

COACH DEVELOPMENT FOR PARA SPORT

Exploring Coach Development for Para Sport: A View from Across the Landscape

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List of Acronyms

CDOs	Coach development opportunities
DT	Design Thinking
HPI	Hasso-Plattner Institute Model
IPC	International Paralympic Committee
NCCP	National Coaching Certification Program
SAMMSA	Summary and Analysis coding, Micro themes, Meso themes, Syntheses, and Analysis

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Preface

I, Rabia Ozturk Kizilkaya (M.A. Candidate), am the principal investigator for the thesis presented here. I was primarily responsible for developing the research design, as well as leading the data collection, analysis, and preparation of the manuscript for three journal articles included in this thesis.

Dr. Diane M. Culver (Supervisor) and Dr. Koray Kilic (Co-supervisor) collaborated in conceptualizing the research design, including formulating the primary research questions, methodologies, and analytical framework. Both supervisors provided invaluable guidance, reviewing and editing the work while offering critical feedback throughout each stage of the research process.

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Before commencing recruitment and data collection, I obtained ethical approval from the University of Ottawa Research Ethics Board (Ethics file number: H-02-23-8912).

Abstract

The development of coaches for Para sport is a complex and multidimensional challenge, marked by restricted development opportunities. The purpose of this thesis was to explore the key issues in the provision of coach development opportunities within the Canadian Para sport landscape through the lens of the social relational model. In achieving this purpose, the thesis focused on the description of the application of Design Thinking to collaboratively develop innovative, viable, and feasible solutions for improving CDOs. The thesis also provided deep insights into the needs and challenges of the coaches from the perspectives of the stakeholders, using a novel qualitative analysis method – the 5-step SAMMSA. The thesis comprises three interconnected studies examining coach development in Para sport.

The first article demonstrates the application of Design Thinking to address the gap in formal coach education opportunities. Through a two-day design challenge event based on the Hasso-Plattner Institute Model (HPI), stakeholders, including managers, coaches, coach developers, and athletes, collaborated to reimagine coach education. The human-centred, iterative problem-solving approach of Design Thinking enabled participants to overcome individual biases and develop innovative solutions. This article highlighted practical strategies for implementing Design Thinking in coach education to enhance the Para sport experience.

The second article examined the key factors influencing coach development opportunities (CDOs) in Para sport within Canada from the perspective of the social relational model. Utilizing a case study methodology, data were collected through semi-structured interviews with ten participants, including managers, former athletes, coaches, and coach developers. The 5-step SAMMSA method was used for data analysis. The findings emphasized the importance of transforming coaching perspectives to be more disability-

conscious and addressing ongoing accessibility challenges in Para sport. The second article revealed several key themes: transforming perspectives in coaching for Para sport, understanding the nuances of coaching for Para sport, addressing accessibility challenges, providing psychological support in Para sport, and empowering coaches with disabilities.

Our participants highlighted the critical roles of empathy and individualized coaching approaches in enhancing CDOs. The findings underscored the need for accessible CDOs that incorporate individuals with disabilities and promote continuous professional development. The article also pointed out the necessity of structural and systemic changes to create a more inclusive coaching environment. By empowering coaches with disabilities through tailored support systems and fostering collaboration and systemic improvements, the quality of CDOs can be significantly enhanced. This article provided valuable insights and practical recommendations for improving the landscape of coach development in Para sport in Canada.

The third article focused on the application of the 5-step SAMMSA method in qualitative research, particularly in the context of Para sport coaching. SAMMSA offers a structured approach to qualitative analysis, enhancing transparency and rigour. The article detailed the implementation of SAMMSA, illustrating its effectiveness in facilitating iteration and reflexivity in data analysis. By combining deductive and inductive coding, thematic analysis, and part-whole synthesis, the article showcased SAMMSA's role in ensuring quality and accountability in qualitative research. The adaptation strategies of SAMMSA are shared to benefit other researchers, contributing to the overall improvement of qualitative research practices in sport psychology and pedagogy.

This thesis provided a comprehensive examination of coach development in Para sport, addressing the multifaceted challenges through innovative methodologies and theoretical frameworks. The thesis also highlighted the importance of empathetic and individualized coaching approaches, the need for structural and systemic changes, and the

benefits of a rigorous qualitative analysis framework. The findings contributed to the body of knowledge in Para sport coaching, offering practical strategies for implementing effective CDOs, thereby promoting continuous professional development and fostering a more supportive environment for Para sport coaches and athletes.

Keywords: disability sport, coaching, design thinking, social relational model, SAMMSA method

Exploring Coach Development for Para Sport: A View from across the Landscape

There is increasing recognition of the importance of providing and promoting sports participation opportunities for individuals with disabilities. Engaging in Para sport not only offers physical benefits but also fosters societal and cultural transformations, ultimately maximizing human potential (IPC, 2023). Consequently, international and national bodies are creating strategic plans and policies to support and encourage the participation of people with disabilities in sports (IPC, 2023; Sport Canada, Policy on Sport for Persons with a Disability, 2006; Sport New Zealand, Disability Plan, 2019).

With the growing awareness and expansion of Para sport participation, the need for more qualified coaches in this field has become increasingly evident (Huntley et al., 2019; Townsend et al., 2022; Sales & Misener, 2021). However, aspiring Para sport coaches often encounter limited developmental opportunities. Most pathways to becoming and specializing as a Para sport coach rely heavily on self-directed learning, placing a significant burden on the individual to seek out and engage in learning activities independently (Duarte et al., 2020; Trudel et al., 2020). The considerable invariability in available guided learning experiences (Townsend et al., 2022), along with organizational constraints such as a shortage of coaching and support staff, further diminishes the potential benefits of these learning opportunities (Taylor et al., 2014; Townsend et al., 2022). To address these challenges, it is crucial to create more structured, accessible, and supportive learning environments to meet the unique needs of Para sport coaches. The purpose of this thesis was to explore the key issues in the provision of coach development opportunities (CDOs) within the Canadian Para sport landscape through the lens of the social-relational model. In achieving this purpose, the thesis focused on the description of the application of Design Thinking to collaboratively develop innovative, viable, and feasible solutions for improving CDOs in Para sport coaching. The thesis also provided deep insights into the needs and challenges of the coaches from the

perspectives of the stakeholders, using a novel qualitative analysis method – the 5-step SAMMSA.

Coaching in Para sport is inherently complex, with effective practices recognizing the essential role of both interpersonal interactions and intrapersonal reflection for athlete development (Alexander et al., 2020; Allan et al., 2021; Côté & Gilbert, 2009). However, the medical model remains the dominant approach informing coaching and coach development (Townsend et al., 2016). The medical model's characteristics, which reflect a positivist orientation to professional development, often result in normal/abnormal dichotomies and an imbalance of power between athletes and others, particularly their coaches (Goodley, 2017; Brittain & Christiaens, 2022). This imbalance fosters ableist attitudes and practices in the field, creating expectations for practices similar to those for non-disabled bodies (Townsend et al., 2022), negatively affecting sport participation (Haslett et al., 2017). Conversely, the social relational model has the potential to enhance coach development by revealing the social restrictions and undermining of activity imposed on individuals with impairments (Grenier et al., 2023; Ramsden et al., 2023; Smith & Bundon, 2018). This perspective embraces effective coaching strategies tailored to the unique needs of Para sport athletes.

Sport organizations and governmental bodies are essential for systematically organizing and delivering quality coach development opportunities. For an effective program to flourish, each partner responsible for such opportunities should be involved in any coach development initiatives for Para sport. A "one size fits all" approach is not feasible for coach development because Para sport organizations vary greatly in capacity, and each one has different personal, internal, and organizational structures and needs. This thesis addressed the areas of need to improve CDO's in Para sport in Canada by adopting a learner-centred approach and utilizing the social relational model to understand disability. Additionally, the thesis provided methodological contributions by detailing the implementation of the Hasso-

Plattner Institute Model (HPI; 2018) of Design Thinking and the 5-step SAMMSA (MacDonald et al., 2023). The thesis showed that using the HPI Model enhances accessibility and quality CDOs for Para sport through innovative, human-centred solutions, and collaborative stakeholder engagement. Furthermore, the research on the 5-step SAMMSA method reveals that this robust and transparent framework for qualitative analysis has the potential to enhance the rigour and depth of research findings in Para sport coaching.

Conceptual Framework

As an essential part of the research design, a conceptual framework is identified as “the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs the research” (Maxwell, 2013, p.39). The conceptual framework defines the research topic, detailing how it will be explored and why it matters within its context (Maxwell, 2013). In the next section, I will present a comprehensive literature review, articulate personal interest and purpose, and outline the theoretical framework for the thesis.

Literature Review

Sports systems have dynamics that affect each other, and coaches are a critical part of them. Accessible CDOs are essential for developing well-trained coaches, regardless of the context (Townsend et al., 2022). In this section, the concept of learning in coach development coaches will be discussed. Afterwards, disability models will be explained, aiming to provide a comprehensive understanding on coaching for Para sport.

Coach Development

Development is the process of a person “becoming a better version of himself/herself” (Kegan & Lahey, 2016, p. 58). In the context of coaching, development is an umbrella term that encompasses various forms of learning throughout a coach’s career. Jarvis (2009) defines lifelong learning

The combination of processes throughout a lifetime whereby the whole person –body (genetic, physical and biological) and mind (knowledge, skills, attitudes, values, emotions, meaning, beliefs and senses) – experiences social situations, the content of which is then transformed cognitively, emotively or practically (or through any combination) and integrated into the individual person’s biography resulting in a continually changing (or more experienced) person (p. 25).

Learning is a critical component of coach development, involving a series of social experiences that contribute to a lifelong journey of personal and professional growth (Trudel & Werthner, 2006; 2009). Trudel and Werthner (2006) followed Moon’s (2004) learning framework, centralizing coaches’ cognitive structures and categorizing coach learning into three situations: mediated, unmediated, and internal learning. As learning occurs in the mind of a coach, explaining learning ‘situations’ instead of the ways of learning is important.

Mediated Learning Situations. Mediated learning situations are episodic experiences guided by external agents, such as teachers or mentors, within structured environments where content is controlled by others (Trudel et al, 2013). Examples include formal education programs, workshops, and certification courses provided by national governing bodies (Nelson et al., 2006) and experienced coaches, offering foundational knowledge and standardized training (Culver et al., 2020). Although coaches highly value the sharing of knowledge and the discussion of practices and experiences in formal settings (Townsend et al., 2022), the current formal opportunities available for Para sport coaches are often limited (Douglas et al., 2018). This is primarily due to a lack of mentorship opportunities and peers for socialization (Alexander et al., 2023; Fairhurst et al., 2017), as well as the constricted availability of written and organizational resources such as research information, books, and workshops (McMaster et al., 2012). The high variability in the quality of structured opportunities, along with these barriers, creates a precarious

environment that perpetuates ableist attitudes, values, and practices among coaches; leading to significant inequalities in the educational experiences required for Para sport coaching (Hammond et al., 2019; Townsend et al., 2018). Consequently, there is a need for high-quality, sustainable, accessible, and research-based CDOs that reflect the complexities of coaching in Para sport (Huntley et al., 2019; Kohe & Peters, 2017).

Unmediated learning situations. Unmediated learning situations are self-directed, where coaches independently seek information without external guidance (Trudel et al., 2013). This involves coaches engaging in activities like discussions with peers, online research, and reading coaching books. For example, coaches may research specific techniques online, read relevant literature, and engage in peer discussions to enhance their skills and knowledge. This approach offers flexibility and promotes continuous learning (Culver et al., 2020). Coaches for Para sport mostly gain knowledge through interactions with others (Macdonald et al., 2016). Mentoring has proven to be a valuable resource for coach development, particularly during the early stages of their careers (Alexander et al., 2023; Douglas et al., 2018; Fairhurst et al., 2017; Lepage et al., 2020). However, research demonstrated that, due to the limited number of coaches in Para sports, coaches often create learning opportunities by establishing personal relationships with other coaches, including those from international and different contextual backgrounds. (Douglas et al., 2018; Fairhurst et al., 2017; Lepage et al., 2020). Additionally, coaches enhance their understanding of athletes through direct interactions, reinforcing the importance of strong coach-athlete relationships for both athlete success and coach learning (Fairhurst et al., 2017).

Internal learning situations. Internal learning situations involve reflective processes where coaches analyze their own experiences to gain insights in a process referred to as cognitive housekeeping (Trudel et al., 2013). This includes keeping reflective journals,

regular self-assessments, and scheduling time for reflection (Culver et al., 2020). These practices foster deep understanding and personal growth (Duarte, 2020). Coaches are highly dependent on their experiences in learning their craft in Para sport (Duarte, 2020; McMaster, 2012; Taylor, 2015). Trial and error is a social practice of learning accompanied by self-referenced reflection (Taylor, 2015; Wareham et al., 2018).

Coaches for Para sport generally meet their professional development needs by using unmediated and internal learning situations (Bentzen et al., 2021; Douglas et al., 2018; Fairhurst et al., 2017; Lepage et al., 2020; Taylor, 2015; Trudel et al., 2020). By understanding and addressing these distinct learning situations, we can better focus learning opportunities on the cognitive structures of coaches, ensuring that learning is not just an external process but an internalized, meaningful development that aligns with each coach's unique context and experience. Coach development is a lifelong journey (Trudel and Gilbert, 2024), and understanding disability is important in the Para sport context (Townsend et al., 2016; Townsend et al., 2022). When improving learning opportunities, considering the concept of disability is crucial because it greatly influences the coaching practices (Brittain & Christiaens, 2022; Simon & Richards, 2022; Townsend et al., 2018). Coaches learn and grow in many ways, and in Para sport, understanding disability adds a unique and valuable perspective to their development (Allan et al., 2020; Culver & Werthner, 2018; Smith & Bundon, 2018; Townsend et al., 2022). Thus, it is essential to emphasize the understanding of the concept of disability.

Disability Models

As Para sport is an interdisciplinary field, it involves different dynamics that must be considered when underpinning coach development. Disability studies can provide both coaches and organizations with a perspective to understand the complexity of coaching for

Para sport, and to improve practice and increase coach competence (Townsend et al., 2022). Hence, Townsend and colleagues (2016) emphasized that disability studies and coaching studies need to be bridged. There are four models in disability studies: the medical model, the social model, the human rights model, and the social relational model (Brittain & Christiaens, 2022; Goodley, 2017).

Medical model. The medical model is the mainstream model in disability studies (Townsend et al., 2016). This model focuses on the body as a biological mechanism and technical information (Smith & Bundon, 2018; Townsend, 2022). Classification is made according to the impairment (Smith & Bundon, 2018). Definitions and practices based on impairment provoke the normal-abnormal dichotomy and trigger the creation of ableist practices (Townsend et al., 2022). In this model, people with disabilities appear as tragic victims of personal misfortune or people who have achieved their goals 'despite' their disabilities in society. Experts, such as physiotherapists and physicians, often control the decision-making process for people with disabilities. This can lead to a top-down approach that excludes individual athletes from having a say in their own needs and preferences (Goodley, 2017). Contemporary coach education programs for Para sport are generally based on the medical model (Smith & Bundon, 2018). Programs focus on physical and biomechanical perspectives; however, disability-specific knowledge (e.g., stigma, exclusion, and inequitable distribution of resources) is also essential for coaches' professional development (Brittain & Christiaens, 2022; Wareham et al., 2017).

Social Model. Through the lens of the social model, researchers separate impairment and disability. The argument is that society plays a crucial role in assigning impairment to people with disabilities (Goodley, 2017; Townsend et al., 2016; Wareham et al., 2018). Proponents of the social model is suggested eliminating inhibiting social, economic, political, cultural, relational, and psychological barriers (Goodley, 2017). They focus only on structural

disablism. However critics of this model maintain impairment is the reality for people with disability (Lowry et al., 2022; Townsend et al., 2016). Impairment is a biological reality for people with a disability as well as an identity issue (Thomas, 1999, 2004, 2007).

Human rights model. The human rights model is an activist model and builds on the social model of disability (Brittain & Christiaens, 2022; Townsend et al., 2016). According to the human rights perspective, access to disability sports is a fundamental human right (Townsend et al., 2016). Proponents of the human rights model aim for social change; including policy, practice, and environmental changes (Brittain & Christiaens, 2022; Townsend et al., 2016). For example, research indicated coach learning opportunities are not available for all coaches, especially coaches with disability (Konoval et al., 2022).

Social relational model. The social relational model is a response to the medical and social models. Proponents of the social relational model have argued that people are individuals and social beings (Thomas, 1999, 2004, 2007; Townsend et al., 2016; Wareham et al., 2018); therefore, biological, psychological, and social integrity and their interactions are essential for all people (Townsend et al., 2022). The research rationale of the social relational model is to work “with” disabled people rather than “on” them (Thomas, 1999, 2004, 2007; Townsend et al., 2016, 2022; Wareham et al., 2018). The social relational model consists of four fundamental components: (a) impairment effects, (b) relational practices, (c) structural barriers, and (d) the psycho-emotional dimension (Allan, 2020; Haslett et al., 2017; Thomas, 1999, 2004, 2007; Townsend, 2022). Impairments directly affect individuals' lives physically (e.g. chronic pain) and socially (e.g. requiring social support). Relational practices refer to societal attitudes and discourse about disability (e.g., ableism, negative stereotypes such as limited or weak). These societal attitudes and discourses impact the interaction between coaches and athletes. Structural barriers describe a lack of opportunities and services (e.g., lack of coaching facilities and buildings designed based on non-disabled people). All

these components can impact athletes' psycho-emotional situation (Granier et al., 2023; Martin, 2013). For instance, they may develop autonomy by participating in Wheelchair Rugby or internalize negative stereotypes and feel inadequate to participate (Allan, 2020; Haslett et al., 2017; Thomas, 1999, 2004, 2007; Townsend, 2022).

The model constructs an expanded perspective for disablism and impairment (Townsend et al., 2016). People can face various types of social oppression, which are based on their relationship with structures and people (Brittain & Christiaens, 2022; Dean et al., 2024; Smith & Bundon, 2018). Social oppression can be observed as structural disablism and psycho-social disablism. Moreover, they consider that the impairment exists physically; and people construct their life experiences in different aspects, such as social, cultural, and agentic, with this impairment (Culver & Werthner, 2018; Smith & Bundon, 2018). Consistent with this, there is a need for coaches to consider the athlete's impairment, readiness for different training conditions, and experience when planning (Dehghansai et al., 2021). Furthermore, Allan et al. (2020) examined coaching for Para sport with a social relational understanding under four themes: consideration, collaboration, professionalism, and prejudice. Allan's research emphasized that the resources to support professionalism are opportunities for cooperation between coaches and athletes and the co-constructive knowledge. In contrast, prejudice leads to structural barriers (e.g. limited support services) and psychological barriers (e.g., prioritizing body function and treating non-disabled athletes and athletes with disabilities differently; Allan et al., 2020).

The concepts for effective coaching are the necessity of the optimal structure for coach development and awareness of the disability context, the adaptation of facilities for success and self-competence of the athletes, and an absence of discrimination (Townsend et al., 2022). Hence, the multidimensional nature of the social relational model might be

harmonious with the research findings of studies about coaching for Para sport (Towsend et al., 2022; Wareham et al., 2017).

Personal Interest & Purpose

The researcher is an essential tool in qualitative inquiry because theoretical perspective, knowledge, personal experience, methodological repertoire, creativity, and imagination impact interpretation, understanding of context, and dynamics (Eakin & Gladstone, 2020). In this section, I will explain myself not only as a researcher but also as a person who wants to understand others' experiences. I describe myself as a woman who speaks English as a second language. I am doing my research in a context different from my cultural background. I worked as a psychologist in the Ministry of Youth and Sports in Turkiye for three years. In Turkiye, I was a practitioner and administrator. Moving to Canada broadened my perspective and allowed me to experience firsthand how life might be different for each individual living in the same environment but with different backgrounds and realities. I believe my experiences as both a practitioner and researcher have enriched my understanding and interpretation of my research. I believe sports have a huge impact on individuals' development, and society. Therefore, I chose coaches and their development as a point of individual and societal change. I hold the opinion that examining the Canadian coach development opportunities will inspire me to contribute to how this process can be implemented in Turkiye.

In my study, I delved into two primary research questions.

RQ1: What is the process for collaboratively reimagining coach education that delivers a high-quality Para sport experience that is accessible for all?

RQ2: What are the views of stakeholders from across the Para sport landscape regarding the key issues for coach development to be accessible for coaches for Para sport?

My first article sought to unveil the collaborative process required to reimagine coach education, ensuring it fosters a high-quality Para sport experience accessible to all. Design Thinking helped gain empathetic insights on coaches' and athletes' needs, as well as their sports organizations's realities, to understand the current situation, key challenges, and opportunities for Para sport coaching and examine the collaborative process to address innovative solutions. Meanwhile, the second article delved into key issues aimed at enhancing CDOs in Para sport for all, from coaches, managers, athletes, and coach developers' perspectives. With the social relational model lens, which allowed me to gain a deep, holistic and relational understanding of disability, I sought to deeply understand the current situation in the Canadian coaching landscape for Para sport. The third article aimed to illustrate what a specific analysis process is, how it was implemented, and the advantages it may offer, as well as how it contributed to enhancing the rigour and accountability of the study.

Theoretical Framework

A theoretical framework outlines the researcher's methodological decisions, helping readers understand the study's approach (Maxwell, 2013). This study was guided by a constructivist perspective and utilized a case study methodology.

