Hands-on experiences as a volunteer or paid assistant coach allowed the participants to develop communication skills and other expert attributes while quickly progressing up the coaching ranks:

This is my tenth year as a coach (at all levels). As I get more experience, I cut out what doesn't work and emphasize what does work. That's certainly a part of my evolution to this point. Experience is so critical and valuable. (Coach Blair)

Similarly, Coach Simon discussed how his coaching experiences provided valuable interpersonal knowledge and skills:

As a coach, I learned as I went along. After coaching four national teams, you learn it. You learn that when a player doesn't do what you want during a game—that's not the right time to explode at him. You could speak to him later.

All the participants expressed that peer coaches were significant resources in acquiring knowledge. The coaches demonstrated gratitude when they discussed how they seized various opportunities, such as attending seminars and conferences where they met and interacted with other experts in their field. The coaches highlighted how these experiences were instrumental in gaining new insights into coaching:

We have coaching seminars around different parts of the country. I like to attend those. I go to many international camps because they have different coaches showing different things, and everyone does things a little differently. (Coach Melvin)

During my first year coaching the national team, I was out with some of the United States Olympic Committee (USOC) head coaches and team performance personnel. We were all talking about best practices and what we do on a daily basis. I get to collaborate with the U.S. men's and women's able-bodied and parasport coaches. (Coach White)

The participants had different types and levels of formal coach education. They relied heavily on transferring and modifying able-bodied certification course information into their Paralympic sport due to the lack of sport-specific parasport coach certification programs. One coach learned a variety of coaching and teaching methods in graduate school. The other coaches took related classes in college or supplemental certification required for high-performance coaches by their national governing body. The lack of parasport coach training led the coaches to find alternative sources of knowledge or to adapt the knowledge they gained from able-bodied certification programs:

I've learned a lot from sports that really have no direct relevance to my sport. I remember sitting through a clinic on pole-vaulting and I didn't understand most of it. But what I did understand were some of the physics and the way that I can take the physics of pole-vault and apply that to the mechanics of the wheelchair stroke. (Coach Blair)

When it comes to coaching certifications, my undergrad degree is in Exercise Science. When I was in college, I took a class on coaching theory. So the whole back-to-the-wall method, the whole making sure you see your athletes

all the time, how you communicate to your athletes, different learning styles, different teaching styles . . . I learned a lot of that during my Master's degree. (Coach White)

All the participants benefitted from an informal mentor–mentee relationship as athletes and later as coaches. They discussed the influence of a mentor in overcoming fear and self-doubt and noted that a key attribute of expert coaches was the ability to learn from one or more mentors, identify what was useful, and transfer that knowledge to their own coaching practice. The coaches discussed that having a mentor while still competing as an athlete enhanced their coaching knowledge and skills in many different ways, such as giving them confidence and teaching them about the intricacies of their sport. In particular, Coach Koch explained how his coach pushed him to take action despite personal fears:

My mentor took me places I never would have taken myself. He made me face my fears regarding the high risk of our sport. I learned the longer you wait the bigger the problem gets. I learned that when it is time to perform, you don't want to sit and project . . . you need to go!

In a similar manner, Coach Blair reported his mentor openly shared knowledge of the sport and pushed him to learn more:

My mentor was not only a great coach but a great teacher too. Even as an undergraduate, he saw that I had some interest in the science behind the sport and an understanding in why we were doing what we were doing. He shared freely and really challenged me to expand my boundaries of understanding.

Lifelong Learning and Teaching

Coaches highlighted the importance of developing a philosophy of lifelong learning and continued self-improvement while continually teaching and developing new and talented coaches. Participants discussed the importance of sharing best practices with able-bodied sport coaches as a way to stay connected and maintain lifelong learning:

Coaches should be learners. Moving forward, I'd like to improve my coaching knowledge by meeting with other top coaches. I'd like to set up some kind of meeting for all of us to exchange ideas on what we do best. (Coach Simon)

I do my best to make sure I continue to improve as a coach. Talking to the USOC coaches ensures I don't become isolated. It's easy in wheelchair sports for us to do that, but there's still so much more out there for us to learn. (Coach White)

All the participants were mindful of the importance of recruiting and teaching new coaches, and discussed the significance and benefit of mentoring aspiring parasport coaches. They were aware of the need to develop talented coaches both with and without a disability into Paralympic sport and were willing to invite these

prospects onto their coaching staff. For example, Coach Blair provided financial support to hire one of his former athletes as an assistant coach:

We got some funding this year to hire an assistant coach. One of my athletes, who's in his 30s, demonstrated more interest in coaching, so we brought him on. He's been with me for about a year. He'll not only do the day-to-day with me, but he goes out and does a lot of our outreach.