Constructivist Perspective

The epistemological and ontological assumptions framing this research were rooted in constructivism. According to the constructivist paradigm, realities are based on an understanding of people's experiences (Potrac, 2014). Therefore, the constructivist paradigm can be used to provide insight into complex phenomena (Potrac, 2014), such as coaching for Para sport. As such, people's experiences in various roles within the system are valuable for addressing key issues related to high-quality coach development opportunities in Para sport. For Crotty (1998), meaning can be constructed individually. That said, an essential aspect of

this constructivist approach is the co-construction of knowledge between the researcher and the participants (Potrac, 2014). By fostering a dialogic interaction, the researcher and participants share their perspectives and insights, leading to a richer, more nuanced understanding of the issues at hand (Halperin, 2018). This shared ownership and mutual learning process not only empowers participants by validating their experiences and contributions but also ensures the knowledge generated is deeply rooted in the practical realities of the Para sport coaching landscape. Through this iterative and reflexive collaboration, the research outcomes are both academically robust and practically relevant, addressing the real-world needs and challenges faced by coaches, managers, coach developers and athletes in Para sport.

Case Study Methodology

Although case study methodology has different approaches (e.g., Merriam, Yin, and Stake), Creswell and colleagues (2007) identified case study as such

Case study research is a qualitative approach in which the investigator explores a bounded system (a case) ... over time through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews) and reports a case description and case-based themes (Creswell et al., 2007, p. 245).

Merriam (2016) employed the constructivist paradigm perspective when dealing with case studies. According to Merriam (2016), a comprehensive literature review is a fundamental part of case studies. She described other case study components as constructing a theoretical framework, recognizing a research problem, determining the research question, and selecting the sample (Yazan, 2015). According to Merriam (2016), the focus of case studies determines the bounded system, which could be a phenomenon, a program, a group, an institution, a community, or a particular policy. What characterizes a case study for

Merriam is the unit of analysis, not the research subject. The “unit of analysis” is critical in defining the study as a case study.

The in-depth exploratory style of the case study allows practitioners and researchers to engage collaboratively, which can support future research (Halperin, 2018). Moreover, case studies have the potential to encompass multiple realities; they can be used to identify and address problems within a social structure that has various contexts and dimensions (Halperin, 2018). Additionally, case studies can be used to confirm or disprove existing theories through multiple sources of evidence (Halperin, 2018).

Defining the Case: The National Coaching for Para Sport Summit (NCPS). The University of Alberta, the University of Ottawa, the Coaching Association of Canada, and the Canadian Paralympic Committee organized a national dialogue named “The National Coaching for Para Sport Summit (NCPS)” in Edmonton on May 2-3, 2023. NCPS was a hybrid event (zoom and in-person) based on the need for high-quality, well-trained coaches to help address fundamental issues related to coach development in Canada's Para sport system. Therefore, NCPS united some of the world’s leading Para sport coaching researchers and Canada’s key Para sport and coaching leaders, educators, coaches, athletes, graduate students, and future leaders. Design Thinking was adopted for the NCPS as a pathway to innovation, aiming to create new avenues and connections for collaborative knowledge sharing. With Design Thinking, NCPS focused on developing user-centred, sustainable, and accessible solutions for coaching Para sport practices.

Methods

Procedure

Ethical approval was granted by the University of Ottawa Research Ethics Committee (Appendix A). The participants of this case study were purposively selected from the participants who attended the NCPS, a hybrid event. One form of purposeful selection is

defined as “people who are uniquely able to be informative because they are experts in an area or were privileged witnesses to an event” (Weiss, 1994, p.17). Within purposive selection, I aimed to provide representativeness of the actors involved in the Canadian Para sport coaching landscape.

Design Thinking (DT)

As mentioned when describing the case, the case study was prepared based on the Hasso-Plattner Institute's Design Thinking model (HPI; 2018; Appendix B). Therefore, explaining the fundamental information about Design Thinking (DT) is valuable for clarifying the procedure.

DT is an iterative process focused on understanding users, challenging assumptions, reframing problems, and creating innovative and testable solutions (Brown, 2008). DT shares fundamental aspects with other design and social science methodologies (i.e., case study, Bender-Salazar, 2023) and promotes innovation in research, pedagogy, and practice (Chambers et al., 2023). DT addresses "wicked problems" that lack singular solutions (Chambers et al., 2021; Liedtka, 2015) and employs abductive reasoning, testing propositions empirically (Peirce, 1955). Truth in DT is contextually derived (Laursen & Tollestrup, 2017).

The DT mindset includes empathy, action orientation, communication, co-creation, diversity, acceptance of uncertainty, and trust in the process (Paparo et al., 2017; Chamber et al., 2023). This mindset fosters a learning mode that is dynamic and learner-centred, emphasizing experiential learning through active problem-solving, collaborative teamwork, and iterative experimentation. For example, in higher education, engaging with complex scenarios encourages creativity and critical thinking to develop innovative solutions (Beligatamulla et al., 2019). This process involves continuous feedback and reflection, creating an environment where learning is seen as an evolving journey rather than a fixed destination. DT learning spaces—whether physical, digital, or hybrid—enhance the quality of

learning by providing diverse environments that support creativity and collaboration (Chambers et al., 2023). Thoring et al. (2018) identified five key spaces: personal, collaboration, presentation, making, and intermission, which are essential for fostering creativity, productivity, and collaboration.

The DT process is exploratory, and there is not a single best approach. Typically, it starts with a tentative definition of the problem, then delves into understanding the user and design space and more precisely defining the problem, generating ideas through brainstorming, constructing and testing prototypes (often multiple times), and finally refining the problem-solving approach based on the findings. Although many DT processes exist, The Hasso-Plattner Institute (HPI) at the University of Potsdam in Germany developed a Design Thinking model (Tschimmel, 2012) based on the educational context. Therefore, the NCPS was used in this model for the DT process. The HPI model consists of two main spaces and six overlapping phases. The first space is described as the problem space (inspiration space), including understanding, observing, and showing the point of view of the users. The second space, referred to as solution space (ideation and implementation), includes ideating, prototyping, and testing.

NCPS aimed to examine how coach development opportunities for Para sport can be improved and accessible for all. For the problem space, participants from different backgrounds and roles in Para sport identified the problem by pointing out the obstacles and requirements, during the NCPS. During the solution space, the participants selected from among the same user group (same role in Canadian Para sport coaching landscape), worked on human-centred, feasible, and flexible solutions.

On the first day, there were presentations and panel discussions aimed at knowledge the mobilization of existing research and identification of knowledge gaps in coaching for Para sport (understand phase). Academics introduced their primary research, and

practitioners (e.g., major sports organizations and athletes with disabilities) gave their perspectives. Participants from the community (i.e., those with lived experiences of living with a disability) also added their viewpoints and asked questions to help inform the work. The second day focussed on the observation, point of view, ideation, prototyping, and testing phases. For this, the participants were divided into groups determined by the DT leaders. The details are explained in Article 1 of this thesis: “Design Thinking: Innovative Knowledge Co-creation in Coaching for Para sport.”

Recruitment

To recruit the participants, I put the posters (Appendix C) up in the appropriate places where the summit was taking place and shared them on Zoom and the NCPS website. Those interested in participating in the study filled out an invitation (Appendix D) on a Google form via the QR code on the poster. During the summit, the form was opened for participants to fill in, and the participants were determined on a first-come, first-serve basis. An information e-mail was sent to the selected participants, they filled out a consent form (Appendix E), and a meeting was scheduled online at a mutually determined time.

Data Collection

In qualitative research, the researcher is considered a data collection tool in the data collection process (Maxwell, 2013). Anything the researcher finds worth recording (e.g., heard, seen, interacted) can be considered data (e.g., memos, field journeys; Maxwell, 2013). Also, using multiple methods helped me compensate for each method’s strengths and avoid method bias (Halperin, 2018). I made observations during the NCPS and conducted interviews in May and June 2023.

Observation

According to Merriam (2016), a qualitative case study is a rigorous, holistic description and analysis of a bounded phenomenon, which can be a program. Observation is

a data collection method that helps to provide case studies with intensive and holistic descriptions with researcher understanding. Observation includes systematically observing people's actions and recording, analyzing, and interpreting their behaviours (Dewalt & Dewalt, 2002). Moreover, observation enables the researcher to understand the situation in context (Maxwell, 2013). The current state of coaching in Para sport and the diverse perspectives and experiences shared at the NCPS offered a meaningful context for understanding what accessible coach development opportunities look like when observed with DT observation tools (Appendix F).

On the first day, there were four panels with different themes. I utilized document observations for each panel. On the second day, I detailed notes for each group and covered all the stages of the DT. There are a total of 32 single-spaced pages of observation notes (including tables and sticky notes from the DT activities).

Interview

I used semi-structured interviews guided by the social relational model. These interviews are flexible, allowing for changes in the order of questions and the addition of new ones (Gratton & Jones, 2004). Additionally, interviews can offer valuable insights into aspects of situations that might be overlooked during observation or clarify the reality of what is observed (Maxwell, 2013).

Interview guide. The interview guide (Appendix G) consisted of three parts: (1) a brief introduction, (2) the perspective of the social relational model, and (3) the participants' perspectives on the key issues in coaching education. The guide comprised approximately 13 to 18 questions, depending on the participants. The structure of each interview was flexible and personalized according to the participant's presentation. To this end, demographic information (e.g. role, experiences) was previously collected through the Google forms and reviewed prior to the interview.

I conducted 10 interviews, with five women and five men, in May-June 2023 online via Microsoft Teams. All the participants have a coaching background; three of them are retired athletes, seven of them are currently working in manager-related roles, and three of them are coach developers. Three of them are people with disabilities, and seven of them are non-disabled people. The average age at the time of data collection was 44.4 (26 to 58 years old), the average interview time was 55 minutes (30 to 75 minutes), and the experience in Para sport was 14.4 years (6 to 35 years; see Table 1).

Table 1

The participants' biographies

Participant	Role(s)	Age	Gender	Experience in years	Sport involved	Organization
Liam	Program Manager	31	M	8	Wheelchair Rugby	NSO
Emma	Coaching Coordinator	51	F	8	Para Sailing	NSO
Olivia	Manager	45	F	20	Para Shooting	MSO
Ava	Coach Developer	52	F	8	Wheelchair Basketball	PTSO
Jack	Coach Educator	52	M	9	Adaptive Mountain Biking	MSO

Mia	Adaptive Sport Consultant*	41	F	20	Wheelchair Curling	PTSO
Max	Manager Coaching Education	46	M	6	Para rowing	NSO
Luke	Summer Paralympic Performance Advisor *	58	M	35	Wheelchair Rugby	MSO
Ben	Coach Developer	43	M	10	Para Athletics	NSO
Zoe	Para Sport Initiative*	26	F	6	Wheelchair Basketball	Local Council

Note. All participants have been assigned pseudonyms, and their sport names changed for anonymity. They all had a coaching background. ‘*’ Former athlete. National Sports Organizations (NSOs). Multi Sports Organizations (MSOs). Provincial and Territorial Sports Organization (PTSOs). The role names are those used by the participants.

Data Analysis

I recorded and transcribed each interview. After transcription of the data (interview), I send it to the participant. I asked the participants if they would like to make any additions or deletions to the transcript. The transcript was finalized after integrating feedback from the participants. Of the ten participants, four provided feedback and confirmed that the transcript was satisfactory with no further revisions required. The remaining six participants did not respond. After finalizing the transcription, I familiarized myself with the data by reading it many times. Moreover, I discussed first impressions of the answers to our research question

in the group meetings and informal small chats between my supervisor, co-supervisor and my lab colleagues. The analysis was iterative with data generation, starting with the first transcript. I analyzed the data to generate themes using the SAMMSA method created by the VOICE team (Macdonald et al., 2023). I read the transcripts multiple times and assigned codes in Nvivo14 (Lumivero, 2020) to each segment of data that addressed the research question. I wrote a descriptive summary of each data segment and a speculative analytic explanation of how the segment inductively addressed the research question and deductively responded to the social relational model in Microsoft Office Word. I grouped similar codes into micro themes and then organized these micro themes into meso themes. Throughout the process, my supervisor, co-supervisor, and colleague supervised and contributed to the data interpretation. Subsequently, I produced a narrative synthesis for each interview (see Appendix H, Appendix I, Appendix J, Appendix K, Appendix L, Appendix M, Appendix N, Appendix O, Appendix P, and Appendix R), after which the co-supervisor and supervisor reviewed the analyses to augment rigour and trustworthiness. Finally, I conducted a cross-narrative analysis to develop the final results. The details are explained in Article 3 of this thesis: “A Novel Qualitative Analysis Approach as Used in a Coaching for Para Sport Study”.

ARTICLE 1

Design Thinking: Innovative Knowledge Co-creation in Coaching for Para sport

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Abstract

The increasing participation in Para sport has created a demand for more qualified coaches, yet their development mainly depends on informal and experiential methods due to limited formal opportunities. Effective collaboration between sports organizations and governmental bodies is crucial to developing comprehensive coach development opportunities tailored to the specific needs of Para sports. Design Thinking offers a viable solution to bridge existing gaps by fostering innovative, human-centred approaches that lead to the development of solutions tailored to the evolving demands of Para sport coaching. The purpose of this study was to introduce and propose the utilization of Design Thinking to enhance coach development opportunities in Para sport, illustrated through a comprehensive analysis of a two-day design challenge event based on the Hasso-Plattner Institute Model (HPI; 2018). The event brought together a varied group of stakeholders, including managers, coaches, coach developers, and athletes. Design Thinking, with its focus on empathy, iterative problem-solving, and collaboration, was instrumental in helping participants move beyond their individual biases. The study provided actionable strategies for implementing Design Thinking in the context of Para sports, contributing to improving the overall Para sport experience.

Keywords: coach development, disability sport, human-centred approach, novel approach, Hasso-Plattner Institute Model

Design Thinking: Innovative Knowledge Co-creation in Coaching for Para sport

In response to the growing awareness and expansion of Para sport participation, there has been an increasing demand for more qualified coaches in the field (Bentzen et al., 2021; Fairhurst et al., 2017). However, coach development in Para sport primarily relies on experiential, informal, and non-formal methods due to the varying provisions of formal opportunities and environmental limitations (Shaikh et al., 2021). Coaches often perceive a significant disparity between non-disabled and disabled sports, underscoring the need for better integration of Para sport into the broader sports system (authors blinded). Collaboration between sport organizations and governmental bodies is essential in orchestrating quality coach development programs, recognizing the unique structures and needs of each Para sport (Shaikh et al., 2021; Townsend et al., 2022). Despite the growing attention, a significant gap persists in enhancing formal learning opportunities for coaches in Para sport. Design Thinking holds considerable potential to address this gap effectively and to reach innovative solutions. This paper illustrates how this might be so.

Design Thinking (DT) is a human-centred, iterative approach that focuses on understanding users, challenging assumptions, and generating innovative solutions through prototyping and testing (Brown, 2008). DT fosters innovation in research methodologies, pedagogies, and curricula, leading to novel approaches in designing services, processes, and strategies (Chambers et al., 2023). The purpose of this study was to introduce and propose the utilization of DT to enhance coach development opportunities in Para sport. This approach will be exemplified through a description of the [name of the event]. By actively engaging a diverse array of stakeholders including managers, coaches, coach developers, and athletes, this study aimed to demonstrate an approach that has the potential to foster a comprehensive understanding of the [name of the country] Para sports coaching system. Through a user-centred approach, the research highlighted the perspectives and experiences essential for

improving coaching for Para sport. The empathetic perspective cultivated through DT helped participants transcend individual biases and constraints, fostering collaboration to address evolving needs within the coaching ecosystem. Our research question was: “What is the process for collaboratively reimagining coach education to deliver a high-quality Para sport experience accessible to all?” This study offers practical strategies and guidance for an approach that promotes and enriches the Para sports experience and coaching in [name of the country] and beyond.

Design Thinking

Design Thinking (DT) is an iterative, human-centred approach emphasizing feasibility and viability. It enables researchers to deeply understand users, challenge existing assumptions, reframe problems, and develop innovative solutions that can be prototyped and tested (Brown, 2008). Studies by Chambers and colleagues (2023) have demonstrated that DT fosters innovation across research methodologies, pedagogies, and curricula; leading to novel approaches in the design of services, processes, and strategies (Brown, 2008). Central to DT are three paradigmatic features: a worldview that acknowledges the presence of wicked problems lacking universal solutions (Chambers et al., 2020; Liedtka, 2015), an abductive form of reasoning where propositions are empirically tested, and criteria for truth are derived from contextual meaning (Laursen & Tollestrup, 2017). Together, these features underscore DT's capacity to generate contextually relevant and innovative outcomes. The aim of this section is to elucidate the elements of DT and to introduce the specific model employed in [name of the event], which will be detailed in the subsequent section.

DT comprises three interconnected elements: mindset, space, and process. The DT mindset involves empathy towards end-users, action orientation, effective communication, co-creation with diverse groups, and perseverance (Chambers et al., 2023; Paparo et al., 2017). The learning space, which can be physical, digital, or hybrid, is crucial for fostering

this mindset and ensuring quality learning (Chambers et al., 2023). As a space, the [name of the event] was held on [date of the event], at the [name of centre], situated on the [place of the event]; it was a hybrid event (the in-person aspects of the event will be explained in detail below). This collaborative initiative involved the [name of organizations]. Thoring et al. (2018) identified five types of spaces essential for the DT process: personal, collaboration, presentation, making, and intermission. Effective organization of these spaces promotes creativity, productivity, and collaboration; facilitating diverse activities, and achieving desired outcomes (Thoring et al., 2018).

The DT process, adapted from the Hasso-Plattner Institute's model (HPI, 2018) has six overlapping phases. This model was chosen because it is specifically tailored to the educational context (Tschimmel, 2012), making it highly relevant for reimagining the Para sport coach education system to be accessible for all. To determine the problem, DT focuses on understanding users, observing, and developing a user-centred viewpoint. This involves understanding the desires, tasks, and needs of potential users, validating assumptions through observation, and analyzing data for ideation and implementation, which involves generating solutions through brainstorming, constructing prototypes to test these ideas with users, and iteratively refining solutions through user interactions. Reflection is crucial throughout the process to extract learnings and engender improvements (Lewrick et al., 2018; Lewrick et al., 2020; Lewrick, 2023).

While DT has a rich history across diverse disciplines, Joachim (2023) highlighted its recent emergence as a promising approach within sport research (e.g., mentoring in sport coaching, Chambers, 2018; physical education, Chambers et al., 2020, 2023; varsity athletes' well-being Graper, 2023; athlete retirement, Hassan, 2023). Furthermore, the work of Cuthbert and colleagues (2018) showcased the creation of a coach education model rooted in DT, indicating its potential to revolutionize coaching practices. In a more recent study,

Askew and colleagues (2024) shed light on the untapped opportunities of applying DT to enrich coach learning, especially within the realm of Para sport.

DT was particularly well-suited for [name of the event] due to its potential to address the complex and distinctive challenges inherent in coaching for Para sport context, particularly through its capacity to tackle wicked problems. Para sport [in name of country] sits within an already complex sport system (author blinded). This is compounded by the varied structures of the different Para sports, with some sitting with the national sport organizations and others having their own organization (Culver et al., 2020). DT's human-centredness prioritizes the needs and experiences of all stakeholders, making DT effective in developing accessible and inclusive coach development strategies, thereby addressing the aim of the event. DT's iterative characteristic facilitates the rapid development of solutions within a relatively short timeframe. By bringing together stakeholders from across the Para sport landscape to engage in the DT process, we were able to foster collaboration, creativity, and user engagement to address immediate challenges while also laying a foundation for sustained innovation and continuous improvement in coaching for Para sport. With DT the participants moved beyond problem solving toward a transformative approach with the potential to reimagine Para sport coaching.

Engaging with Design Thinking

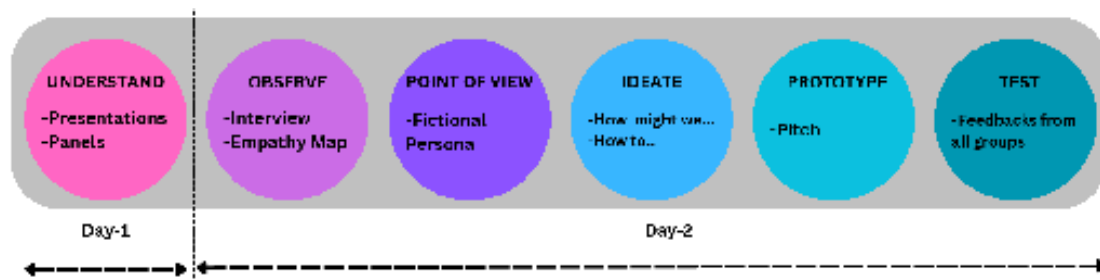
Preparation

Despite the [name of the event] being condensed into a two-day design challenge based on the HPI model (Figure 1), the preparation was notably extensive. Participants comprised a heterogeneous group of active users from across [name of the country], representing various sports, institutional affiliations, roles, and experience levels (e.g., managers, coaches, coach developers, athletes). Throughout the [name of the event] participants gained a comprehensive understanding of DT, emphasizing the importance of

empathy, tools for framing empathy, and its role in the innovation process, as well as collaborative methods to address common challenges through DT.

Figure 1

Design Challenge Tools and the Flowchart for Implementing the HPI Model (Adapted Version)



Note. From HPI Design Thinking Model by Hasso-Plattner-Institute School of Design Thinking in Potsdam, 2018, <https://hpi.de/en/school-of-design-thinking/design-thinking/background/design-thinking-process.html>. CC BY-NC-SA 4.0

To ensure a user-centred approach, a needs assessment form was distributed to participants to identify their objectives for attending the [name of the event], the topics they wished to discuss, and their areas of interest. Insights from these responses were utilized to develop the two-day program agenda to address participants' needs and interests. The primary objective of the event was to tackle challenges within [name of the country] Para sport system, focusing on enhancing development opportunities for coaches.

With respect to Thoring et al. 's (2018) previously mentioned five types of spaces necessary for the DT process, spaces were designed to foster creativity among the teams and facilitate the DT activities. A conference room was provided for the initial presentations, then a group activities room, equipped with tables (making space), comfort chairs, sticky notes, poster areas (presentation space), and break area with refreshments (intermission space), was used on the second day. On the first day, participants attended presentations individually

(personal space). On the second day, both homogeneous and heterogeneous design teams were established (collaboration space).

Problem Statement

Building on these insights, the problem statement serves several critical purposes in the design process. Firstly, it establishes a shared understanding among team members regarding the issue at hand, compressing collective insights gathered during initial research. Additionally, it outlines the direction for subsequent activities, acting as a compass to guide the team toward effective solutions (Lewrick, 2023). The grand design challenge was to *“Reimagine coach education that delivers a high-quality Para sport experience that is accessible for all,”* which served as the problem statement.

Design Teams and Activities

During the [name of the event] six design teams were formed, each meticulously following the prescribed iterative and connected steps of the DT. These teams explored ways to enhance coach development opportunities for Para sport, involving participants from diverse backgrounds to identify obstacles and requirements, and subsequently devising human-centred, feasible, and flexible solutions. Extensive research has highlighted various issues within the system, underlining the pivotal role of coaches in delivering quality support to Para athletes (Bentzen et al., 2021; authors blinded). The aimed not only to underscore the significance of coach development but also to explore tangible solutions for providing a high-quality Para sport experience for all participants.

Both homogeneous and heterogeneous design teams were established. Participants were equipped with name tags bearing two stickers: one denoting their role through a specific colour (for homogeneous teams) and another featuring an animal (for heterogeneous teams), representing end-users like [name of the organizations], athletes, coaches, and coach developers. The coloured stickers integrated participants into homogeneous teams during the

observation phases, aligning them based on their roles. In homogeneous teams, ideas were generated collaboratively, drawing from the collective expertise and perspectives of all team members (Lewrick, 2023). The animal stickers facilitated the formation of heterogeneous teams during the point of view, ideation, and prototype phases, bringing together individuals from diverse backgrounds and roles. In heterogeneous teams, each member represents a specific area of expertise, and solutions often emerge as a synthesis of these varied perspectives (Lewrick, 2023). Each team was assigned a facilitator to guide activities objectively. The facilitator's role was to assist in identifying the refined problem and ensure the smooth progression of activities, while participants ultimately presented ideas and implement solutions.

Design Challenge

Understand

The initial phase of the HPI, corresponding to the first day of the [name of the event], was the understand phase. The objective was to immerse participants in gaining deep empathy for potential users and identifying the core challenges within the Para sport coaching landscape in [name of country]. This phase aimed to lay the groundwork for the DT by capturing valuable insights and defining key issues.

Crucially, this phase establishes the context for the entire DT journey. By empathizing with users and thoroughly understanding their needs and pain points, participants can accurately frame the problem, ensuring subsequent phases focus on developing relevant and impactful solutions. Emphasizing empathy, a fundamental principle of DT, helps highlight the personal and broader significance of the challenges.

To achieve a comprehensive understanding, the problem statement was disseminated across various DT channels, including emails, presentations, and posters; ensuring widespread exposure among participants. The [name of the event] featured a series of face-

to-face and pre-recorded presentations covering key challenges, opportunities, and innovations in Para sport coaching. Each thematic presentation was followed by an interactive panel session with experienced professionals, including those with lived experience, sharing their firsthand experiences, and fostering an engaging and reflective environment. Additionally, a needs assessment form was distributed to gather insights into participants' curiosity, interests, areas of desired skill development, challenges, and perceived needs for solutions. The first day of the [event] revolved around four overarching themes, each illuminating different aspects of coaching for Para sport in [name of the country]. These themes were curated using a human-centred approach, informed by insights from participants' registration forms.

Theme 1: Current Landscape of Coach Education. This theme examined the existing state of coach education delivery in Para sport. Participants broadened their perspectives by exploring insights from [presenter blinded] and colleagues' reports on Para sport coach education and Dr. Gordon Bloom and colleagues' studies on integrating Para sport coaching research into practice. The session concluded with a panel discussion that delved into the nuances of the current coach education curriculum.

Theme 2: Implementation Pathways for Coach Training. The theme explored potential pathways for implementing coach training initiatives tailored for Para sport. Esteemed researchers from overseas presented exemplary practices from their respective countries: Dr. Scott Douglas from the USA and Dr. Robert Townsend from the UK and New Zealand. This was followed by a comprehensive panel discussion highlighting the successes, challenges, and opportunities in establishing a disability-inclusive coach development infrastructure.

Theme 3: Enhancing Inclusivity in Para Sport Education. This theme focused on identifying existing programs and resources that could be integrated to enhance the

inclusivity of Para sport education. Researchers and practitioners shared insights into mentorship programs, presented by Dr. Danielle Alexander-Urquhart, and community-of-practice frameworks, presented by Dr. Tiago Duarte, as best practices in Para sport coaching.

Theme 4: Specifics of Coach Education in [country]. The theme delved into the specifics of coach education for Para sports within the [name of the country] context. [presenter blinded] delivered a compelling presentation titled "Nothing About Us Without Us: Self-determination, Leadership, and Building Anti-ableist Coaching Praxis," providing participants with a profound understanding of true inclusivity through the perspectives of individuals with disabilities. The subsequent panel concluded with valuable input from Para athletes and coaches with a disability, enriching the discourse with their firsthand experiences and suggestions.

The understanding phase provided a foundation for observation. The participants focused on human-centred themes and discussions, gaining a deep understanding of the issues. This empathy allowed them to observe users effectively, ensuring solutions were based on real needs and experiences.

Observe

The purpose of the observation phase is to immerse participants in understanding the users and their experiences deeply. This phase is crucial for gaining valuable insights into the users' needs, pain points, and challenges (Lewrick, 2023). By observing and understanding users, participants can gather authentic and actionable insights to inform the development of human-centred solutions and ensure these remain focused on addressing user experiences and needs.

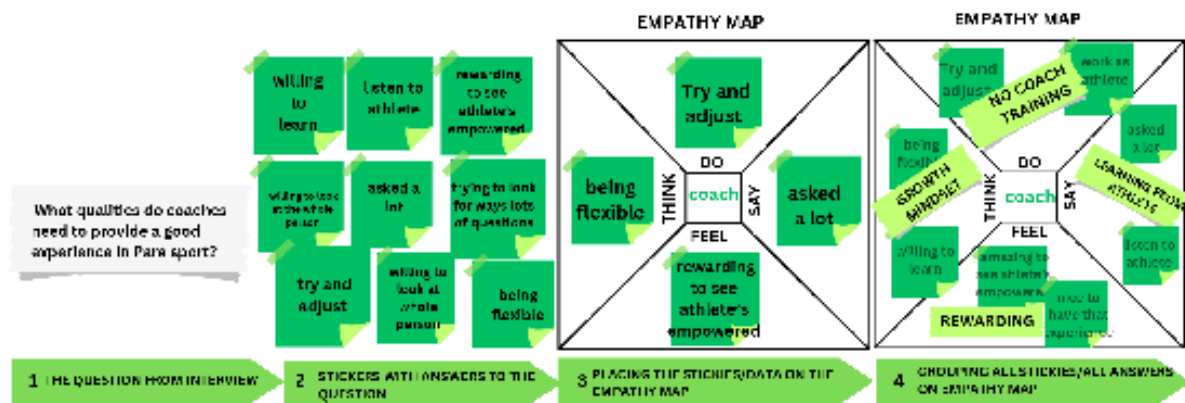
Participants were organized into homogeneous teams, each representing a different role. Each team formulated 6-8 interview questions to uncover unique perspectives and foster empathy (Lewrick, 2023). Within each team, one person was the interviewer, one the

interviewee, and the rest were recorders. The interviewer asked questions while the recorders transcribed responses verbatim onto sticky notes, ensuring accuracy without alterations and/or interpretations. These stickies encompass firsthand data regarding the user's experiences. This information was to be utilized in subsequent phases, aligning with the objective of prioritizing the user's experience and detailed insights into it. Key themes and patterns in user behaviour, thoughts, and emotions were highlighted. This process revealed discrepancies between assumed and actual user behaviours and perspectives, allowing the design team to deeply understand users' needs and challenges (Lewrick, 2023).

Following the interviews, each team created its own empathy map (Figure 2) to categorize users' thoughts, emotions, and attitudes. The objective here was to organize the dispersed data by centring on the user, thereby identifying their needs and performing a thorough and meaningful evaluation of these needs. The maps had four quadrants: 'say' (quotes reflecting users' language), 'do' (users' behaviours), 'think' (users' deep thoughts, opinions, and values), and 'feel' (users' emotions). Interview responses were placed in the relevant quadrants, grouped, and synthesized. Similar notes were combined and labelled with a summarizing word or phrase, sparking valuable team discussions.

Figure 2

Using Interview Questions to Create an Empathy Map



Note. (1) One of the interview questions. (2) Stickies that include the answers to the question (3) An example of placing a sticky in each quadrant (4) Grouping answers into an empathy map

Insights from the observation phase set the stage for defining the point of view. By understanding users' needs and experiences, participants could create a precise and empathetic problem statement. This point of view would guide the ideation phase, ensuring solutions aligned with users' challenges and aspirations (Lewrick, 2023).

Define Point of View

The purpose of the point of view phase was to reframe the design challenge into an actionable problem statement derived from a deep understanding of users. This phase synthesizes insights gathered from the observation phase to create a focused and empathetic foundation for the ideation phase (Lewrick, 2023). The point of view is crucial because it translates user observations into a clear problem statement that guides the rest of the design process. By grounding the problem statement in user insights, this phase ensures the design

challenge is approached with a nuanced and empathetic understanding of the users' needs and aspirations (Lewrick, 2023). This focus helps in generating relevant and user-centred solutions.

To achieve this, participants were organized into heterogeneous design teams. Each team synthesized the insights from the empathy maps to create detailed fictional personas (Figure 3). Personas are “fictional and detailed archetypical characters that represent distinct groups of behaviours, goals, and motivations observed and identified during the research phase” (Calde et al., 2002, p. 2). Fictional personas served as a visual tool to summarize the interpreted characteristics of the end-user, highlighting their collective thoughts, expressions, experiences, and emotions. The personas focussed on some key aspects. Detailed demographic information ensured a comprehensive user representation. Potential sources of inspiration were identified to drive user engagement and motivation. Pivotal moments that could transform users' experiences were pinpointed. Finally, an ideal world tailored to users' needs and aspirations was articulated, reflecting their ultimate goals and desires (Lewrick et al., 2020).

Figure 3

An Example of a Fictional Persona



JENNY JONES (JJ)
(she/her)

- **Middle age women**
- **5 years coaching (club)**
- **Experience in non-para context**

Characteristics

- **New to Para sport recreational →hp**
- **Passionate/loves coaching .. cares**
- **Yearning to learn from mentor/athletes**
- **Self-taught .. no para coach training**
- **Willing to fall... trail to error**
- **Strong work ethic**
- **Conflicted role (rec/hp) (anxiety about effectiveness, isolated /lost)**

<p style="text-align: center;"><u>INSPIRED</u></p> <ul style="list-style-type: none"> • passion for learning • willing to admit limitations • care/respect for athletes 	<p style="text-align: center;"><u>LIFE CHANGING</u></p> <ul style="list-style-type: none"> • specific para sport training • role clarity and capacity
--	--

IN AN IDEAL WORLD
supportive "community"
(peers, resources, athlete, not isolated, valued)

Note. More detailed demographic information can be added. Participants are encouraged to provide further elaboration at their discretion.

The insights and detailed personas from the point of view phase provided a solid foundation for ideation (Lewrick et al., 2020). By clearly defining the problem statement

based on user needs and experiences, participants were well-prepared to brainstorm innovative solutions. This user-centred approach ensures the ideation phase addresses the real challenges and opportunities identified in the point of view phase, leading to more effective and meaningful outcomes.

Ideate

The ideate phase marks the beginning of the finding solution in the DT. Participants began by considering solutions to the specific challenge they identified during the point of view. They reformulated their point of view into questions to serve as a springboard for brainstorming ideas. As a design team, they crafted "How Might We" (HMW; Figure 4). The HMW activity is important because it transforms problem statements into actionable questions, stimulates creativity and innovation, provides focus and direction, encourages collaboration and a shared understanding, maintains a user-centred approach, and facilitates divergent thinking (Lewrick, 2023).

Figure 4

“How Might We...” Activity Visualization



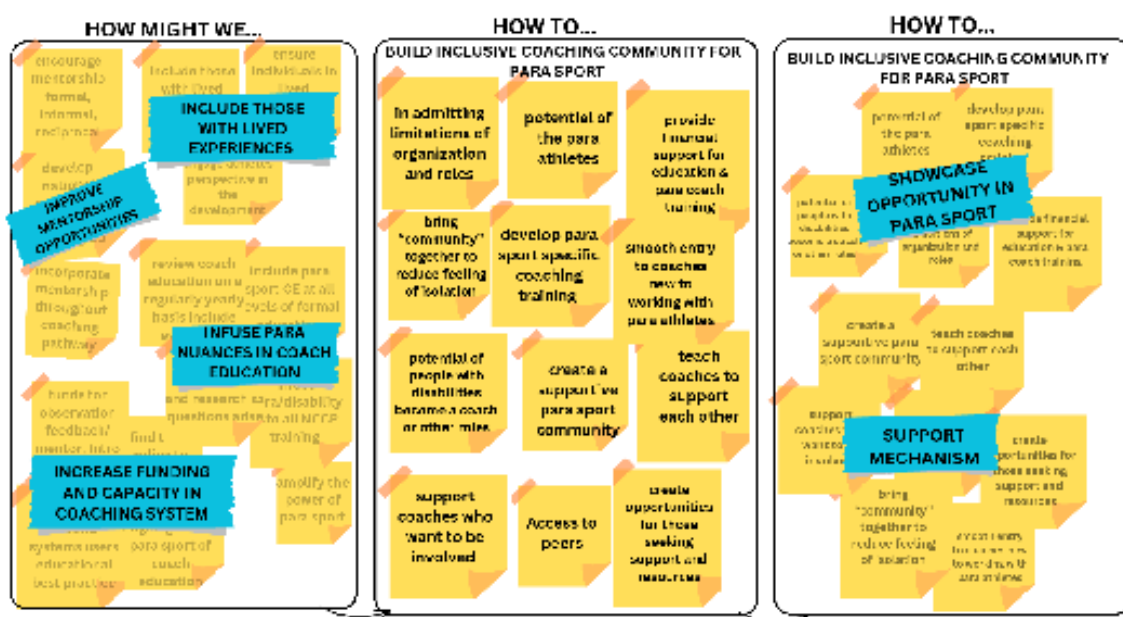
Note. During the 'How Might We' activity, the participants engaged in an iterative process of scattering (S), clustering (C), and labelling (L). Throughout the activity, participants repeatedly transitioned between S-C-L, continuously refining their ideas and insights.

The participants generated a focused list of HMW questions, which were then refined through a collaborative process. In this non-judgmental environment, the quantity of ideas was prioritized over their quality, encouraging bold and unconventional thinking. The teams scattered, clustered, and labelled all stickies. This approach is an abductive, data-driven, and iterative process where ideas are created through free-thinking and writing, selected from a large pool of generated concepts, and refined through repeated labelling and re-labelling. To prioritize and select the most impactful HMW question for further ideation, dot voting was employed; a method that ensures each team member can equally influence the decision-making process (Lewrick, 2023). Each team member was allocated three votes, which they cast using the provided stickers to identify the most compelling HMW question to advance into the ideation phase.

The subsequent activity involved breaking down the selected HMW question into "How To" (HT; Figure 5) questions. This step aimed to turn the action implied by the HMW question into specific problem statements (Lewrick, 2023). The HT activity is important because it breaks down broad questions into specific actions, facilitates focussed ideation, encourages practical problem-solving, enhances collaboration and clarity, ensures feasibility and viability, and maintains a user-centred approach. Each team member contributed two HT questions on sticky notes. Similar to the previous activity, dot voting was used to select one HT question to move forward. Each member again had three votes, ensuring a democratic and collaborative decision-making process.

Figure 5

“How to...” Activity Visualization



Note. Each group formulated a unique problem statement based on the 'How might we...' activity, specifically tailored to their assigned “How to...” activity. For the representation group, the problem statement was: “How to build an inclusive coaching community for Para sport.”

The connection between the ideation phase and the prototype is crucial for moving from conceptual thinking to practical implementation. The ideas and solutions generated and refined during the ideation phase provide a clear and focused foundation for the next step, ensuring the concepts developed are actionable and aligned with user needs. This seamless transition ensures continuity in the design process and helps maintain the momentum of innovation and problem-solving.

Prototype

The prototype phase is essential for iteratively testing proposed solutions (How To's) swiftly and with minimal risk (Lewrick et al., 2020). This phase employs various prototyping methods, such as paper prototypes for applications, storyboards for processes, desktop walkthroughs for complex services, and role play for social interactions (Lewrick, 2023). Prototyping is crucial because it transforms abstract ideas into tangible, testable artifacts, enhancing visualization and understanding. It allows for rapid experimentation and early detection of potential flaws, minimizing risks and costs associated with later-phase changes. Additionally, prototypes facilitate user feedback by providing interactive models for users to engage with, ensuring solutions align with their needs and expectations.

Our participants developed prototypes to transform their selected ideas into tangible artifacts and presented these to the whole group to demonstrate how their designs met end-user needs. To effectively convey their concepts, participants crafted concise three-minute pitches to showcase their prototypes (Figure 6), which helped validate the design and engage stakeholders in the iterative improvement process.

Figure 6*An Example of the Pitch*

The overarching end-user is a coach who lacks community support, training, and experiences significant stress, feelings of being overwhelmed, and anxiety. The model presented aims to involve people with lived experience at all levels of the sport system and leadership to create an inclusive support mechanism in the coaching system. According to the model, leadership representation in organizations requires the national Paralympic organization to mandate 51% of executives to be disabled by 2040, starting with their CEO. This change will affect all partners, the national coach education association, and the national Paralympic organization, necessitating that the national coach education association review their current representation. Additionally, the model calls for the integration of Para sport nuances into all national educational resources, with the goal that 20% of facilitators identify as individuals with a disability. This emphasizes the importance of having people with lived experience present at all levels of the system.

Note. This pitch, presented by two retired Para sport athletes, was designed to appeal to the group. However, feedback from the other participants indicated that while the pitch was desirable, it was not feasible or viable.

Test

The testing phase evaluates prototypes by engaging users and refining them to achieve the ideal balance of desirability, viability, and feasibility (Lewrick et al., 2020). At the [name of the event] rather than choosing a single idea to implement, we focused on testing various approaches and gathering user feedback to inform decisions. Each group reviewed other groups' prototypes, provided feedback on pitches, and discussed improvements. User feedback highlighted usability issues, missing features, design

enhancements, feasibility concerns, and alignment with user needs. This feedback allowed teams to simplify navigation, refine functionalities, improve visual appeal, address practical challenges, and ensure relevance. The pitches played a crucial role by helping to identify strengths and weaknesses, facilitating collaborative problem-solving, and prioritizing revisions. This iterative process of reviewing, pitching, and discussing significantly enhanced the refinement and effectiveness of the solutions.

Reflection

In the post-summit interviews, participants were queried about their evaluation of the process. The ensuing responses from two members of the (end-user: coach) team serve as illustrative examples within the article. In the two weeks following [name of the event], participants were asked about their experiences with Design Thinking at the end of the online interviews conducted as part of a master's thesis that examined the [name of the event] as a case study (e. g., Can you describe the Design Thinking process from your perspective?, Did you trust the Design Thinking process? Why or why not?). Our reflections from these interviews are as follows.

Engaging in these activities helps people gain a deep and empathetic understanding of organizations, allowing them to see organizations as more than just their official rules and structures, and to appreciate the human and relational aspects as well. One of the participants stated, “So I loved it, and I thought that it was very humanizing...it's easier to critique an organization or a cluster of organizations versus trying to understand a person who's behind it trying to do their best.”

It is paramount to ensure participants have the necessary opportunities and time to fully embrace and internalize the DT mindset. This allows them to deeply engage with the process, explore various perspectives, and develop innovative solutions that closely align with the intended purpose. Organizations can maximize the effectiveness and relevance of the

outcomes generated through DT by dedicating sufficient resources and support to this aspect of the process. One of the participants said, “It was interesting. There were some people who had a hard time with the process, but eventually, we got into it, and we got really into our persona and our person. We had really rich conversations.”

It is crucial to facilitate diverse stakeholders' recognition and appreciation of their own perspectives while also encouraging them to develop an empathetic understanding of others' viewpoints. This approach enables individuals to gain a comprehensive understanding of the situation by considering multiple perspectives, thus fostering a more balanced and empathetic approach to decision-making, problem-solving, and implementation. One of the participants stated,

I think it was interesting because we had a lot of lived experience at our table. So everyone, for the most part, agreed on what we were going through. I think it was super beneficial for all of us because then we also had a couple key stakeholders, in terms of funding and stuff, at our table, and that opened both sides of the issue to what really needs to be done from the beginning to be able to implement these things into the future...

The perpetual evolution of people's needs and processes demands continual improvement and adaptation within organizations. DT stands as a powerful tool to bridge this gap. By embracing a human-centred approach to problem-solving and innovation, DT enables organizations to address dynamic needs effectively. One of the participants noted,

I would just say that Design Thinking is an interesting approach to be able to solve some of these bigger issues when it comes to the Para sport world. We've all been talking about these issues. At our table, everyone was saying we've been talking about these things for 10-15 years, right? Para sport has evolved, but we've always continued to find these same gaps and no one knows how to solve them.