In turn, Coach Melvin collaborated with a less experienced coach who did not have a disability and provided him opportunities to learn and develop as a coach:

We have a coach that we collaborate with. I invited him to come with us to World's because one of his athletes qualified. He was phenomenal. I bring him in as much as I can because he's got something to offer. The athletes love him. He's a hard-nosed kind of coach and I like that. I want him involved because he makes us stronger. If one day he succeeds me as coach, well . . . I've had a hell of a ride.

All the participants were keen on developing new and knowledgeable coaches in parasport and unreservedly offered their advice to aspiring coaches about pathways to coaching athletes with disabilities. Their comments identified and represented a desire to increase coaching knowledge in a variety of sport and training theories, and more importantly, learning "in the trenches":

I'd tell aspiring coaches with a disability to get a comprehensive education in a variety of sport and training theories. I think you have to understand the physiology and the psychology. You don't have to have a doctoral understanding of it, but a basic understanding is important. You also need that hands-on understanding of that sport. Unless you have done it, it's hard for you to relay that information. I think being in the trenches is key. (Coach Blair)

Aspiring coaches with a disability got to put in the time. A player ending his career does not have the necessary tools to immediately be a good coach, no matter how many coaches he's been around. He's got to be developed and he's got to remain teachable. Surround yourself in the right camp situations, be around coaches that have something you want, and get inside their heads. (Coach Koch)

My advice to aspiring coaches with a disability who want to coach at the Paralympic level is to train hard. Become an expert in your sport. Know the players, know the techniques, and be open to learning. I never thought that I was so good I couldn't learn. (Coach Melvin)

Discussion

Paralympic head coaches who previously competed as Paralympic athletes were interviewed to gain a better understanding of their career development and learning pathways in parasport coaching. Identifying the upbringing of coaches with a disability and their pathways to parasport coaching (as seen in *Becoming a Coach* subsection) can serve as a blueprint for aspiring Paralympic coaches who

also have a disability. In addition, the results included in Learning to Coach and Lifelong Learning and Teaching subsections can help inform future coach development programs and individuals coaching athletes with physical disabilities, from the grassroots to Paralympic levels.

Developmental Pathways

Perhaps unique to the parasport context, four of the five coaches in the current study did not initially consider coaching as their career vocation. Although this supports previous research of parasport coaches without a physical disability (Cregan et al., 2007; McMaster et al., 2012), our results also showed that our participants (with a disability) acknowledged that they did not intentionally set out to become Paralympic coaches, but rather their coaching opportunities were the result of their successful athletic careers and personal connections with national coaches. Other differences between Paralympic coaches (with and without a disability) and Olympic coaches (without a disability) include the steps necessary to progress through the coaching ranks (cf. McMaster et al., 2012; Schinke et al., 1995). For example, Schinke et al. (1995) found that Olympic coaches gradually progressed through the coaching ranks by slowly moving from the developmental to the higher levels of coaching. On the other hand, McMaster et al. (2012) found that coaches of athletes with a disability often ascended quickly and directly from being an athlete (with a disability) or developmental/recreational coach (without a disability) to national team head coaching positions. The current study adds to these findings by noting that parasport coaches with a disability who were Paralympians were fast tracked directly into national team coaching opportunities without having to “climb” the coaching ranks or complete a formal mentoring process. This expedited portal to elite level coaching brings to light the fact that aspiring parasport coaches with a disability who never competed as Paralympians may need to invest considerably more time and effort (e.g., mentorship, professional development, coaching club or junior teams, networking, self-promotion) toward developing the credentials necessary for earning a coaching position on the national team.