Conclusion Remarks

This study demonstrated how the [name of the event] leveraged DT to foster a comprehensive understanding of the [name of the country] Para sport coaching system and generate innovative, user-centred solutions. By emphasizing empathy, collaboration, and iterative problem-solving, DT provides a structured yet flexible approach that can be adapted to various coaching contexts. The practical strategies and tools outlined in this study, such as empathy maps, personas, and prototyping methods, offer valuable guidance for enhancing coach development opportunities. Stakeholders can benefit from integrating DT into their coach development initiatives to create more effective, and responsive coaching programs that better meet the needs of users. Future research should explore the long-term impact of DT-based interventions on coaching practices and athlete outcomes. This study contributed to coaching for Para sport by introducing a human-centred, innovative approach to coach education; advancing our understanding of how DT can be used to create practical, evidence-based solutions for the unique challenges faced by Para sport coaches. However, it is crucial for participants to thoroughly understand the fundamental mindset of DT. Those unfamiliar with it may resist and fail to meet process requirements. Therefore, expecting that the needs have been accurately identified and that the solutions will be as effective as promised by DT would not be realistic with participants who do not trust the process.

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ARTICLE 2

Understanding of the Key Issues for Coach Development in Para Sport: Canadian Stakeholders' Perspectives

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Abstract

We examined the key factors influencing coach development opportunities (CDOs) in Para sport within Canada from the social relational model perspective, aiming to understand how these opportunities can be more effectively tailored to meet coaches' needs. Employing a case study methodology, we collected data through semi-structured interviews with ten participants (five women and five men), including managers, former athletes, coaches, and coach developers. The data were analyzed using the 5-step SAMMSA method. The findings emphasized the importance of transforming coaching perspectives to be more disability-conscious and addressing ongoing accessibility challenges in Para sport. The critical roles of empathy and individualized coaching approaches are highlighted. There is a clear need for accessible CDOs that incorporate individuals with disabilities and promote continuous professional development for coaches. By empowering coaches with disabilities through tailored support systems and fostering collaboration and systemic improvements, we can enhance the quality of CDOs.

Keywords: social relational model, coaching, disability sport, coach development opportunities

Understanding of the Key Issues for Coach Development in Para Sport: Canadian Stakeholders' Perspectives

There has been a steep increase in the awareness of and support for Para sport participation in the past two and a half decades (Shaikh et al., 2021). International and national governing bodies have been crafting strategic plans and developing policies to improve the sport participation conditions for people with a disability (e.g., International Paralympic Committee, 2023; Sport Canada, Policy on Sport for Persons with a Disability, 2006) to help them better reap the benefits of sport participation. Sport participation can improve the conditions of people with disability in physical, psychological, and social aspects of life (Alexander & Bloom, 2020). Sport has the potential to provide life-changing experiences for people with a disability as they are more prone to several physical and psychological difficulties (e.g., depression, Goodwin & Compton, 2004). As sport involvement by itself does not lead to positive experiences and outcomes in athletes (e.g., Coakley, 2016), this recent increase in the awareness and support for this context has also led to a surge in demand and calls for qualified coaches for people with disabilities, irrespective of the coaching context (Huntley et al., 2019; Townsend et al., 2022).

Coaches are one of the most influential actors in optimizing the benefits of sport participation (Côté & Gilbert, 2009; Evans et al., 2018) having the potential to enhance athletes' physical well-being, drive societal and cultural shifts, and optimize athletes' human potential (IPC, 2023). They, however, can adversely impact their athletes' sport involvement (Allan et al., 2020; Alexander & Bloom, 2020) with a perspective toward disability (i.e., assumptions, prejudices, and lack of experience, Thurston et al., 2022) and the absence of knowledge and competencies (e.g., providing a safe and welcoming environment) necessary to facilitate optimal disability sport involvement. Recent research emphasized the increasing

need for qualified coaches to enhance athletes' sport experiences in this context (e.g., Allan et al., 2018; Banack et al., 2011; Shaikh et al., 2021).

While the National Coaching Certification Program (NCCP) has a primary role in helping coaches attain the knowledge and competencies necessary (Coaching Association of Canada, 2016), recent research has indicated critical areas for improvement, especially in providing structure relevant to Para sport coaches (Shaikh et al., 2021). Moreover, there is a need for clearer pathways into coaching in Para sport (e.g., Douglas et al., 2018; Wareham et al., 2018). Considering recent research illustrates an ongoing lack in the knowledge and competencies of the coaches presently working within disability sport (Huntley et al., 2019; Wareham et al., 2018), it is critical to gain a current picture of the factors that influence the development opportunities for coaching in the Para sport landscape. This study intended to obtain a comprehensive understanding of the underlying factors affecting the extent to which Canadian coach development opportunities presently are, and also could, be tailored to the needs of coaches for Para sport through the lens of the social relational model.

Models of disability identify perspectives on disability and the fundamental assumptions shaping these perspectives, offering pathways for comprehending the experiences of individuals with disabilities (Brittain & Christiaens, 2022). The way disability is perceived and integrated into coaching is inevitably influenced by models of disability, implicitly or explicitly (Townsend et al., 2022). The social relational model explains disability from a holistic point of view, regarding disability as more than an individual trait; it involves the interaction between an individual's biology, society, and environment. This perspective highlights that disability is not solely about a physical or mental condition but also about how society perceives and interacts with people with disabilities, shaping the experience of disability. Four social contexts are identified in the social relational model, through which disability experience can occur. They are impairment effects, relational

practices, structural barriers, and the psycho-emotional factors (Thomas, 1999, 2004, 2007). Physical impairment can affect individuals' lives physically (e.g., chronic pain) and socially (e.g., requiring social support) causing restrictions. Relational practices that involve societal attitudes and discourses about disability (e.g., ableism and stereotypes such as being unfortunate or weak) can result in inequalities. Such adverse experiences of cultural constructions of disability negatively impact the quality of interactions between coaches and athletes. Structural barriers describe the absence of opportunities and services (e.g., coaching facilities and buildings designed based on the non-disabled) that create hindrances. As a result, these key components negatively affect athletes' psycho-emotional state. For instance, they may experience a coaching context sensitive to these four components and develop autonomy by participating in Wheelchair Rugby, or internalize negative stereotypes and feel unprepared to participate (Allan, 2020; Haslett et al., 2017; Thomas, 1999, 2004, 2007; Townsend, 2022). Coaches' knowledge and skills determine the quality of experiences in disability sport (Evans et al., 2018).

To thoroughly understand how coaches develop the knowledge and skills they need, researchers suggest focusing on coaches' cognitive learning process in mediated, unmediated, and internal learning situations (Trudel et al., 2013; Werthner & Trudel, 2009). This approach highlights the uniqueness of each learning situation to individual coaches as each situation is based on the coach's mental structure (i.e., previous knowledge, experiences, and expectations; Culver et al., 2020). Mediated learning situations are episodic learning experiences where coaches do not select the material to learn (e.g., formal and non-formal learning contexts). In unmediated learning situations, coaches choose the kind of information they need and consult with different sources (e.g., other coaches; Erickson et al., 2008). Internal learning situations are the 'situations where there is no new material of learning coming from either a mediated or unmediated learning situation (Trudel et al., 2013). In

internal learning situations, coaches reorganize knowledge they obtained by reflection and transform it for their use (Culver et al., 2020; Taylor, 2015).

In the Para sport context, although coaches value relevant mediated learning situations, opportunities are limited, not fully accessible, and mostly unaffordable (Bentzen et al., 2021). Ample research illustrates coaches' frustration with the current formal provision, which is lacking in information specific to Para sport (Douglas et al., 2018; McMaster et al., 2012; Taylor, 2015). This negatively affects coaches' self-confidence and efficacy to work with athletes with disabilities (Douglas et al., 2018; McMaster et al., 2012) and leads to coaches searching for unmediated learning situations, such as co-creating knowledge with other coaches and independently seeking out resources and best practices (e.g., Duarte, 2020; Trudel et al., 2020). Coaches value engaging in these practical learning opportunities within the disability sport context that enable learning, especially through enhanced reflection, immersion in the contextual experience, and increased enjoyment when learning (Crisp, 2019a; 2019b). However, such learning opportunities are highly limited because of a lack of human resources, few opportunities to interact with others, and a lack of financial resources (e.g., Shaikh et al., 2021; Konoval et al., 2022). Consequently, there has been a growing demand for more accessible and inclusive coach development opportunities (CDOs) initiatives specifically providing developmental pathways for quality coaching in disability sport.

Quality coaching is linked to coaches' ability to solve complex problems within specific sport contexts to improve athletes' holistic developmental needs (psychosocial in addition to physical, Côté, & Gilbert, 2009). In Para sport, coaches must be able to understand deeply athletes' idiosyncratic needs and unique challenges (Deghansai et al., 2020) and apply knowledge to improve their development (Townsend et al., 2022). In this dynamic interplay between coaches, their athletes, and the environment (Allan et al., 2020;

Alexander et al., 2020), holistically understanding coaches' idiosyncratic learning needs is critical for enabling coaches to optimize athlete development in the disability context (Deghansai et al., 2022). Previous research studied coaches in disability sport from the perspectives of athletes (e.g., Alexander et al., 2020; Allan et al., 2020; Culver & Werthner, 2018) and coaches (e.g., Duarte, 2020; McMaster et al., 2012). The Para sport context has often been examined in isolation from other stakeholders. Studying the Para sport landscape from the views of its different stakeholders with the social relational model of disability may provide broader information for CDOs attuned to coaches' professional needs. Using the social relational model of disability (Thomas, 1999, 2004, 2007) to explore key issues of the disability sport context offers critical information on how to equip coaches with the knowledge and skills required in their coach development pathway.

This study explored various stakeholders' (i.e., managers, former athletes, coaches, and coach developers) perspectives on the key issues regarding CDOs within the Canadian Para sport coaching landscape, using the social relational model. We aimed to offer original insights into the redevelopment of the Coaching Association of Canada's sport coaching development pathway for current and potential coaches who will engage in broader CDO initiatives in disability sports from the perspective of the social relational model, as suggested by the researchers (Shaikh et al., 2021). Accordingly, the research question of this study was "What are the views of stakeholders from across the Para sport landscape regarding the key issues for coach development to be inclusive/accessible for coaches for Para sport?"

Method

This study was guided by the social constructivist view, which asserts that our understanding of reality is shaped by individual experiences (Potrac, 2014), and the meaning is personally constructed in connection with society, providing a deep understanding of context (Potrac, 2014). We employed a case study methodology, which involves exploring a

bounded system over time through detailed, in-depth data collection from multiple sources (Creswell et al., 2007). According to Merriam (2016), the focus of case studies determines the bounded system, which could be a phenomenon, program, group, institution, community, or policy. The unit of analysis is critical in defining a case study.

We identified [name of the event] that brings together leading Para sport coaching researchers and key Canadian Para sport practitioners as our case. The participants reimaged coach education to deliver a high-quality Para sport experience accessible to all, addressing fundamental problems in the Canadian coaching for Para sport system.

Participants

Ten [name of the event] attendees (five women and five men) participated in this study. The attendees were already well-established individuals in the Canadian Para sport landscape; therefore, they were invited to participate in this study based on the ‘first come, first served principle’. The only selection criterion was addressing the concept of maximal variation (Creswell, 2007) to include a range of roles within the Para sport landscape. This helped ensure the inclusion of different actors’ voices to obtain representative and rich information about the study’s research question.

Data Collection Procedures

Following the ethical approval of the lead researcher’s institution, the first author invited the participants via recruitment posters displayed in strategic locations along the hallway where the [name of the event] took place, posted on the [the event]’s website, and shared on the Zoom room chat for online participants to the [name of the event]. The participants filled out participation forms using Google Forms. Over the two months following the [name of the event], ten semi-structured interviews were conducted with the participants. These interviews were facilitated through Microsoft Teams, a widely accessible communication platform.

Data Collection

In qualitative research, the researcher serves as a primary data collection instrument (Maxwell, 2013). Every observation, interaction, or significant insight contributes to the dataset, including recorded thoughts, field notes, and personal reflections (Maxwell, 2013). By employing a variety of methods, we leveraged the unique strengths of each approach to gain a broader perspective and mitigate potential biases inherent in individual methods, such as interviews, observations, and materials (Culver et al., 2012; McGannon et al., 2021).

Guided by the social relational model, the lead researcher conducted semi-structured interviews with the participants. The interview guide consisted of three parts: (1) a brief introduction, (2) questions based on the dimensions of the social relational model (impairment effects, relational practices, structural barriers, and psycho-emotional dimension), and (3) participants' perspectives on key issues in coaching for Para sport. The interview protocol is comprised of 13 - 18 questions, depending on the role of the participant. Each interview guide was flexible and personalized according to the participant's background and current role. The interviews lasted 30 to 75 minutes, with an average of 55 minutes.

Data Analysis

Each interview was video-recorded via Microsoft Teams and transcribed verbatim for the analysis, resulting in 117 pages of single-spaced data. The interview data were analyzed using the 5-step SAMMSA method (MacDonald et al., 2023). SAMMSA stands for Summary and Analysis codes, Micro themes, Meso themes, Syntheses, and Analysis, and outlines a structured five-step approach. SAMMSA, grounded in hermeneutics and ethnography, integrates reflexive practices and deductive and inductive coding within a thematic analysis framework, creating a cohesive narrative that ensures a seamless transition from part analysis to whole synthesis, thereby avoiding data fragmentation (Macdonald et al.,

2023). We utilized Nvivo14 (Lumivero, 2020) and Microsoft Office Word to manage the SAMMSA analysis.

Initially, we identified data segments relevant to the research question within individual data units (e.g., interviews) using summary (S) codes developed inductively. We generated Analysis (A) codes based on these S-codes and evaluated them against the social relational model dimensions. If A-codes aligned with the social relational model dimensions, they were classified as deductive, conforming to the theoretical framework. If not, the A-codes were classified as inductive. The thematic analysis step followed this process, generating micro and meso themes from the S & A codes. Micro themes were directly derived from the S & A codes, while we developed meso themes from the micro themes. Subsequently, we synthesized all the themes and codes into narratives for each interview. This narrative synthesis integrated findings, including meso themes, micro themes, and S & A codes. The final step involved cross-synthesis analysis and interpretation across all data units, culminating in a comprehensive understanding of the research data (MacDonald et al., 2023), which we call a cross-synthesis narrative.

Rigour and Quality

We used a relativist approach to assess the quality of the study (Burke, 2016). Following the criteria suggested by Smith and Caddick (2012), we evaluated the study based on its substantive contribution to the topic, the comprehensiveness, the quality of the data collected and interpreted, and its overall credibility. First, we grounded the study in a current well-established theoretical perspective, specifically the social relational model of disability. Second, we provided high-quality evidence from various sources, including observations, interviews, and researcher notes. We included numerous quotations to support the interpretation and evaluation of the evidence. Third, we employed the critical friend technique, involving coauthors and colleagues as essential “theoretical sounding boards”

during the interpretation, evaluation, and thematic development stages. This collaborative approach facilitated a robust analysis and ensured a multifaceted perspective throughout the research.

Results with Discussion

The findings are presented in two main sections: (1) Issues related to the key dimensions of the social relational model and (2) the empowerment of coaches with disabilities. The first four themes were generated based on the dimensions of the social relational model: (a) Transforming perspective in coaching for Para sport, (b) understanding the nuances of coaching for Para sport, (c) accessibility challenges in Para sport, and (d) psychological support in Para sport.

Relational Practices: Transforming Perspectives in Coaching for Para sport

The participants believe in the possibility of a disability-conscious sport system and society that inclusively reorganizes its mindset according to the needs of Para sport. They attribute the current system's "heavy focus on able-bodied sport" (Jack) to a distinct lack of awareness towards Para sport. "The sport system is built in a certain way" (Olivia), and a better understanding of "who is using the system" (Olivia) is necessary to create opportunities. Although the coaching system appears comprehensive, participants feel it does not reflect the realities and characteristics of those who use it. They emphasize the need for a mindset acknowledging everyone has different functions, such as "not everyone walking" (Zoe). Zoe stated, "If we had a model built on our own experiences and disabilities, and the very different pathways we have into sport compared to able-bodied sport... we're always trying to fit into a box that we do not fit into."

The participants argued all stakeholders, especially decision-makers in Para sport, should be sensitized about disability. Decision-makers need to understand the needs and values of people with disabilities affected by their decisions. For instance, Ava said,

The good news is that everybody in our organization sees the value. We haven't all gotten there yet. But if I mention something, like a missing Para event, everybody agrees we should include it. So, I'm the nag, but everybody else is willing to be nagged.

The participants believe in the value of long conversations with and between decision-makers to change preconceptions about Para sport and emphasize the need for thoughtful planning before implementing changes. However, they also acknowledge the difficulty of rethinking a well-established system and creating shared values and experiences for everyone involved. By making Para sport coaching resources more representative of the wide array of disabilities and sports, our participants felt this would help to build "a culture based on shared values, which fosters a sense of belonging" (Luke). In this manner, participants would be better able to see themselves represented.

The participants noted that coaches' approaches towards people with disabilities and the concept of disability significantly impact their interactions with athletes and their coaching practices. Ensuring coaches feel capable of working with athletes with disabilities is critical for enhancing coaching for Para sport. They pointed out that most non-disabled sport programs and clubs do not acknowledge having participants with disabilities. Jack said, "As an able-bodied coach, I do not think other coaches have thought of working with athletes with disabilities." They believe that people are "currently scared of Para sport because they do not know much about it, however, once they get involved" (Mia), "they realize they already mostly know how to coach" (Max).

The participants argued integrating Para sport information into the general coach education program could effectively encourage people to become coaches for Para sport. Emma mentioned, "Adding small Para sport pieces to general education resources gets coaches thinking about Para sport and being part of the landscape" (Jack). While valuing

sport-specific developmental pathways for Para sport coaches, they also found critical increasing the visibility of coaching opportunities, especially for newcomers seeking direction. Currently, coaches do not see themselves as coaches for Para sport, and when a Coaching Athletes with a Disability module is offered, they often think, “That’s not me” (Max). Mia gave an example: “If you ask a coach whether they’d prefer to coach a Para athlete or Michael Phelps, they’d likely choose Michael Phelps. But in reality, a Para athlete and Michael Phelps are the same”. They believe it is essential to promote the mindset that coaching for Para sport equals coaching and integration is the most effective way to encourage coaches’ awareness, overcome reluctance, and change preconceptions about working with Para athletes.

The statements of the stakeholders provide insights into the prevailing mindset and conception of disability, which favour able-bodied coaching while failing to recognize people with disabilities and their needs. Ableism, characterized by prejudicial attitudes and discriminatory behaviours toward people with disabilities, promotes unequal treatment (Brittain & Christiaens, 2022). Conventional understandings of disability, such as the medical model, focusing as it does solely on the biological aspects, contribute to ableist practices in coaching (Townsend et al., 2022). This necessitates the inclusion of individuals with disabilities in decision-making roles to ensure their needs are met (Townsend et al., 2022; Mannella & Bundon, 2024). Coaches' attitudes and behaviours toward athletes are crucial in shaping their perspectives (Allan et al., 2020; Huntley et al., 2019). While coaches often use criteria based on non-disabled norms when evaluating their athletes, increased experience in Para sport can positively shift their attitudes (Hammond et al., 2019). Education also plays a critical role in raising coaches' global awareness of Para sport (Alexander et al., 2022). Para sport-specific content that involves practical experience and structured learning opportunities

is vital to fostering inclusive coaching practices and counteract ableist behaviours (Townsend et al., 2022).

Impairment Effect: Understanding the Nuances of Coaching for Para Sport

The participants described that coaching in Para sport involves more components than non-disabled coaching, such as modifications of equipment. Every athlete has a unique disability, making coaching more complex and requiring heightened awareness of the differences and nuances of each athlete. Jack noted, “The non-disabled coaches would take the information and do it more generally for their whole group, but the coaches for Para sport seem more focused on individual needs”. However, the participants argued coaches’ unawareness of the wide range of disabilities often leads to a ‘one size fits all’ approach. Zoe stated, “People [coaches] are just asking for a check box. It just doesn't work like that. There's no specific checklist that coaches can go through. It's very individual.” The lack of experience in disability contexts can result in a lack of specific adaptations.

According to the participants, Para sport coaches should be skillful in solving complex problems specific to the Para sport context by considering the needs of their athletes. This involves gaining a deeper understanding of athletes’ impairments through collaboration with the athletes and creating a safe and welcoming environment. While coaches have expertise in the conditions athletes might face, athletes are the experts about their own bodies’ responses and needs. Mia said, “They [coaches] will not understand completely what the person is going through. It's impossible to have two people with the same disability; everybody's different. Understanding their daily struggles helps coaches be there for them, beyond just the sports setting.”

The assertions from stakeholders emphasize the unique aspects of each impairment and their effects on coaching practices and the understanding of the needs of athletes with disabilities. Consequently, enhancing CDOs in Para sport demands a multifaceted strategy

due to its intricate and personalized nature (Pinder & Renshaw, 2019). Effective coaches craft innovative and tailored solutions (McMaster et al., 2012), which require the development of crucial skills in interpersonal relations (Culver & Werther, 2018), equipment modifications (Falcão et al., 2015), and sport-specific programming (Pomerleau-Fontaine et al., 2022). Furthermore, recognizing the diverse developmental trajectories of athletes with disabilities is essential in Para sport coaching (Deghansai et al., 2022; Mannella & Bundon, 2024). Thus, CDOs must encourage ongoing self-reflection and adaptation informed by experience and feedback, fostering creativity, empathy, and comprehensive understanding (Alexander et al., 2020).

Structural Barriers: Accessibility Challenges in Para Sport

Despite ongoing discussions addressing structural accessibility challenges persist. These challenges remain evident regardless of whether facilities are new or old and irrespective of the scale of events or organizations involved. The findings indicate even major sporting events explicitly tailored for participants with disabilities face accessibility issues, highlighting critical areas for improvement. Olivia noted, “When participants arrive at a facility built to host the Paralympic event, there are no push-button doors on the building... quite shocked... There's definitely a regular list of architectural barriers.” The findings also indicated that creating accessible facilities requires considering all aspects of the environment, not just the sport area. Jack gave an example:

The gym is nice, but the distance from the parking lot to the gym is not. With 14 people coming to play basketball who use wheelchairs and only 9 accessible parking spaces, what do we do, right?

These structural barriers can create an unwelcoming environment for people with disabilities and lead to experiences that interfere with personal boundaries, such as needing to be carried to the training ground. Ava shared, “...you either need a chair that can go through rocks and

get wet or have somebody carry you to the boat.” Moreover, traditional training facilities often lack suitable temperature controls.

We have beautiful facilities, but they did not install air conditioning or heat. When our Para athletes go out there, they're either sweating or cold. Because we cannot control the temperature, we have this beautiful legacy, but it's a piece of crap because we have no accessibility (Emma).

The participants voiced a need to optimize educational resources regarding people and funding. The provision of funds for coach development needs to be well thought out and should be based on users' needs so that resources can be used efficiently. Embracing online and hybrid delivery methods is seen as an efficient use of resources, particularly in Para sport where many coaches are unpaid. Online resources can improve accessibility and reduce costs and time constraints. Emma stated,

If we have to do it [education/workshop] in person, I'm not looking forward to that because I'm in Victoria. I've gotta fly all the way to where the coach is. That will automatically be \$1200 for me to get there, let alone the hotel and everything else. So, trying to set it up as an accessible online method would be way better for everybody because I would rather do it online and have 500 coaches participate than 10-12 who can afford to fly there.

Strategies like offering shorter, more frequent online meetings and hybrid coaching courses were viewed positively, as they could increase attendance and eliminate some drawbacks of both online and face-to-face education.

The insights of the stakeholders highlighted the structural barriers that can lead to challenging coaching practices. Limited access to resources from organizations, facilities, and transportation negatively impacts athletes' participation (Kean et al., 2017; Quinn et al., 2021). This is particularly problematic as fostering autonomy is crucial for coaches working

with athletes with physical disabilities (Banack et al., 2011). It would be paradoxical to discuss a working environment where coaches are not accessible to their athletes.

Furthermore, the issues faced by coaches with disabilities are not being addressed here, as they have been elaborated on in another theme below.

Psychological Support in Para sport

Our participants emphasized the important role coaches play in the psycho-social well-being and development of athletes, arguing that “a coach develops a whole person, not just an athlete” (Luke). Coaches, who frequently interact with their athletes, have considerable opportunities to be positive role models. They are aware of the potential psychological impacts of impairment, such as daily life struggles, low self-confidence, and stress. An empathetic perspective, strong communication skills, and caring are crucial components of psychologically supporting their athletes. Ben expressed, “There is a sport element to coaching with lots to learn in that area [technical and tactical], but it also includes how to succeed in the world.”

The participants believe creating a support mechanism is important for improving athletes’ psycho-emotional status and fostering positive experiences and sustainable participation. For example, our participants spoke about sharing circles in practices that help participants realize that everyone faces similar problems, even in individual sports. These circles, held before or after practice, also help volunteers better understand athletes’ needs and experiences, fostering empathy. Sharing experiences increases athletes’ feelings of belonging and sense of community, thereby supporting sustainable participation.

Furthermore, the participants underlined the need for formal psychological support mechanisms for coaches and athletes. They argued that coaches new to Para sport often feel isolated and alone. A structured support system, especially for newcomers, is necessary.

Participants identified an administrative gap in providing psychological support, noting supporting mental health requires funding, which is described as limited in Para sport.

The stakeholders have indicated that psychological support is important for athletes and coaches. Understanding athletes as whole individuals, rather than focusing solely on performance (Townsend et al., 2022), underscores the necessity of coach development. This is essential for the holistic support of athletes, especially in addressing the psychological impacts of disabilities within the context of Para sport (Haslett et al., 2017). Coaches need to address athletes' everyday challenges and enhance their autonomy, belongingness, and engagement (Evans et al., 2018). Incorporating this knowledge into CDOs with a structured support system will ensure coaches are well-equipped to support athletes while having support mechanisms to prevent their isolation. Fostering psychological resilience remains critical despite obstacles such as limited time and resources (Martin & Whalen, 2014).

Empowering Coaches with Disabilities in Para Sport

Our participants believed it is critical for Para sport coach development to have individuals with disabilities among their coaches in Para sport: "There is a need for coaches with disabilities in the coaching ecosystem" (Olivia). However, they underlined several barriers which result in the under-representation of coaches with disabilities, such as deep-rooted prejudices, a lack of opportunities and support, and structural barriers. They argued removing these barriers was essential to enable coaches with disabilities to succeed.

Some participants pointed to the barriers created by prejudices about 'coaching'. Mia shared

I was a young female trying to transition into a male-dominated coaching world. The first time I took the course, the coaches told me I would never be a good coach because I smiled too much... People did not take me seriously as a female, a young

person, and a person with a disability. All those things worked against me, but I kept going and trying. I've now been coaching for about 18 years.

Opportunities for people with disabilities to become coaches are limited, which can be intimidating for those without a network. The participants believe a support system for coaches with disabilities is crucial in providing opportunities and encouragement to participate in sport coaching. They emphasized the importance of minimizing barriers based on individual needs and offering diverse opportunities. They also valued the exposure to a variety of sports and disabilities, and understanding different modifications. Such experiences can help coaches understand the needs of Para athletes. Zoe stated, "The challenge is sometimes when athletes have a different disability than I do. I have to learn about their conditions and how to modify things for them."

They emphasized the need to connect with other coaches from different sports and coaching levels for professional development. Ben stated, "There are fewer coaches for them to interact with and fewer athletes for them to coach, so the whole aspect of learning by doing or learning from experience is really constrained. There are simply not as many learning opportunities occurring... There are fewer opportunities for coaches to attend events specific to Para sport." They suggested "forming Communities of Practice to create nurturing environments where coaches can make meaningful connections and exchange experiences and knowledge" (Ben). However, they also emphasized the need for coaches to be open to learning to benefit from such environments.

Purposeful mentorship practices were mentioned as promising for CDOs in Para sport. Creating mentoring programs by pairing experienced elite-level coaches with other coaches might increase the awareness of opportunities. Providing mentoring to less experienced coaches allows them to discuss context-specific coaching issues, gain different perspectives, and learn from other sports. Zoe explained that as a part of one of the

mentorship programs, “going to another sport to learn from their practices is incredibly beneficial, as I always find something valuable to take away... Mentorship piece is incredibly important and having people to go and discuss things with to be able to...I do not always have the answers.”

The participants acknowledged the comprehensive nature of existing curricula but pointed out limitations in the delivery of resources: “Education resources have to actually be accessible from a format utilization standpoint” (Luke). For instance, many resources lack compatibility with screen readers, necessitating a reevaluation of formats to ensure inclusivity. Zoe, who had to adapt throughout her entire degree program, shared, “It felt like I had to do extra work to adapt everything and figure out how to do that.”

Athletes in Para sport often struggle to envision themselves as coaches when they do not see coaches with a disability. To overcome this problem, the participants believe creating a welcoming environment and showing athletes opportunities after their athletic careers is essential. They highlighted the need for a support system to provide individualized pathways and resources, such as financial aid and flexible scheduling, to alleviate barriers to career transition. This is important for athletes at all competitive levels to improve the number and quality of coaches in Para sport. Mia noted, “Even though I was not a Paralympian, I had tons of experience in the sport and wanted to give back. Many athletes with disabilities are in similar situations but lack confidence or support to pursue coaching or other leadership roles.”

Zoe shared her experience as a coach with disabilities, noting that “it looks different from the average coach in Para sport.” She finds establishing networks beneficial as developing sport-specific [training] modules is an iterative process. She emphasized the importance of a support system (i.e., volunteers) for coaches with disabilities, describing the concept of ‘initiation fatigue’, where coaches must repeatedly initiate conversations to

modify training. Zoe said, “If instructors were already equipped to handle these modifications, I wouldn't have to think about it.”

Coaches with disabilities are vital for creating a diverse and effective coaching environment in Para sport, as they bring unique insights that athletes with disabilities greatly benefit (McMaster et al., 2012). However, they face challenges that differ from those of non-disabled coaches, such as prejudices, structural barriers, and limited opportunities due to stereotypes and norms. Ensuring equitable access to resources and accessible learning environments is essential for fostering coaches' development and enhancing their ability to support the holistic growth of athletes with disabilities (Konoval et al., 2022). To address these issues, we need a support system tailored to their needs (Shaikh et al., 2021). While financial assistance and flexible scheduling are essential (Douglas et al., 2018), it is also important to promote fully accessible educational resources, networking opportunities (i.e., mentorship programs, Alexander et al., 2023), self-directed study, peer support networks, and reflective practices for continuous development. For instance, the establishment of a Community of Practice (Duarte, 2020) can provide a collaborative space for sharing experiences, learning and problem-solving, further supporting and inspiring athletes with disabilities to consider coaching careers, and ultimately improving the quality of coaching in Para sport.

Reflections through the Lens of the Social Relational Model

In this section, we will interpret our findings through the lens of the social relational model (Thomas, 1999, 2004, 2007). The social relational model offers a comprehensive framework for understanding disability, which considers the social, environmental, and relational factors that influence the experiences of people with disabilities. In the context of Para sport coaching and our findings, this model helps to highlight the complex interplay of these factors and their impact on coach development practices.

The findings strongly indicate that CDOs should encompass all coaches to promote diversity. Socially integrating individuals with disabilities into the coaching system will normalize the presence of both people with disabilities and non-disabled individuals, focusing on providing equitable opportunities rather than merely increasing the number of coaches. This mindset ensures anyone seeking self-improvement can join and follow their own path within the system. Addressing environmental factors involves creating fully accessible facilities for the CDOs, ensuring no specific group needs to exert extra effort to participate. This guarantees everyone who aims to be part of the system can do so without encountering physical barriers.

From the perspective of relational factors, it is vital to explore how coaches with disabilities perceive these opportunities, particularly regarding their sense of belonging or feeling different. Gathering in-depth narratives and experiences has helped us to gain a deeper understanding of their unique perspectives and identify key areas for improvement. Furthermore, assessing how non-disabled coaches perceive the experiences of their Para athletes through the social relational model is crucial as it allows a deep understanding of how they integrate disability into their practice. This includes evaluating the level of empathy and understanding these coaches demonstrate and how they support their athletes' experiences without overstepping personal boundaries. Enhancing these relational dynamics will promote professional growth for all coaches.

Conclusion

This study has provided a comprehensive understanding of the key issues in CDOs within the Para sport landscape from the perspectives of various stakeholders in Canada. By applying the social relational model of disability, the study offered a nuanced exploration of multiple factors affecting coach development, emphasizing the interaction between individual, societal, and environmental elements. Incorporating diverse views from managers,

former athletes, coaches, and coach developers enriched the findings, making them reflective of the broader Para sport community.

To enhance the quality of CDOs in Para sport, several pieces of practical advice are proposed. First, targeted educational programs for decision-makers and stakeholders in Para sport should be implemented to foster an open mindset, incorporating the lived experiences of individuals with disabilities. Second, continuous professional development opportunities for coaches, including practical workshops, and exposure to various disabilities, should be established to emphasize empathy and individualized coaching approaches. Third, regular accessibility audits of sports facilities should be conducted, involving individuals with disabilities in the design and planning processes to ensure welcoming environments. Additionally, structured psychological support programs for athletes and coaches should be developed, including access to sport psychologists, mental performance consultants, peer support groups, and regular mental health workshops. The creation of Community of Practice, mentorship programs, and financial assistance, along with flexible training schedules, should be provided to support the recruitment and retention of coaches with disabilities, addressing the importance of role models within the coaching community. Existing policies should be re-evaluated to ensure they are supportive of individuals with disabilities at all levels, developing pathways for career advancement for coaches with disabilities and ensuring training programs are accessible and relevant. Furthermore, future research should explore the long-term impact of such empowerment initiatives for coaches with disabilities and investigate other potential barriers to diversity in sport.

The study also had limitations, including a relatively small sample size limited to the Canadian context with only anglophone participants, and online data collection, which may have limited the accessibility of certain participants. Despite these limitations, the research has made significant strides in understanding coach development in Para sport from multiple

perspectives, underscoring the need for efforts to address these challenges and enhance learning situations for coaches. Through continued stakeholder engagement and a holistic, collaborative approach, the Para sport community can better support coaches and athletes in achieving their full potential. Future research should continue to explore innovative and collaborative solutions and support mechanisms to enhance the quality of coaching in Para sport.

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ARTICLE 3

A Novel Qualitative Analysis Approach as Used in a Coaching for Para Sport Study

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Abstract

Studies using qualitative research methods in sport psychology, and related reviews in over the last two decades illustrate the evolving trend of quality criteria and research practices used in qualitative research (Culver et al., 2012; McGannon et al., 2021). However, qualitative analysis is often the most daunting component of the qualitative research endeavour, for teachers and learners alike. Moreover, in our field of coaching for Para sport, there has been a call to increase the quality and types of methods used (Bentzen et al., 2021). It is thus critical to clarify the specific process of conducting ‘quality’ qualitative analysis (Eakin & Gladstone, 2020). This study attempts to explain the application of a novel qualitative analysis method, the 5-step SAMMSA (Summary and Analysis coding, Micro themes, Meso themes, Syntheses, and Analysis; MacDonald et al., 2023). By describing the specific implementation of SAMMSA to our study context, we aimed to clarify the qualitative analysis process, which might be considered the “black box” of qualitative research. The findings indicate SAMMSA has a critical role in ensuring a transparent and quality qualitative research data analysis process. The use of SAMMSA provided well-structured linear steps for the authors, facilitating iteration and reflexivity between data segments and units. Employing various strategies (e.g., deductive and inductive coding, thematic-type analysis, and part-whole synthesis) allowed us to utilize the unique strengths of each strategy, helping to enhance the rigour and accountability of our research. Our adaptation strategies of the SAMMSA process are shared for the benefit of other researchers.

Keywords: Qualitative analysis, coaching, Para sport, 5-step SAMMSA method.

A Novel Qualitative Analysis Approach as Used in a Coaching for Para Sport Study

This study aims to demonstrate the application of a novel qualitative analysis method, SAMMSA (Summary and Analysis coding, Micro themes, Meso themes, Syntheses, and Analysis; MacDonald et al., 2023), in the context of coaching for Para sport. MacDonald and colleagues (2023) published an account of this new approach to qualitative analysis, which they developed and used in healthcare research. These authors noted that “the analytic process can be the most intimidating aspect of qualitative training for junior scholars” (MacDonald et al., 2023, p. 335). They proposed SAMMSA to help “newcomers to qualitative inquiry feel less intimidated and more empowered to produce ‘quality’ qualitative analysis” (p. 335) by providing a well-structured pathway for qualitative analysis. The first author of the present study is a newcomer to qualitative research whose first language is not English. These facts influenced our decision to explore SAMMSA.

Before explaining the analysis process in detail, we see the value of noting our study’s theoretical framework and the key concepts to facilitate the understanding of the process for the reader. As a part of a larger project, our research is based on the constructivist perspective and case study methodology. From the constructivist perspective, people’s experiences shape their reality (Potrac, 2014), and meaning is individually constructed (Crotty, 1998). Therefore, examining the coaching landscape for Para sports in terms of the experiences of people in various organizations and roles is important to deeply understand the barriers and create new opportunities for everyone in the system. According to Merriam’s perspective, a qualitative case study is particularistic, descriptive, and heuristic (Merriam, 2016; Yazan, 2015). For our study, we employed different data collection methods (e.g., observation and interviews) to obtain a detailed account of our case and mainly focused on one event: The

National Coaching for Para Sports Summit¹. The Summit aimed to bring together individuals who play various roles in the Para sport landscape to address the fundamental issues of quality coaching.

We conducted semi-structured interviews with retired athletes, coaches, coach developers, and managers affiliated with diverse organizations in the Canadian coaching for Para sport landscape. For each role, we created an interview guide based on the social-relational model of disability studies. Townsend and colleagues (2022) suggested a critical agenda for coaching for Para sport from the social-relational model point of view. The model emphasizes that people have physical, psychological, and social relations and interactions with others. Accordingly, there are four main dimensions to consider when studying people with disabilities: (a) impairment effects, (b) relational practices, (c) structural barriers, and (d) the psycho-emotional dimension (Thomas, 1999, 2004, 2007). We used the dimensions of the model to conduct deductive data analysis.

Qualitative studies in sport psychology and the review of studies over three decades have shown that quality criteria and research practices in qualitative studies are evolving (Culver et al., 2003; Culver et al., 2012; McGannon et al., 2021). There are two approaches to judgment for qualitative research: the criteriological and the relativist approach (Burke, 2017; Lincoln & Guba, 1985; Smith, 2018; Smith & Caddick, 2012; Smith & McGannon, 2018; Sparkes & Smith, 2009; Tracy, 2010). Initially, the criteriological approach proposed universal criteria for evaluating qualitative research (Burke, 2017; Tracy, 2010); however, this approach encountered criticism and conflict (Burke, 2017; Spark & Smith, 2009). As an alternative, the relativist approach suggests contextual understanding and continued justification for judging a study, which allows researchers to utilize a range of criteria tailored

¹ <https://sites.google.com/uAlberta.ca/the-national-coaching-for-para/home>

to their specific contexts (Burke, 2017; Smith & Caddick, 2012; Smith et al., 2014; Sparkes & Smith, 2014). Smith and Caddick (2012) proposed qualitative research quality criteria for sport and exercise science to be used depending on the contextual suitability of a study. These are: substantive contribution, impact, width, coherence, catalytic and tactical authenticity, personal narrative and storytelling as an obligation to critique, resonance, credibility, and transparency. In sport coaching research, Smith and colleagues (2014) emphasized the potential of these criteria in enhancing the quality of qualitative research in sport coaching. While in the coaching literature there has been a call for the improvement of qualitative research on coaching for Para sport (e.g., Bentzen et al., 2021), as Maxwell (2013) highlighted,

...strategies can work only if you actually *used* them... *magical spells* that could drive away the validity threats won't do the job; you will need to demonstrate that you have thought through how you can effectively use them in your study. (p. 125)

The analysis process has a critical role in enabling the above-mentioned characteristics and ensuring the quality of qualitative work. Eakin and Gladstone (2020) pointed out that although interest in qualitative research is growing, there is a need for improvement, particularly in the quality of the analysis process, which is typically blurry as to how qualitative analysis is actually carried out. McGannon and colleagues (2021) also proposed that researchers consider various methods for analyzing qualitative data within sport psychology.

Few works have provided a detailed explanation of the application of qualitative analysis process, with the notable exception of the works of Braun and Clarke (e.g., Braun & Clarke, 2019; 2021a, 2021b, 2023). This study attempts to illuminate how the complex process of qualitative data analysis is demystified by using a new qualitative analysis method, the 5-step SAMMSA (MacDonald et al., 2023), especially useful for researchers new to

qualitative research. Specifically, we strived to illustrate how the use of this novel analytical approach of qualitative data analysis can enhance the depth and breadth of qualitative study findings with its explicit guidance and user-friendly application in sport coaching research. In this case, we were attempting to answer the following research question: “What are the key issues for the coach education system to be inclusive/accessible for Para sport?”

Utilizing a novel qualitative method: 5-step SAMMSA

SAMMSA provides a stepwise approach to analyzing qualitative data (MacDonald et al., 2023). These steps are: 1) Summary and Analysis coding, 2) Micro themes, 3) Meso themes, 4) Syntheses, and 5) Analysis. The analysis begins with identifying ‘data segments’ (one idea being expressed) relevant to the research question in one ‘data unit’ (e.g., an interview) by *summary (S) and analysis (A) codes*. The purpose of generating S-codes is to segment the data into small, meaningful parts until there is no further interpretation. An A-code is an interpretation built on an S-code, an abstraction of the S-code. While S-codes are inductive, A-codes can be inductive and/or deductive. This step aims to analyze every meaningful piece of data without missing any information. The second and third steps involve a thematic analysis, focusing on generating *micro themes* and *meso themes* from S & A codes. Micro themes are formed using S & A codes, while meso themes are derived from micro themes. The fourth step involves synthesizing all themes and codes into a narrative for each data unit. This process entails integrating the findings from the previous steps through the *narrative synthesis*, which includes all the meso themes and the corresponding micro themes and S & A codes. The fifth step of SAMMSA involves the *cross-synthesis analysis and interpretation* of all data units to form a comprehensive whole.