Knowledge Acquisition

The current participants revealed they developed fundamental coaching knowledge and skills while competing as athletes (Douglas & Hardin, 2014; Irwin et al., 2004; Schinke et al., 1995). Their athletic experiences provided them with informal learning opportunities and unique insights that a coach without a disability could not simulate. This is an important nuance between the knowledge acquisition of parasport coaches with and without a disability. Cregan et al. (2007) reported on the importance of coaches without a disability accommodating and adapting the training needs of athletes with disabilities based on their own acquired knowledge. The current findings extend this notion by revealing that the combination of living with a disability and competing as a Paralympic athlete increased their knowledge, experiences, and effectiveness as Paralympic coaches.

The findings of the current study revealed that the participants learned to coach from a combination of key knowledge sources including formal (university

classes), nonformal (certification courses), and informal (volunteer experiences, competitions as an athlete and coach, peer coaches, and mentors) means. Immediately after becoming parasport coaches, they found that there was a lack of meaningful formal and nonformal learning opportunities, a finding consistent with prior research (McMaster et al., 2012; Tawse et al., 2012). Moreover, the current participants stated the immense value of informal sources such as interacting with peer coaches and mentors during their development as a coach (cf. Erickson et al., 2008). Many of these interactions occurred during early experiences as volunteer coaches or while serving as assistant coaches on national teams, where they reported acquiring foundational coaching skills that initially sparked their interest in this profession. These experiences with peer coaches provided them with the opportunity to stay connected, gain new insights, and develop communication skills and other affective attributes necessary to improve their coaching practice.

The lack of formal learning opportunities led the current coaches to seek alternative sources of knowledge and experiment with modified able-bodied techniques through trial and error. The notion of learning through trial and error supports the findings of Douglas and Hardin (2014), who reported a head coach with a disability learned about coaching in this domain through different types of informal experiences. Likewise, past research has found that coaches of athletes with disabilities who lacked parasport specific information adapted and modified the techniques and strategies learned in formal education opportunities even if it failed to provide specific information about their sport and the disability of their athletes (Duarte & Culver, 2014; McMaster et al., 2012; Tawse et al., 2012; Taylor, Werthner, & Culver, 2014). In the current study, formal coaching education was not favored by the participants as a prominent source of knowledge in their development as a coach. This finding is indicative of the need for existing formal coaching education programs to improve curriculums by providing awareness of and strategies for addressing the differences of coaching athletes with a disability.

Coaches in the current study also discussed the positive impact of learning from mentors (Duarte & Culver, 2014; McMaster et al., 2012). Although there are limited examples of formalized mentoring programs in parasport (Bloom, 2013; Fairhurst et al., 2017), coaches in the present study viewed their mentors as pivotal in their development as a coach and praised their strengths as communicators, teachers, and role models. All of their mentor experiences were mainly as athletes while playing for an influential coach and less so as assistant coaches. Unlike extensive opportunities for mentoring in able-bodied sport, formal mentorships were nonexistent in the parasport context. The current results further address the value and importance of mentoring as a structured source of education and career development for all aspiring Paralympic coaches.

Lifelong Learning and Teaching

All five coaches in the current study emphasized the importance of improving parasport coaching practice by developing a personal philosophy of lifelong learning and through the recruitment, development, and mentorship of new and talented coaches. Prior research on how coaches learn within this context has led to

questions about best practices regarding the recruitment and development of new parasport coaches (Cregan et al., 2007; McMaster et al., 2012; Tawse et al., 2012). Four of the five coaches had already invited coaching prospects with a disability onto their staff as assistant coaches. This approach supports the findings of Fairhurst et al. (2017), who suggested that fundamental knowledge should be communicated in an interactive learning environment which provides extensive hands-on, practical experiences. The current participants expressed the importance of establishing a cooperative approach to lifelong learning by sharing best practices among coaches without a disability. This supports past research that revealed sharing best practices with other coaches allowed for participants' growth as a coaches, especially in the mentor–mentee relationship (Duarte & Culver, 2014; Fairhurst et al., 2017; McMaster et al., 2012; Tawse et al., 2012). The findings from the current study differ from prior research in the able-bodied context, where coaches were perceived to be less open to sharing information, which was attributed to the competitive nature of sport (Culver & Trudel, 2008).

Limitations and Future Directions

Although this study augmented the understanding of the developmental pathways and learning mechanisms of Paralympic coaches with a disability, some limitations need to be addressed. This study only investigated the experiences of five Paralympic coaches in the United States, and thus the findings should be cautiously generalized to other contexts and countries. Four of the five participants in the present study used wheelchairs, and all five were White. Future research should compare the experiences of coaches with different disabilities and of different races and ethnicities to create more inclusive, meaningful, and appropriate parasport coaching education programs worldwide. Coaches in the current study were only interviewed once and individually. Future studies should consider using other methods of data collection such as multiple interviews, journaling, or focus groups. In addition, we would encourage research on parasport coaches with a disability who were not former Paralympians, or who may not have close personal connections to national coaches or parasport national governing bodies.

Recommendations and Conclusions

This study revealed the importance of athletic experiences and informal knowledge sources as the participants transitioned from Paralympic athlete to coaching. The findings suggested early volunteer coaching opportunities provided by mentors while still competing sparked their interest in coaching as a career. Our findings highlighted the need for additional comprehensive parasport coaching education programs and mentoring opportunities as a way to enhance parasport coaching and improve performance of athletes with a disability. For example, national governing bodies can work toward building a broader base of coaches (grassroots to Paralympic levels) and create education programs targeted specifically to these coaches while incorporating formal mentorship opportunities to better address their professional development needs. In addition, our findings can also be used to guide the creation of communities of practice for parasport coaches

(with and without a disability). Finally, it is hoped that the findings of this study will provide valuable information to national sport organizations who are committed to recruiting new and talented coaches from both inside and outside the Paralympic system while also supporting their learning and continual development as qualified and effective coaches of athletes with a disability.

References

- Bloom, G.A. (2013). Mentoring for sport coaches. In P. Potrac, W. Gilbert, & J. Denison (Eds.), *Routledge handbook of sports coaching* (pp. 476–485). New York, NY: Routledge.
- Bloom, G.A., Durand-Bush, N., Schinke, R.J., & Salmela, J.H. (1998). The importance of mentoring in the development of coaches and athletes. *International Journal of Sport Psychology*, 29, 267–281.
- Braun, V., & Clark, V. (2013). *Successful qualitative research: A practical guide for beginners*. Thousand Oaks, CA: Sage.
- Burke, S. (2017). Rethinking ‘validity’ and ‘trustworthiness’ in qualitative inquiry. In B. Smith & A.C. Sparkes (Eds.), *Routledge handbook of qualitative research in sport and exercise* (pp. 330–339). New York, NY: Routledge.
- Carter, A.D., & Bloom, G.A. (2009). Coaching knowledge and success: Going beyond athletic experiences. *Journal of Sport Behavior*, 32, 419–437.
- Côté, J., & Gilbert, W.D. (2009). An integrative definition of coaching effectiveness and expertise. *International Journal of Sports Science & Coaching*, 4, 307–323. doi:10.1260/174795409789623892
- Cregan, K., Bloom, G.A., & Reid, G. (2007). Career evolution and knowledge of elite coaches of swimmers with a physical disability. *Research Quarterly for Exercise and Sport*, 78, 339–350. PubMed doi:10.1080/02701367.2007.10599431
- Creswell, J.W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Culver, D., & Trudel, P. (2008). Clarifying the concept of communities of practice in sport. *International Journal of Sports Science & Coaching*, 3, 1–10. doi:10.1260/174795408784089441
- Cushion, C.J., Nelson, L.J., Armour, K.M., Jones, R.L., Sandford, R., & O’Callaghan, C. (2010). *Coach learning and development: A review of literature*. Leeds, UK: Sports Coach UK.
- Douglas, S., & Hardin, B. (2014). Case study of an expert intercollegiate wheelchair basketball coach. *Applied Research in Coaching and Athletics Annual*, 29, 193–212.
- Duarte, T., & Culver, D.M. (2014). Becoming a coach in developmental adaptive sailing: A lifelong learning perspective. *Journal of Applied Sport Psychology*, 26, 441–456. PubMed doi:10.1080/10413200.2014.920935
- Erickson, K., Bruner, M.W., MacDonald, D.J., & Côté, J. (2008). Gaining insight into actual and preferred sources of coaching knowledge. *International Journal of Sports Science & Coaching*, 3, 527–538. doi:10.1260/174795408787186468
- Fairhurst, K.E., Bloom, G.A., & Harvey, W.J. (2017). The learning and mentoring experiences of Paralympic coaches. *Disability and Health Journal*, 10, 240–246. PubMed doi:10.1016/j.dhjo.2016.10.007
- Falcão, W.R., Bloom, G.A., & Loughhead, T.M. (2015). Coaches’ perceptions of team cohesion in Paralympic sports. *Adapted Physical Activity Quarterly*, 32, 206–222. PubMed doi:10.1123/APAQ.2014-0122