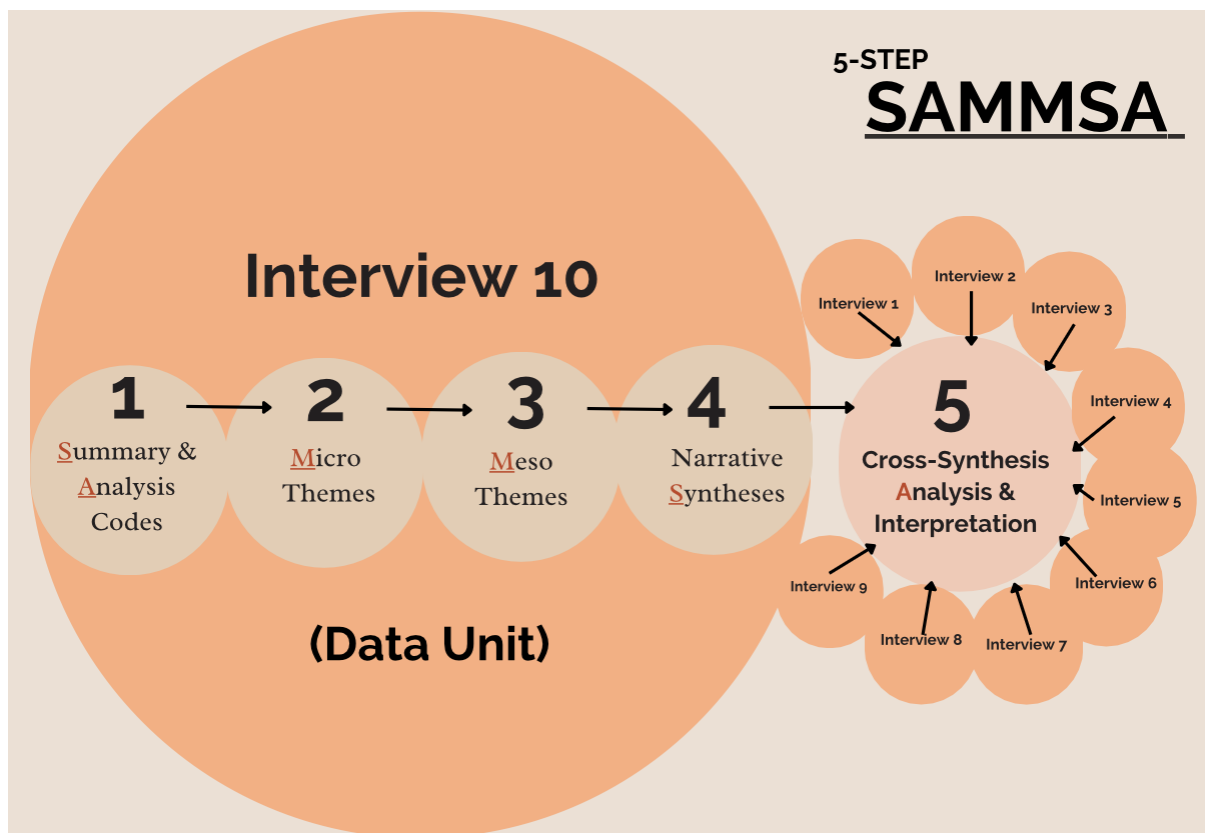
SAMMSA integrates reflexive practices with adaptability, extending to deductive and inductive coding approaches and incorporating thematic analysis within its framework (see below for specific examples). Being theoretically rooted in hermeneutics and

methodologically grounded in ethnography, SAMMSA helps avoid data fragmentation by facilitating a seamless continuum from analyzing parts to synthesizing the whole (Macdonald et al., 2023).

The first four steps of SAMMSA are applied to all data units (e.g., interviews) of a study data separately. We implemented the fifth step (Cross-Synthesis Analysis and Interpretation) using the data from all data units (Figure 1). Below, we describe each step of the SAMMSA implementation on the data from the interviews from our study. We used samples from interview 10 for the first four steps of SAMMSA and the data from all interviews for its last step. We provide below the numerical data from interview 10 to improve the clarity of the analysis process.

Figure 1

A Demonstration of the 5-step SAMMSA



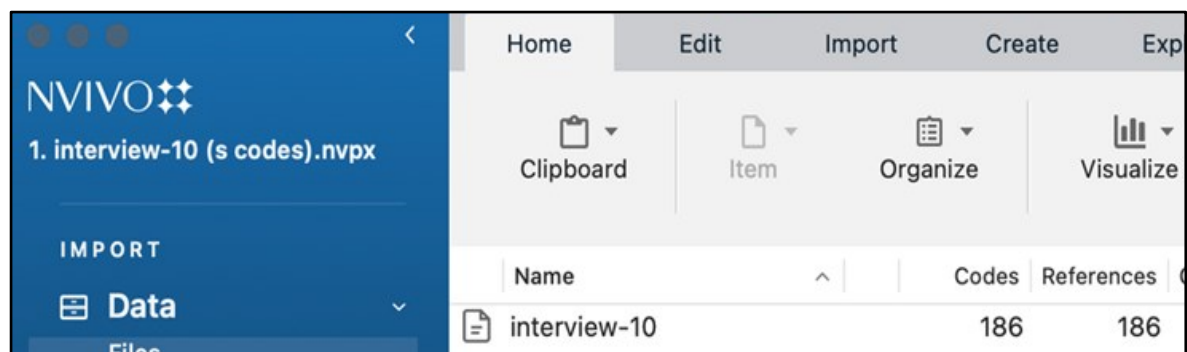
Note. Adapted from MacDonald et al (2023).

Summary and Analysis Coding (S & A Codes)

In line with the first step of SAMMSA, we started generating data segments, which are small data pieces related to our research question. The method describes this inductive analysis process as summary coding (S-codes). We summarized raw data while avoiding interpretation and removed data unrelated to our research question. This was done to prevent the researcher from getting lost in the vast amount of data in the analysis process. We used NVivo14 to record the generated S-codes (Figure 2). We have numbered each S-code to ensure that the researchers can clearly follow the analysis process and access the data from the smallest part to the biggest (Figure 3; the code numbers were assigned automatically by NVivo). In our case, we generated 186 S-codes for interview 10.

Figure 2

An Example of an Nvivo Page



Note. The number of S-codes generated for interview 10 in Nvivo.

Figure 3

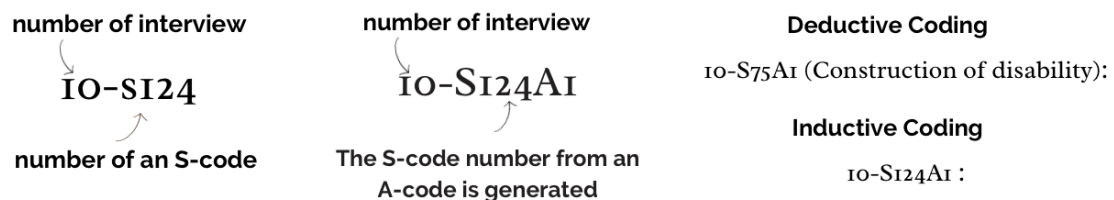
An Example of an Nvivo Page

Name	Files
10-S1	1
10-S10	1
10-S100	1
10-S101	1
10-S102	1
10-S103	1
10-S104	1
10-S105	1
10-S106	1
10-S107	1
10-S108	1
10-S109	1
10-S11	1

Note. The demonstration of S-codes generated for interview-10 in NVivo.

Figure 4

The Demonstration of S & A Codes



Note. Explanation of the notation of S & A codes. Illustration of a deductive and inductive S & A code.

After generating the S-codes, we continued with analysis coding (A-codes). Each A-code interprets an S-code. The first author, new to qualitative research, presented the A-codes to her colleagues. Based on their feedback, she continued the analysis process. Each S-code does not have to have an A-code, but an S-code might have more than one A-code. However, in our case, we generally have one A-code for each S-code. For each A-code, we used a

number indicating which S-code it came from (Figure 4). We created speculative links (Figure 5) between A-codes from the same and different data units, facilitating the association of ideas and suggestions in the interviews. Inductive and deductive coding examples are illustrated in Figures 6 and 7, respectively. We used inductive (Figure 6) and deductive coding strategies (Figure 7). We used the social-relational model's four dimensions (i.e., impairment effect, construction of disability, structural barriers, and psycho-emotional dimension) for deductive coding. While coding, we noted which dimension the deductive code originated from (Figure 7).

When generating the A-codes, we approached it with three distinct dynamics. First, we aimed to faithfully transcribe our understanding of the S-codes without overgeneralizing. In doing so, we considered the individual's past and present roles, filtering the data through our interpretation to capture its significance to them. This consideration often resulted in A-codes of similar length to the S-codes, especially in domain-specific applications with more detailed S-codes. Following this, we evaluated each code to determine its relation to the dimensions of the theory. If it did not align with any dimension, we categorized it as inductive; otherwise, we marked it as deductive, aligning it with the relevant dimension. Second, there were instances where we noticed S-codes that directly mirrored the theoretical framework. These codes provided examples that perfectly matched those outlined in the theory. Third, some S-codes were generated so clearly there was no need to generate A-codes (Figure 8), thus the number of A-codes varies according to the interview. We used Word for the A-codes and generated 140 A-codes for interview 10.

Figure 5

An Example of a Speculative Link Between Data Units

Figure 5

An Example of a Speculative Link Between Data Units

“We [coaches] can give them [athletes] the time to explore it [equipment] and not rush them to figure out exactly how to fit the equipment.” (S66)

10-S66A1: She believes athletes need time to familiarize themselves with the equipment [Interview-6 examples of resistance of young athletes’ wheelchair changes].

Note. Similar ideas in two interviews.

Figure 6

An Example of Inductive Coding

“How are coaches ever supposed to know how to navigate that if they've never had that experience, right?” (S124)

10-S124A1: She believes that coaches need to be exposed to (a variety of) disability.

Figure 7

An Example of Deductive Coding

“I think that's the part that people get scared about is how individual it [adaptive sport] is.”(S75)

10-S75A1 (constructions of disability): She believes that coaches are scared about the individual-oriented process of Para sport.

Figure 8

An Example of an S-code Without an A-code

“I did my Kinesiology degree and graduated in 2021.” (S1)

Micro Themes

After generating the S & A codes in the second step, we grouped similar S & A codes to generate micro themes. This process is a thematic grouping of S & A codes based on their similarities. We assigned a number to each micro theme and noted which S & A codes formed it (Figure 9). We used Word; 52 micro themes were generated from interview 10.

Figure 9

A Demonstration of Micro Themes

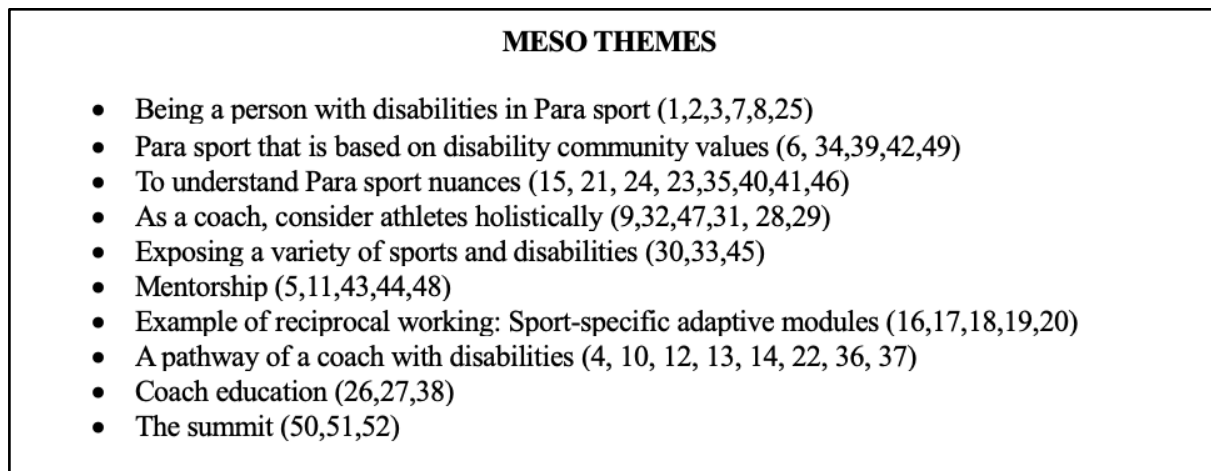
Micro Themes
1. Having an educational background and lived experience (S1, S2, S4, S5, S6, S10, S21, S22)
2. Not aware of Para sport opportunities for different levels and disabilities (S3, S3A1)
3. Volunteering to be part of Para sport and continue in different ways (S7, S8, S9, S11, S12, S19, S20, S43)
4. Working to include more people with disabilities in Para sport (S13, S13A1, S14, S15, S15A1)
5. Having a network Para sport related (S16, S16A1, S16A2, S17, S17A1, S88, S88A1, S89, S89A1)
6. Representation of people with disabilities in Para sport (S17, S17A2, S18, S18A1)
7. Being the only Para athlete is a disadvantage (S23, S23A1, S24, S24A1, S25, S25A1, S26, S27, S27A1)
8. Health specific process (S28, S28A1)
9. Understanding athlete's functions holistically (S29, S29A1, S30, S30A1)
10. Having different roles as a coach in Para sport (S31, S32, S33, S40, S41, S42, S45, S45A1)
11. Having mentorship opportunities (S34, S36, S37, S37A1)
12. Having funding (S35, S35A1)
13. Creating adaptive modules (S38, S38A1, S39, S39A1)
14. Using different resources to improve herself even though some organizations still do not support adaptive sport (S44, S46, S49, S49A1)
15. Para sport requires more equipment and modifications than non-disabled sport (S47, S47A1, S48, S48A1)
16. Creating sport specific adaptive module process (S50, S51, S51A1, S52, S52A1, S53, S53A1, S54, S54A1, S55, S56, S56A1)
17. Having reciprocal communication (S57, S57A1, S58, S58A1, S59, S59A1)
18. Making modifications collaboratively (S60, S60A1, S61, S61A1, S62, S62A1)
19. Make a contribution to modification processes as a people with lived experience (S63, S63A1, S64, S64A1, S65, S65A1, S66, S66A1)
20. Sport-specific modules give coaches function flexibility (S67, S67A1, S68, S68A1)
21. Para sport and non-disabled sport coaching implementations have differences (S69, S69A1)
22. Important support mechanism: volunteers (S70, S70A1, S71, S71A1)
23. Adaptation of equipment is so individual based on the athlete's needs (S72, S73, S74, S74A1, S77, S77A1, S78, S78A1)
24. Some coaches have prejudged about Para sport because of individualistic and less structured characteristics (s75, s75a1, s76, s76a1)
25. Facing structural barriers (S79, S79A1, S80, S81, S81A1, S82, S82A1, S83, S83A1, S84, S84A1, S85, S85A1)
26. Cost as a barrier (S86, S86A1, S87)
27. Delivery of education: online, in-person, and hybrid (S90, S91, S92, S92A1, S93, S93A1, S94, S95, S95A1, S96, S96A1)
28. Sharing circle activity helps to improve athlete's experience (S97, S98, S99, S99A1, S100, S100A1, S101, S101A1, S102, S102A1, S103, S103A1)

29. Try to create a sense of community/ belongingness (S104, S104A1, S105, S105A1, S106, S106A1, S107)
30. Benefits of multi-sport and strength training (S108 S108A1, S109, S110, S110A1, S111, S111A1)
31. The process of persuading athletes to take additional practices (S112, S113, S113A1, S114, S115, S115A1)
32. Communication with athletes as a coach with disabilities to help them find balance in their daily life and sport (S116, S116A1, S117, S117A1)
33. Having lived experience is not enough to understand all disabilities, there is still a need to understand modifications for others (S118, S118A1, S119, S119A1)
34. Building coach education for Para sport based on the values of the disability community (S120, S120A1, S121, S121A1, S122)
35. Understanding athlete development in Para sport (S123, S123A1, S124, S124A1, S125, S125A1, S126, S126A1)
36. Resources are not in accessible format for all (S128, S128A1, S129, S129A1, S130)
37. "Initiation fatigue" (S131, S131A1, S132, S132A1, S133, S134)
38. Overwhelming certification process as a barrier (S135, S135A1)
39. The possibility of being able to take part in a sports system/society that is disability-conscious and organizes its facilities and facilities in a way that is inclusive of everyone (S136, S137, S138, S138A1, S139, S139A1, S140)
40. Inclusive resource concept for Para sports (S141, S141A1)
41. Coaching fundamentals in Para sport (S142, S142A1, S143, S143A1, S144, S144A1, S145, S145A1)
42. The recognition of the values of the disability community by all roles in the system (S146, S147, S147A1, S148, S148A1, S149, S149A1, S150, S150A1, S1501 S151A1)
43. Mentoring to find solutions together (S152, S152A1, S153, S53A1, S154, S154A1, S155, S155A1, S156)
44. Mentoring to develop different perspectives (S157, S157A1, S158, S58A1)
45. Exposing different sport and disabilities (S159, S159A1, S160, S161, S161A1, S162, S163, S163A1, S164, S164A1, S165)
46. Being open-mind about possibilities (S166, S166A1, S167, S167A1, S168, S168A1)
47. Understanding athletes' daily efforts to build practices according to their needs (S169, S169A1, S170, S170A1, S171A, S171A1)
48. The important role of mentorship (S173, S173A1, S174, S174A1)
49. Involvement of persons with disabilities in Para sport (S175, S175A1, S176, S176A1, S177, S177A1, S178, S178A1)
50. DT process is a sharing and understanding ways different perspectives (S179, S179A1, S180, S180A1, S186, S187)
51. Pitches of groups (S181, S182, S183)
52. DT is searching for solutions for wicked problems (S184, S184A1, S185, S185A1)

Note. Image of the Word document of the micro themes of interview-10.

Meso Themes

For the third step, we grouped the micro themes to generate meso themes. This process is a thematic grouping of S & A codes based on their similarities. We noted which micro themes formed each meso theme (Figure 10). We used Word, and generated ten meso themes from interview 10.

Figure 10*A Demonstration of Meso Themes*

Note. Image of the Word document of the meso themes of interview 10.

Narrative Synthesis

In the fourth step, we crafted a narrative incorporating meso themes, micro themes, and S & A codes. We integrated key data with hermeneutic philosophy and ethnographic commitment, ensuring a cohesive representation. Each meso theme was accompanied by illustrative examples drawn from relevant micro themes and S & A codes. We meticulously ensured that the data, ranging from the minutest elements (S & A codes) to the broader narrative, was harmonized and interconnected. We visually described different data components using different formatting techniques such as italics for S-codes, bold for meso themes, and colour for micro themes (Figure 11). Subsequently, we submitted the manuscript to a critical friend specializing in Para sports coaching to evaluate the interpretation and narrative structure. We used Word, and the narrative spanned approximately four single-spaced pages for interview 10.

Figure 11*A Paragraph of the Narrative 10*

The participant emphasized that value of **to understand Para sport nuances**. She thinks **Para sport requires more equipment and modifications than non-disabled sport (15)**. She said, *“The coaching looks a little different (S48).”* She believes that adaptive and non-adaptive versions of the sport have differences/implementations. Adaptive sport has more components than non-disabled ones, such as equipment, setups, and modifications. **Adaptation of equipment is so individual based on the athlete’s needs (23) and some coaches scare about Para sport because of individualistic and less structured characteristics (24)**. She said, *“For example, we can change the height difference of the bike if someone was through with palsy comes in and they want extra foam, and so they would usually let us know ahead of time some of that kind of structure piece (S73). I wouldn't say there's a specific checklist that we go through. It's very individual (S74).”* She added the process is based on trial and error in one way. Another important nuance is **understanding athlete development in Para sport (35)**. She believes many coaches are unaware of the wide range of disabilities. She thinks that athlete development is different from able-bodied, and coaches need to be exposed to (a variety of) disability. She believes there is a need for a new perspective of coach development from the viewpoint of people with disabilities. She believes it is impossible to add all disability information to resources because the range is vast, and she believes in the value of practicing with athletes. She added one of the key components is being familiar with disabilities and their communities; if one wants to develop an understanding, one has to be exposed to it. But overall, **being open-minded about possibilities (46)** has a critical role. She said, *“You can't fit it into. People are just asking for a check box. If that just doesn't work like that [modifications/adaptations] (S166).”* She believes that a coach who wants to be part of Para sport has to understand a variety of athletes' functions, equipment modifications, and individualist characteristics of coaching for Para sport.

Note. Meso theme (bold), Micro theme (green), S-code (italic). These narrative structures serve as examples, yet it is important to note that the authors might have refined them along the way, given the iterative nature of the analysis process.

Cross-Synthesis Analysis & Interpretation

The first four steps were utilized for each data unit (interview), and narratives were created for each. For the last step, we generated a synthesis of narratives. In this step, we examined all the narratives' uniqueness, connections, and contradictions. We generated cross-synthesis under different themes deductively (based on social relational model dimensions; Figure 12) and inductively (Figure 13).

Figure 12

A Deductive Example of Overarching Themes from Cross-Syntheses Narrative

IMPAIRMENT EFFECT

Understanding the Nuances of Coaching in Para Sport: Individualized Approaches and Collaborative Practices

Multidimensional characteristic of practices: Individualization and collaboration

Participants described that *coaching looks a little different (10)*. Para sport has more components than non-disabled ones, such as equipment, setups, and modifications. Every athlete has a unique disability, which makes coaching more complicated than able-bodied, and there is a need to be aware of the differences and nuances of each athlete. One of the participants with disabilities stated that *people [coaches] are just asking for a check box. It just doesn't work like that [modifications/adaptations]. There's no specific checklist that coaches can go through. It's very individual (10)*. They think *the able-bodied coaches would take the information and do it more generally for their whole group, but the Para coaches seem more focused on individual needs and further athletics (5)*. Therefore, most of the process is based on trial and error in one way or another. Coaches should be skilled in practical thinking, considering the needs of their athletes in the face of external conditions. They mentioned impairment as a clue to creating a safe and welcoming environment for athletes and a consideration of uncontrollable conditions. Put differently, coaches are experts in conditions athletes might face, and athletes are experts in their own bodies responses. There is a need for collaboration. Collaboration is not just between the athlete and coach but also between other professionals, which is one of the key components of Para sport. However, having a medical background sometimes leads to missing the collaboration part of coaching; intrapersonal knowledge is so important because of the multidimensional characteristics of Para sport.