- Irwin, G., Hanton, S., & Kerwin, D.G. (2004). Reflective practice and the origins of elite coaching knowledge. *Reflective Practice, 5*, 425–442. doi:10.1080/1462394042000270718
- Lee, J., & Porretta, D.L. (2013). Document analysis of sports literature for individuals with disabilities. *Perceptual and Motor Skills, 116*, 847–858. PubMed doi:10.2466/15.06.PMS.116.3.847-858
- Lincoln, Y.S., Lynham, S.A., & Guba, E.G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N.K. Denzin & Y.S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (4th ed., pp. 97–128). Thousand Oaks, CA: Sage.
- Mallett, C.J., Trudel, P., Lyle, J., & Rynne, S.B. (2009). Formal vs. informal coach education. *International Journal of Sports Science & Coaching, 4*, 325–364. doi:10.1260/174795409789623883
- McMaster, S., Culver, D., & Werthner, P. (2012). Coaches of athletes with a physical disability: A look at their learning experiences. *Qualitative Research in Sport, Exercise and Health, 4*, 226–243. doi:10.1080/2159676X.2012.686060
- Nelson, L.J., Cushion, C.J., & Potrac, P. (2006). Formal, non-formal and informal coach learning: A holistic conceptualization. *International Journal of Sports Science & Coaching, 1*, 247–259. doi:10.1260/174795406778604627
- Rangeon, S., Gilbert, W., & Bruner, M. (2012). Mapping the world of coaching science: A citation network analysis. *Journal of Coaching Education, 5*, 83–108. doi:10.1123/jce.5.1.83
- Reid, G., & Prupas, A. (1998). A documentary analysis of research priorities in disability sport. *Adapted Physical Activity Quarterly, 15*, 168–178. doi:10.1123/apaq.15.2.168
- Rubin, H.J., & Rubin, I.S. (2012). *Qualitative interviewing: The art of hearing data* (3rd ed.). Thousand Oaks, CA: Sage.
- Schinke, R.J., Bloom, G.A., & Salmela, J.H. (1995). The career stages of elite Canadian basketball coaches. *Avante, 1*, 48–62.
- Smith, B., & Sparkes, A.C. (2017). Introduction: An invitation to qualitative research. In B. Smith & A.C. Sparkes (Eds.), *Routledge handbook of qualitative research methods in sport and exercise* (pp. 1–7). New York, NY: Routledge.
- Smith, B., Sparkes, A.C., & Caddick, N. (2014). Judging qualitative research. In L. Nelson, R. Groom, & P. Potrac (Eds.), *Research methods in sport coaching* (pp. 476–485). New York, NY: Routledge.
- Sparkes, A.C., & Smith, B. (2014). *Qualitative research methods in sport, exercise, and health: From process to product*. New York, NY: Routledge.
- Stake, R.E. (2013). *Multiple case study analysis*. New York, NY: Guilford Press.
- Tawse, H., Bloom, G.A., Sabiston, C.M., & Reid, G. (2012). The role of coaches of wheelchair rugby in the development of athletes with a spinal cord injury. *Qualitative Research in Sport, Exercise and Health, 4*, 206–225. doi:10.1080/2159676X.2012.685104
- Taylor, S., Werthner, P., & Culver, D.M. (2014). A case study of a parasport coach and a life of learning. *International Sport Coaching Journal, 1*, 127–138. doi:10.1123/iscj.2013-0005
- Taylor, S., Werthner, P., & Culver, D.M. (2015). Dynamic, evolving, and social: The learning interactions of parasport coaches. In P. Davis (Ed.), *The psychology of effective coaching and management* (pp. 91–110). Nova Hauppauge, NY: Nova Science.
- Wright, P.M., White, K., & Gaebler-Spira, D. (2004). Exploring the relevance of the personal and social responsibility model in adapted physical activity: A collective case study. *Journal of Teaching in Physical Education, 23*, 71–87. doi:10.1123/jtpe.23.1.71