The uniqueness of athlete development

Another important nuance is understanding athlete development in Para sport. Many coaches are unaware of the wide range of disabilities. Athlete development is different from able-bodied, and coaches need to be exposed to a variety of disability. There is a need for a new perspective of coach development from the viewpoint of people with disabilities because coaches need to know how to teach athletes with different functions and non-linear pathways. They underlined that it is impossible to add all disability information to resources because the range of athlete functions is vast. It is critical to understand athletes' needs without making assumptions or over-generalizing. Coaches need to have an empathetic perspective and need to be familiar with disabilities and their communities; to develop an understanding, one needs to be exposed to it. One of the participants with disabilities said, *"They [coaches] won't understand completely what the person is going through. Because it's impossible to have two people that have the same disability or even just in general everybody's different, especially when you're dealing with somebody with a disability, just understand how they are, what the struggles in their daily life are, so that you can be there for them. Sometimes, it's a lot more than just in the sports setting. They won't understand completely, but be open to hearing what the athlete says(6)*.

Note. These narrative structures serve as examples, yet it is important to note that the authors might have refined them along the way, given the iterative nature of the analysis process.

Figure 13

An Inductive Example of Overarching Themes from Cross-Syntheses Narrative

COACHES WITH DISABILITIES

I knew I would be a good one [coach]: Empowering Coaches with Disabilities in Para Sport
“Parasport worlds, and especially coaches with disabilities, I really liked that they considered coaches with disabilities because normally, that's a new thing that is just starting to be talked about(6).” Participants highlighted the value of having representation of individuals with disabilities among coaches in Para sport. They underlined that there are some barriers to the representation specific to coaches with disabilities.

Invisible barriers

They believe that some barriers are created by prejudices about “coaching.” One of the coaches with disabilities stated, *“...I was a young female when I wanted to transition into a male-dominated coaching world. I found it really hard. The first time I took the course, the coaches told me I would never be a good coach because I smiled too much... Come on! They wouldn't respect me because of smiling; that's crazy.”* She added, *“People didn't really take me seriously as a female, a young person, and a person with a disability. All those three things worked against me when I was trying to become a coach.”* But she fights against “crazy people.” She said, *“I just kept going and trying. I've now been coaching for about 18 years. Just ignore the crazy people. I wanted to be a coach. I knew I would be a good one (6).”*

Opportunities for being a coach

Moreover, opportunities for people with disabilities to participate in Para sport are limited. They believe that trying to be part of a sport can be scary for people with disabilities who don't have any network. A support system for coaches with disabilities is a crucial step to including them, especially for people without a sports network or education. They highlighted that it is important to offer different opportunities to people with disabilities to become coaches and minimize barriers based on individual needs. Participants accentuate the value of being exposed to a variety of sports and disabilities as a coach. Being an individual with disability is not enough to understand all disabilities; modifications for others still need to be understood. It does not mean that such exposure leads to knowing everything about disabilities. They believe that to find solutions by taking advantage of the experiences of athletes with similar disabilities (even though everybody has unique needs) and evaluating the possibilities for new adaptations. Exposure to different sports and disabilities appears critical because it lets you observe and be informed about different disabilities.

Note. These narrative structures serve as examples, yet it is important to note that the authors might have refined them along the way, given the iterative nature of the analysis process.

First, the first author initiated the development of deductive themes by scrutinizing the structure of each narrative. Given that all narratives are constructed by correlating meso themes to codes, our initial focus was identifying meso themes linked to the social relational model dimensions. This researcher carefully explored these meso themes across ten interviews, seeking similarities and weaving them into a coherent narrative. The researcher

then augmented this narrative with the quotes deemed most apt in reflecting the content, ensuring consistency across all ten narratives. Next, the researcher turned their attention to data unique to each interview, identifying connecting points among these singularities. From this groundwork, the researcher crafted narratives wherein each social relational model dimension served as the overarching theme.

Once the four main themes and corresponding narratives were established, the researcher proceeded to examine the remaining themes through an inductive lens. This approach involved thoughtful consideration of how the information could be interrelated, considering the diverse backgrounds and roles of the participants. For instance, while exploring the theme of coaches with disabilities, the researcher recognized its potential alignment with four dimensions. However, researchers also acknowledged the importance of highlighting this theme in light of data collected within and outside the interviews. In this vein, the researcher adopted an inductive approach, emphasizing the perspectives of individuals with disabilities and thoroughly reflecting on their experiences.

The second and third authors examined the themes, flow, and structure established by the first author. We discussed and reflected on how the themes, sub-titles, and narrative flow were developed. The analysis concluded by bringing all these together.

Reflexive Journal

Although suggested as a linear process for qualitative data analysis, our experience of implementing SAMMSA also indicates its iterative nature. To illustrate this, it would be valuable to include a few anecdotes from the first researcher's journal written during the analysis. Understanding and adapting the steps to follow during the analysis was an exhilarating journey. When we started analyzing, there were few studies applying SAMMSA, and most of them were conducted in health sciences-related areas (Camic et al., 2023; 2024; Hausfathe et al., 2024; Liu et al., 2023; Saravanamuthu et al., 2024).

“Most importantly, I was not confident about my interpretations and writing. I had an experience that I can describe as an enlightening point. When I organized my third interview, everything about the process became apparent.”

“... it is also stressful as well as fascinating to use a new analysis method. So many points were blurry for a long time. Today, I have a timeline for my analysis and an idea about each step. It is so helpful to continue.”

“Today, I finished narrative 3. I looked at my interview files, and the process looked so different [organization of the file]. The steps are clear. I can continue this way. To be honest, the process took so much more time than I expected.”

We considered the type of application we could use and how we could create a streamlined layout for the steps of SAMMSA for those unfamiliar with it. After a few attempts, we adapted the data analysis process utilizing Nvivo and Word programs. We used numbers to track where the raw data came from so that even someone who had not previously been exposed to data could access the data they wanted by going backwards and forwards from their current point. As a whole, it allowed us to understand the analysis process clearly.

Reflexive Interview

To explore the SAMMSA implementation experience in coaching research from the first author's view, the second author interviewed her following the data analysis via email. The first author responded to the questions regarding the adaptation process of SAMMSA approach.

How was the adaptation of Macdonald's approach to your study analysis? (e.g., tools utilized and main challenges)

The adaptation was the most challenging part of the whole process. In the original article, there was a statement that word-based applications can be used. They did not give any

details other than that. There were examples of writing S & A codes by adding comments to the Word document. However, I was going to analyze ten interviews (117-page single-spaced data), so I started looking for a different way as I believed that recording the codes in comments would cause me to get lost in the data in the process. When I explained the situation to my advisor, she mentioned that I could adapt it to NVivo. After watching the training videos on the NVivo program, I began to think that the coding logic of NVivo differs from that of S & A codes. I decided to use numbers instead of writing text, giving it a code name, and having numbers make it easier to move between data. I started to generate all the codes (S & A) in NVivo, but then I realized that the A-codes seemed more challenging to follow than I thought. I started writing the A-codes in Word, and the process was accelerated. However, I highlighted a note at this point: it is also possible to carry out the whole process in Word. I think using qualitative analysis software such as NVivo facilitates access to data to a certain extent, but it is not essential. Once I figured out how to edit the S & A codes, the analysis process became quite fluid. The initial numbering of the S & A codes facilitated easy access to the raw data at each stage and made it possible to navigate both backwards and forwards through the analysis.

What was the easiest part?

The easiest part was deciding to use this method. MacDonald and colleagues directly pointed to the novel researcher, and I am “that researcher.” I was conducting research in a second language and I am new to qualitative research. It completely felt like this method was for me. Moreover, having the clarity of the specific steps to follow was one of the most appealing aspects.

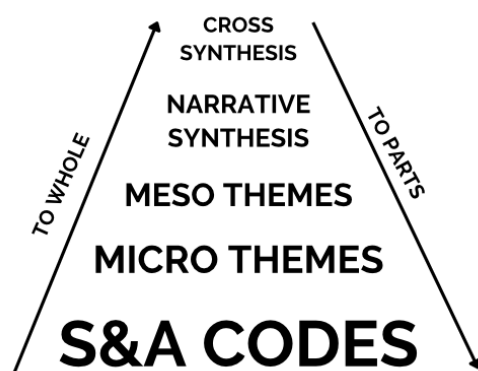
What do you see as the advantages of this approach?

One of the most significant advantages of SAMMSA lies in its multifaceted approach to analysis: analyzing the fragments (S & A codes), generating themes (micro and meso

themes), and linking and integrating the fragments (narrative). This structured method empowers researchers to engage with data from multiple perspectives across five steps. For instance, the initial step involves dissecting the data into smaller fragments through S-codes, allowing for a comprehensive examination of each data segment. Subsequently, A-codes facilitate a deeper understanding of these fragments, filtering them through the researcher's analytical lens. By this stage's end, researchers possess both filtered and unfiltered data. In the subsequent steps, the enriched data is organized into themes, and a narrative is constructed to illuminate the relationships between these thematic elements. This process digs deep into the core of the data, making meaningful connections and uncovering insights. In my experience, researchers can see the coherence when they go backwards or forwards between the steps. Figure 14 represents the flowchart depicting the analysis process as it unfolds in my mind. Another advantage is that for a new researcher, it gives the researcher confidence when others ask questions about the analysis's logic, connections, and explanation.

Figure 14

A Demonstration of the Steps



What differences do you see with SAMMSA compared to thematic analysis?

Distinguishing SAMMSA from thematic analysis reveals notable disparities.

Reflexive thematic analysis (rTA; Braun & Clarke, 2021b) emerges as a versatile approach,

that is conducive to the analytical process. It serves as a powerful tool in the hands of researchers well-versed in both the subject matter and qualitative research methodologies, enabling them to develop profound insights from the data. However, for novice researchers this very flexibility can pose challenges. My own limited experience with rTA, acquired during a master's course where I conducted and analyzed interviews, highlighted this dilemma. Despite striving for reflexivity, distinguishing between insightful analysis and mere data description often proved elusive.

In contrast, SAMMSA transcends mere thematic analysis. Thematic analysis is but one of the facets of SAMMSA. MacDonald and colleagues (2023) highlighted that *“Strengths of SAMMSA include its theoretical foundation in hermeneutics and ethnography, ensuring careful grounding in rich traditions of qualitative inquiry and thus countering simplistic thematic analysis and the ‘bare bones’ reports that generic approaches produce”* (p. 342).

Would you use this approach again? Why?

Yes, I would definitely employ this approach again. Though it proved labour-intensive, particularly for a first attempt, the discovery process involved in finding the necessary tools and refining the analytical methods was invaluable. Given the groundwork laid by the initial endeavour, I anticipate subsequent endeavours will require less time.

The transparency of this method is truly commendable, as it lays bare every step of the process, providing a clear path to understanding the underlying principles of qualitative analysis. While it may be time-consuming, I firmly believe the quality outcomes it produces are worth the effort, especially for those new to the academic journey.

Concluding Remarks

“These sections of a proposal [validity] often remind me of magical charms that are intended to drive away evil.” (Maxwell, 2013, p. 123)

Unfortunately, as Maxwell underlines, no magical charms increase the rigour/trustworthiness of qualitative research. SAMMSA follows a well-structured linear progression, allowing for a systematic examination of the data, supporting the transparency and resonance of the analysis process. The first step, where the data is coded to create S- and then A-codes, allows for the initial interpretations of the data to occur at level of each data segment, thereby augmenting the likelihood of no data being overlooked. Adopting a reflexive and iterative approach also facilitates a deeper understanding of the subtleties represented in the breadth of the research. Using deductive and inductive coding strategies ensures a comprehensive dataset exploration while remaining attentive to its unique nuances, supporting the coherence of results and research. Moreover, the SAMMSA empowers researchers to navigate the substantial workload and time investment required for qualitative analysis with assurance and proficiency.

We believe the example of applying SAMMSA has significant potential to enhance the quality of work for new researchers, and those exploring research in a second language, among others. Qualitative research involves confronting numerous complex processes, including getting to know oneself, discovering cultural elements, actively paying attention to cultural dynamics, and identifying research goals (Maxwell, 2013). Through SAMMSA, researchers can move beyond mere descriptions and definitions and develop a comprehensive understanding of the data. As the process unfolds, delving into the details offers a pathway toward confidence. In essence, applying SAMMSA not only deepens comprehension but also fosters a nuanced understanding of the subject matter's complexities, benefitting researchers and their audiences. Furthermore, researchers, especially those without access to specialized software, can apply this method using Word. At times, accessing certain apps can pose challenges, like encountering time restrictions or limits on user access. SAMMSA offers a solution that is both affordable and easily accessible.

Finally, we align with MacDonald and colleagues' (2023) perspective, acknowledging that a notable strength of this approach is its capacity to simplify the teaching process for educators, thereby making it more accessible and manageable for instructional purposes.

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General Discussion

Coaching for Para sport is inherently complex due to the unique and diverse needs of athletes with disabilities. Therefore, it requires a multifaceted approach to understand coach development in the context (Culver et al., 2020; Townsend et al., 2022). The three articles in this thesis helped to collectively address these complexities through using innovative methodologies and comprehensive theoretical frameworks. With the first article, we explained DT, a flexible, user-centred approach that enables researchers to gain direct insight into, and an empathetic understanding of the experiences of coaches, athletes, and other stakeholders who take part in the Para sport coaching. We portrayed the implementation process of DT as our participants effectively identified issues and sought viable, feasible, and reliable solutions through the co-creation of knowledge and practical problem-solving. With the second article, we employed the social relational model to provide a holistic understanding of disability, specifically focusing on how to improve the quality and accessibility of CDOs for coaches in disability sport by considering the social, psychological, and physical dimensions of coach development from the perspectives of its stakeholders. We demonstrated the potential of the social relational model to help coaches understand and address the diverse needs of Para athletes and the needs of coaches, thereby enhancing the effectiveness of coaching practices. The third article contributed to qualitative data analysis in the sport domain by introducing a novel qualitative analysis method, SAMMSA, which helps to improve the rigour, transparency, and reliability of research in this field. The purpose of this thesis was to explore the key issues in the provision of coach development opportunities within the Canadian Para sport landscape through the lens of the social-relational model. In achieving this purpose, the thesis focused on the description of the application of Design Thinking to collaboratively develop innovative, viable, and feasible solutions for improving CDO's. The thesis also provided deep insights into the needs and

challenges of the coaches from the perspectives of the stakeholders, using a novel qualitative analysis method – the 5-step SAMMSA.

DT is difficult to explain due to its practical and academic aspects (Carlgren et al., 2016). However, DT is a flexible concept that can be utilized as a paradigm, methodology, and tool (Laursen et al., 2017). In this thesis, DT was employed as a method for data collection, specifically using observation notes to develop comprehensive insights into key issues in the Canadian coaching landscape through the analysis of activities wherein the participants produced sticky notes. The case design of the NCPS is based on DT, and this thesis incorporated data from both the HPI model and DT tools. In the first article, we detailed how we followed the HPI model to facilitate data collection from problem determination to potential solutions (Chambers et al., 2018), from multiple perspectives. Wicked problems, such as the advancement of coach development opportunities, are inherently complex (Laursen et al., 2017), thereby underscoring the importance of collaborative efforts (Chamber et al., 2023). With the NCPS, the participants became familiar with the DT mindset (i.e., empathic, curious, non-judgmental), practices (i.e., empathizing with users, context-specific understanding) and techniques (i.e., empathy mapping, persona creation; Carlgren et al., 2016). The user-centred approach of DT, which involved participants who were already system users, gave us access to rich, first-hand data about the experiences of individuals within the Canadian Para sport coaching landscape. This approach promoted practical and sustainable improvements for CDOs by ensuring that solutions are grounded in the real experiences and needs of those involved. Therefore, this thesis contributed to the literature by introducing DT as a novel practice to address gaps in Para sport coaching.

The importance of lifelong learning and creating effective CDOs is further explored in the second article. Coaches for Para sport need to be proactive and deliberate in creating

and seeking meaningful learning opportunities because of the multidimensional characteristic of the coaching (Culver et al., 2020). However, given the scarcity of CDOs, adopting a lifelong learning approach is essential for the continuous development of coaching practices (Davey, 2014; Duarte, 2020; McMaster, 2012). Engaging in various learning situations, with a particular emphasis on reflection, is critical for refining coaching methods (McMaster, 2012). Furthermore, coaches should source knowledge and information from diverse avenues, as each athlete necessitates a unique approach tailored to their specific needs (Duarte, 2020). This comprehensive strategy ensures that coaches are well-equipped to provide effective and individualized support. The second article's unique contribution lies in its ability to examine the Canadian coaching for Para sport landscape through the lens of individuals in various roles, providing a comprehensive outlook on coach development in Para sport. The results indicated what improvements are needed in development opportunities for coaches and how these can be implemented. Individuals in different roles need to understand coaches' needs and how to meet them effectively. The findings emphasized the importance of developing awareness regarding the experiences of individuals with disabilities and recognizing these perspectives within the system. For instance, structural barriers cannot be resolved by coaches or athletes alone; awareness and action from other roles are vital for addressing these challenges.

Expanding on the concept of holistic understanding, the second article employed the social relational model to provide a comprehensive view of disability in coaching. The model considers individuals with disabilities in a holistic manner (Townsend et al., 2022), highlighting the need to understand and address their unique experiences and challenges (Allan et al., 2020; Culver & Werthner, 2018; Granier et al., 2023; Haslett et al., 2017; Ramsden et al., 2023; Townsend et al., 2018; Wareham et al., 2017). The second article showed that in enhancing CDOs, it is crucial to consider (a) the perceived position of Para

sport within the system, (b) how disability influences coaching practices, (c) the availability of Para sport opportunities in accessible facilities, (d) the implications of these factors for both coaches and athletes, and (e) the potential for individuals with disabilities to become coaches.

Addressing ableism in coaching is critical for creating a welcoming environment, as discussed next. The thesis demonstrated entrenched ableism in coaching is a critical issue, where non-disable-bodied views often take over, ignoring the needs of athletes with disabilities. Coaches' attitudes and behaviours significantly influence athletes' experiences, with evaluations often based on non-disabled norms, which can be detrimental (Allan et al., 2020; Huntley et al., 2019; Thurston et al., 2022). Increased exposure to Para sport can positively shift these attitudes (Hammond et al., 2019). General coach education is pivotal for enhancing all coaches' awareness and understanding of Para sport, requiring both practical experience and structured learning that includes Para sport-specific content (Alexander et al., 2022; Townsend et al., 2022). Flexibility and a reconsideration of ableism are essential for fostering an inclusive sporting culture (Jeanes et al., 2019; Lowry et al., 2022; Mannella & Bundon, 2024). Moreover, targeted interventions and education are necessary to create more inclusive community sports contexts, as simply integrating individuals with disabilities into broader sports environments does not automatically result in inclusive philosophies or attitudes (Hammond et al., 2022; Howe, 2007; Jeanes et al., 2018; Peers et al., 2020). The thesis showed that not only do all coaches need to be open to lifelong learning, but other roles within the system also need to be open to it so that entrenched judgments can be overcome and systemic foundations can be laid for coaches to enhance their competencies in Para sport.

Tailoring coaching approaches to the specific needs of athletes with disabilities is essential, as highlighted in the following section. The unique aspects of various impairments and their impact on coaching practices highlight that understanding the needs of athletes with

disabilities requires a multifaceted approach (Pinder & Renshaw, 2019). Effective coaches develop innovative and tailored solutions, requiring skills in interpersonal relations (Culver & Werthner, 2018), equipment modifications (Falcao et al., 2015), and sport-specific programming (Pomerleau-Fontaine et al., 2022). Recognizing the diverse developmental trajectories of athletes with disabilities is crucial in Para sport coaching (Mannella & Bundon, 2024; Deghansai et al., 2022). CDOs should encourage ongoing self-reflection and adaptation, fostering creativity, empathy, and comprehensive understanding (Alexander et al., 2020; Birchall et al., 2024; Crisp, 2019a; 2019b; Davey, 2014). The thesis emphasized that a coach-learner centred approach to coach development is even more critically important in Para sport.

Structural barriers also pose significant challenges to coaching practices. Limited access to resources from organizations, facilities, funding, and transportation negatively impacts athletes' participation (Coates & Howe, 2023; Kean et al., 2017; Quinn et al., 2021). Coaches express the need for more robust support systems to foster autonomy among athletes with physical disabilities, which is crucial for their development (Banack et al., 2011; Dieffenbach & Statler, 2012). The thesis highlighted the importance of identifying and addressing these barriers to create a conducive environment where coaches are accessible to their athletes, ultimately enhancing the overall development of Para sport coaching.

Understanding athletes as whole individuals, rather than focusing solely on performance, underscores the necessity of coaches' holistic development (Culver & Werthner, 2018; Townsend et al., 2022). This development is crucial for supporting athletes, especially in addressing the psychological impacts of disabilities within Para sport (Allan et al., 2020; Ely, 2023; Falcao et al., 2015; Haslett et al., 2017; Markov-Glazer et al., 2023; Pomerleau-Fontaine et al., 2022). Coaches must enhance factors such as autonomy, belongingness, and engagement while addressing everyday challenges (Granier et al., 2023;

Evans et al., 2018). Integrating this knowledge into CDOs would ensure coaches are equipped to support athletes comprehensively and prevent isolation, despite obstacles like limited time and resources (Martin & Whalen, 2014). The thesis indicated that providing psychological support and understanding the entire environment holistically is crucial for comprehensive care.

One of the key findings of this thesis is the representation of people with disabilities in Para sport, particularly the representation of coaches with disabilities. These coaches have the potential to bring unique insights that greatly benefit athletes with disabilities, contributing to a diverse and effective coaching environment (McMaster et al., 2012). Their lived experiences enable them to offer tailored guidance and empathetic support, fostering inclusivity and effectiveness in coaching. However, coaches with disabilities encounter distinct challenges, including prejudices, structural barriers, and limited opportunities attributable to stereotypes and societal norms. For instance, the lack of accessible facilities frequently impedes their professional growth. To foster their development and enhance their capacity to support athletes' holistic growth, it is imperative to ensure equitable access to resources and create accessible learning environments (Konoval et al., 2022). Additionally, addressing ableist perspectives and providing coaching courses in accessible formats, such as online modules with screen reader compatibility, are essential steps.

The thesis emphasized the role of volunteers in workplaces and the importance of raising awareness among colleagues about working effectively with coaches with disabilities. Training sessions that educate staff and volunteers on inclusivity and accessibility can foster a more supportive environment. Such educational initiatives are foundational, as they help create a workplace culture that values and supports diversity. Building on this foundation, a tailored support system is crucial for the continuous development of coaches with disabilities. This comprehensive support system includes financial assistance, flexible scheduling,

accessible educational resources, networking opportunities, self-directed study, peer support networks, and reflective practices. Financial grants can alleviate additional costs, such as adaptive equipment or transportation, while peer support networks offer platforms for sharing experiences and overcoming challenges. By integrating these educational initiatives and tailored support systems, organizations can create an environment where coaches with disabilities can thrive. This holistic approach ensures coaches are not only welcomed and understood but also given the practical resources and opportunities necessary for their professional growth.

The third article explored the application of the 5-step SAMMSA analysis method (MacDonald et al., 2023) in the context of Para sport coaching, aiming to enhance the depth and quality of the qualitative analysis. Our motivation to employ SAMMSA stemmed from its structured approach and its potential to demystify qualitative analysis for newcomers. The SAMMSA enabled us to systematically break down and synthesize the complex interactions and experiences within the Para sport coaching landscape. Through its structured phases, from initial coding to the synthesis of micro and meso themes, we captured the nuanced experiences of participants. This comprehensive, part-whole analysis is crucial for identifying the multifaceted barriers and facilitators of coach development opportunities. The thesis contributed to sport psychology and pedagogy research by showcasing the practical application of the SAMMSA in the context of Para sport coaching. The detailed account of our analytical process serves as a valuable reference for other researchers considering this method. Furthermore, the findings emphasize the importance of methodological rigour and transparency in qualitative research, aligning with the relativist approach's focus on contextual understanding and justification.

Study Quality & Strengths

Although some researchers consider validity a positivist concept, it can be said that validity in qualitative research is related to being aware of the results and the factors affecting them and the conclusions drawn from them (Maxwell, 2013). In qualitative research, judgment typically follows one of two approaches: the criteriological approach and the relativist approach (Burke, 2017; Smith & Caddick, 2012; Tracy, 2010). Initially, the criteriological approach aimed to establish universal criteria for evaluating qualitative research (Burke, 2017; Tracy, 2010). However, this approach faced criticism and conflicts (Burke, 2017; Sparkes & Smith, 2009). As an alternative, the relativist approach advocates for contextual understanding and ongoing justification in assessing studies, allowing researchers to employ a variety of criteria suited to their specific contexts (Burke, 2017; Smith & Caddick, 2012). Therefore, I employed a relativist approach in the thesis.

Researchers play an active role in the study with their methodological selections and applications (Maxwell, 2013). I have already presented my motivations for pursuing the thesis and my connection to the research topic. There exists a dearth of literature investigating stakeholders' experiences and connections between fields (e.g., disability studies and coaching) in coaching for Para sport, indicating a notable gap in current research. This study endeavours to address this gap, underscoring the *worthiness*, *substantive contribution*, and *impact* of the topic. Credibility was attained through the comprehensive inclusion of diverse perspectives, encompassing stakeholders, such as coaches, managers, coach developers, and athletes. I employed the critical friend technique, leveraging the support of my colleagues as invaluable "theoretical sounding boards" during the evaluation of my study and interpretation of collected data. This collaborative approach facilitated robust analysis and ensured a multifaceted perspective throughout the research endeavour. Ethical considerations were meticulously observed to safeguard participant confidentiality within this closely-knit community, employing pseudonyms and stringent data anonymization protocols.

Conclusion & Limitations

The purpose of this thesis was to explore the key issues in the provision of coach development opportunities within the Canadian Para sport landscape through the lens of the social-relational model. In achieving this purpose, the thesis focused on the description of the application of DT to collaboratively develop innovative, viable, and feasible solutions for improving CDOs. The thesis also provided deep insights into the needs and challenges of the coaches from the perspectives of the stakeholders, using a novel qualitative analysis method – the 5-step SAMMSA.

The three articles within the thesis collectively advance the field of Para sport coaching by introducing innovative methodologies that emphasize inclusivity and accessibility while advocating for collaborative efforts. Integrating DT, the social relational model, and the SAMMSA method, the thesis offered valuable insights and practical tools for researchers and practitioners. The focus on collaboration and stakeholder engagement enhances the potential for these methodologies to create meaningful and lasting improvements in the Para sport coaching landscape. Moving forward, it is crucial to continue exploring and refining these approaches to foster a more accessible, and effective coach development environment for all coaches and athletes

Although the thesis contributed to Para sport coaching research, there are certain limitations and challenges to consider. For the first article, trying to explain a broad and complex concept like DT by focusing only on its application aspect and restricting it to such a narrow scope can be considered a challenge. For the second article, one limitation is the range of sports and disabilities included. While the thesis covered a wide variety of sports and disabilities, this diversity might have led to some specific challenges unique to certain sports or disabilities not being fully explored. Another limitation is related to the participants involved in the studies. The thesis included a broad spectrum of individuals who are currently

active in the Para sport system, such as coaches, athletes, coach developers, and managers, which is a strength. However, it did not include the perspectives of those who wish to participate in the system but are unable to. Including these voices could provide valuable insights into the barriers preventing their participation and help develop more inclusive strategies. Moreover, this thesis focused on the Canadian Para sport coaching landscape and the other cultural and national environments might be different (Patatas et al., 2021). For the third article, trying a new analysis method was an adventure in itself. The process of figuring out how to apply it and the trial-and-error phases were challenging and time consuming, which might be a limitation for some projects. Acknowledging these limitations can guide future research to address these gaps, ensuring a more comprehensive and representative understanding of the Para sport coaching landscape.

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Appendix A

Ethics approval

27/03/2024

Université d'Ottawa

Bureau d'éthique et d'intégrité de la recherche

University of Ottawa

Office of Research Ethics and Integrity

CERTIFICAT D'APPROBATION ÉTHIQUE | CERTIFICATE OF ETHICS APPROVAL

Numéro du dossier / Ethics File Number	H-02-23-8912
Titre du projet / Project Title	The National Framework of Coach Education for Para Sport: A Case Study of the Collaborative Process
Type de projet / Project Type	Thèse de maîtrise / Master's thesis
Statut du projet / Project Status	Renouvelé / Renewed
Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy)	27/04/2023
Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy)	26/04/2025

Équipe de recherche / Research Team

Chercheur / Researcher	Affiliation	Role
Rabia OZTURK KIZILKAYA	École des sciences de l'activité physique / School of Human Kinetics	Chercheur Principal / Principal Investigator
Diane CULVER	École des sciences de l'activité physique / School of Human Kinetics	Superviseur / Supervisor
Sydney GRAPER	École des sciences de l'activité physique / School of Human Kinetics	Étudiant-chercheur / Student-researcher
Gillian ROURKE	École des sciences de l'activité physique / School of Human Kinetics	Étudiant-chercheur / Student-researcher
Danielle ALEXANDER	University of Ottawa	Co-chercheur / Co-investigator

Conditions spéciales ou commentaires / Special conditions or comments

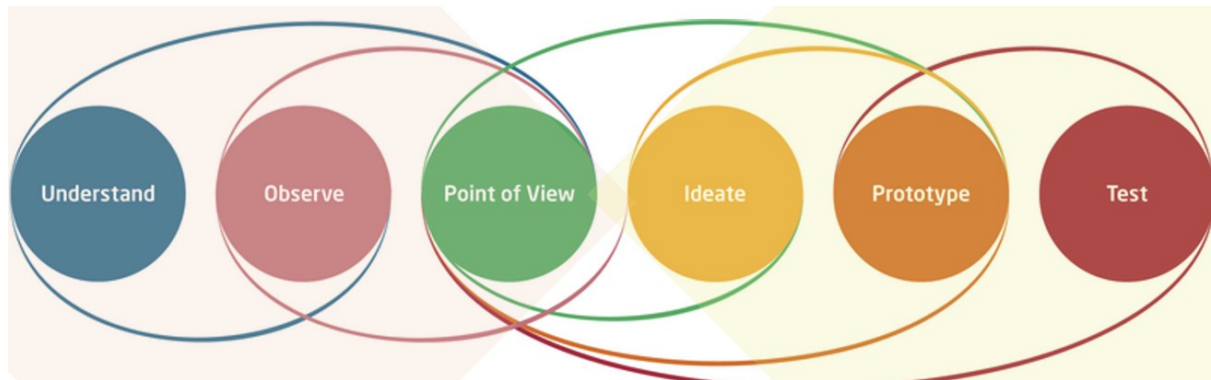
550, rue Cumberland, pièce 154 Ottawa (Ontario) K1N 6N5 Canada

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Appendix B

The Hasso-Plattner Institute (HPI) Design Thinking Model (2018)



Appendix C

Recruitment Poster



Appendix D

Invitation Form

<p>9/4/24, 2:34 PM</p> <p style="text-align: center;">Invitation Form for the Interview</p> <h3>Invitation Form for the Interview</h3> <p>The National Framework of Coach Education for Para Sport: A Case Study of the Collaborative Process</p> <p>This form is for voluntary participation as an interviewer in the master's study, the purpose of which is stated below. The interviews will last 45-75 minutes and questions about the summit and coach education for the Para sport will be asked.</p> <p>This study aims to understand the key issues for coach education for Para sport. To develop a deeper understanding of this topic, we planned to take the insights from the coaches and the significant others who primarily interact with them. Specifically, the perspectives of athletes, coaches, coach developers, sports administrators, and researchers are invaluable when developing an innovative solution for supporting coaches' development.</p> <p>Supervisor: Dr. Diane M. Culver (Full Professor / Faculty of Health Sciences/ School of Human Kinetics/University of Ottawa)</p> <p>Email: dculver@uottawa.ca</p> <p>Student: Rabia Ozturk Kizilkaya (MA Student/ Faculty of Health Sciences/ School of Human Kinetics/University of Ottawa)</p> <p><i>NOTE: Participants will be selected on a first come, first served basis.</i></p> <p><i>* Zorunlu soruyu belirtir:</i></p> <p>1. Name/Surname *</p> <p>_____</p> <p>2. Age *</p> <p>_____</p> <p>3. E-mail *</p> <p>_____</p> <p>4. What is your current role/job in Para sport? *</p> <p>_____</p> <p>https://docs.google.com/forms/d/1U-Aw5akKXc4tYCxP9xUlnZmHQqLJw38K1aUATRESE/edit</p>	<p>9/4/24, 2:34 PM</p> <p style="text-align: center;">Invitation Form for the Interview</p> <p>5. How many years have you been working in Para sport? *</p> <p>_____</p> <p>6. Please write the time or times convenient for you for the interview between 5 May to 30 May 2023. *</p> <p>e.g., 4 May 2023, 10am (GMT-4) or 20 May 2023, 2pm (Ottawa time)</p> <p>_____</p> <p style="text-align: center;">Bu içerik Google tarafından oluşturulmamış veya onaylanmamıştır.</p> <p style="text-align: center;">Google Formlar</p> <p>https://docs.google.com/forms/d/1U-Aw5akKXc4tYCxP9xUlnZmHQqLJw38K1aUATRESE/edit</p>
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Appendix E

Consent Form

<p>9/4/24, 2:25 PM</p> <p>CONSENT FORM (interview)</p> <h3>CONSENT FORM (interview)</h3> <p>The National Framework of Coach Education for Para Sport: A Case Study of the Collaborative Process</p> <p>Diane M. Culver, Ph.D. / Full Professor / Faculty of Health Sciences / School of Human Kinetics / University of Ottawa</p> <p>Email: dculver@uottawa.ca / Tel: (613) 562 5800 ext. 4283</p> <p>Rabia Ozturk Kizilkaya, MA / Student / Faculty of Health Sciences / School of Human Kinetics / University of Ottawa</p> <hr/> <p>* Zorunlu soruyu belirtir</p> <p>1. Name & Surname *</p> <p>_____</p> <p>2. Purpose of the Study: The aim of this study is to understand the key issues for coach education for Para sport. To develop a deeper understanding of this topic, we planned to take the insights from the coaches and the significant others who primarily interact with them. Specifically, the perspectives of athletes, coaches, coach developers, sports administrators, and researchers are invaluable when developing an innovative solution for supporting coaches' development.</p> <p><i>Uygun olanların tümünü işaretleyin.</i></p> <p><input type="checkbox"/> I understand.</p> <p>https://docs.google.com/forms/d/16E9uqkQ0uU0RjRppPxyXk-YXB38A1te5L_ZalWqOGMedit 1/4</p>	<p>9/4/24, 2:25 PM</p> <p>CONSENT FORM (interview)</p> <p>3. Participation: My participation in this study will consist of engaging in a semi-structured interview with one of the investigating researchers. The interview will be conducted using Zoom and will be video and audio recorded or in person in a meeting room and research notes will be taken during this activity. The video images will not be used in presentations, conferences, nor publications. The images are purely to facilitate the researchers work (e.g., establishing rapport, and transcription). Each interview will run for approximately 45 to 75 minutes. The interview questions are about your experiences in Para sport context, specifically in relation to coaching practices and coaching education for Para sport and and contributions to National Framework Coach Education for Parasport. When the interview has been transcribed, I will have the opportunity to review my transcript and make any edits (add or delete any excerpts) that will be used in the research moving forward. I understand that to minimize the risk of a security breach and help ensure my privacy, I should use standard security measures such as logging out of my account, closing my browser and locking my screen or device when I no longer use it/when I have completed transcription verification.</p> <p><i>Uygun olanların tümünü işaretleyin.</i></p> <p><input type="checkbox"/> I understand.</p> <p>4. Assessment of risks: My participation in this study entails very limited foreseeable risks. However, if I experience any discomfort, the interviewing researcher has assured me that she will make every effort to minimize this discomfort. I may decide to stop my participation at any time without consequence.</p> <p><i>Uygun olanların tümünü işaretleyin.</i></p> <p><input type="checkbox"/> I understand.</p> <p>5. Benefits: My participation positively contributes to the development of coach education for Para sport in Canada. In addition, I am participating in a movement within the Canadian sports landscape that improves the accessibility of coach development opportunities for Para sports.</p> <p><i>Uygun olanların tümünü işaretleyin.</i></p> <p><input type="checkbox"/> I understand.</p> <p>https://docs.google.com/forms/d/16E9uqkQ0uU0RjRppPxyXk-YXB38A1te5L_ZalWqOGMedit 2/4</p>
<p>9/4/24, 2:25 PM</p> <p>CONSENT FORM (interview)</p> <p>6. Privacy of participants: I have received assurance from the researcher, that the information I share during the activities (i.e., interviews) will remain strictly confidential. The content from these discussions will be used for the completion of this project and other publications for dissemination. I understand that the information discussed during these meetings is to remain confidential.</p> <p><i>Uygun olanların tümünü işaretleyin.</i></p> <p><input type="checkbox"/> I understand.</p> <p>7. Confidentiality, anonymity, and conservation of data: I have been assured that the electronic recordings and transcripts will be kept in a secure manner on the researchers' computers and on a shared drive during the research. The names of participants will be kept in a separate document and the transcripts will be identified by random names. Notwithstanding our efforts to maintain anonymity it is possible that you may be identifiable. In six years, all material data will be shredded, and electronic data will be erased.</p> <p><i>Uygun olanların tümünü işaretleyin.</i></p> <p><input type="checkbox"/> I understand.</p> <p>8. Voluntary Participation: I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. If I choose to withdraw, I will also be given the option of withdrawing my data at that time.</p> <p><i>Uygun olanların tümünü işaretleyin.</i></p> <p><input type="checkbox"/> I understand.</p> <p>9. To meet on the date indicated in the e-mail. *</p> <p><i>Uygun olanların tümünü işaretleyin.</i></p> <p><input type="checkbox"/> I agree</p> <p>https://docs.google.com/forms/d/16E9uqkQ0uU0RjRppPxyXk-YXB38A1te5L_ZalWqOGMedit 3/4</p>	<p>9/4/24, 2:25 PM</p> <p>CONSENT FORM (interview)</p> <p>10. Acceptance: I agree to participate in the above Master Thesis study conducted by Diane M Culver, PhD and Rabia Ozturk Kizilkaya at the University of Ottawa.</p> <p>If I have any questions about the study, I may contact Diane Culver.</p> <p>If I have any questions regarding the ethical conduct of this study, I may contact the Office of Research Ethics and Integrity, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5.</p> <p>Tel.: (613) 562-5387</p> <p>Email: ethics@uottawa.ca</p> <p><i>The major project is funded by Social Sciences and Humanities Research Council (SSHRC).</i></p> <p><i>The Student Investigator (Rabia Ozturk Kizilkaya) study is funded by Republic of Turkiye Ministry of National Education (MEB).</i></p> <p><i>Uygun olanların tümünü işaretleyin.</i></p> <p><input type="checkbox"/> I CONFIRMED.</p> <hr/> <p>Bu içerik Google tarafından oluşturulmamış veya onaylanmamıştır.</p> <p>Google Formlar</p> <p>https://docs.google.com/forms/d/16E9uqkQ0uU0RjRppPxyXk-YXB38A1te5L_ZalWqOGMedit 4/4</p>

Appendix F

Observation Tool

Project:
Team:
Version & Date:



Quick Guide: The aim of AEIOU (= Activities, Environment, Interaction, Objects, Users) is to learn more about the users/customers and their environment through analysis and observation and to bring more structure into the observation.

AEIOU

More tips & tricks for this template on book page: 107



Lawrick / Link / Leifer
The Design Thinking Toolbox
978-1-119-62918-1

<p>1 Research <i>Research on the user</i></p> <p>Activities <i>What activities do they carry out?</i></p> <p>Environment <i>What does the environment look like?</i></p> <p>Interaction <i>How do the systems interact with one another?</i></p> <p>Objects <i>What objects and devices are used?</i></p> <p>User <i>Who are the users?</i></p>	<p>2 Observation on site and documentation <i>Observe the user/customer and use the AEIOU questions for documentation.</i></p> <p>3</p>	<p>4 Findings <i>Gains new insights</i></p>
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Appendix G

Interview Guide(s)

1)“COACH” INTERVIEW GUIDE	
Intro	As a coach working in x institution/club/ branch; What is your background? How did you decide to work in Para sport (branch)?
The perspective of social relational model	relational practices Can you describe your role as a coach? How do you view the relationship with the athletes you coach?
	impairment effect As a coach, where and how do you concept 'impairment' in your practices? If any, in what ways does impairment affect the athletes? What difficulties may an impairment cause for the athletes?
	structural barriers Are there any structural barriers you encounter as a coach? If so, how would you describe them? What kind of difficulties do you encounter when developing the knowledge, practices and skills you need? -How do you usually learn? (Other coaches?, trial-error?) -Role of formal opportunities? -Any non-formal experience? (workshops) how were they?
	pyscho-emotional When you consider your athlete's personal development and self-concept, which means according to themselves who they are or what they can do, how can you describe their process? And how do you contribute to this process? Any strategies for improving these athletes' self-worth/confidence to participate if they are reluctant ?
Key issues & coaches' perspective	How do you think coach education can be made more attuned to your learning needs? What are the key barriers to supporting coach education for Para sport? How can coach education programmes enhance access for all? What are the key and ideal elements of coach education for Para sport? In your opinion, what can be done to train more effective Para sport coaches?

	<p>What do you think was the most important issue discussed at this summit and why?</p> <p>What do you think could be done to improve the issue? How can you contribute to improvement?</p>
Closing	Is there anything you would like to add in regards to your role as a coach?

2)“ATHLETE” INTERVIEW GUIDE	
Intro	<p>What is your background?</p> <p>How did you decide to be an athlete?</p>
The perspective of social relational model	<p>relational practices</p> <p>How do you describe your coach as an athlete?</p> <p>How would you describe the attitude of your coach and organization towards you?</p>
	<p>impairment effect</p> <p>If so, how does the impairment affect you as an athlete?</p> <p>Are there any difficulties you experience and if so, can you describe them? (physical or/and social way)</p> <p>What do you think is your coach's role in helping you experience and overcome these difficulties? Can you explain?</p>
	<p>structural barrier</p> <p>Are there any structural barriers you encounter as an athlete? If so, how would you describe them?</p> <p>What do you think about the development opportunities for coaches in your branch or your own coach?</p>
	<p>psycho-emotional</p> <p>When you consider your personal development and self-concept, which means according to you who you are or what you can do, how can you describe your process? And how does your coach contribute to this process?</p> <p>Do you have resources to support your psychological health? If so, how would you describe them?</p> <p>Can you describe how you have maintained your self-worth/self-confidence to continue as an athlete?</p>
Key issues & athlete's perspective	In your opinion, what qualities should a well-trained coach have?
	<p>What do you think was the most important issue discussed at the summit and why?</p> <p>What do you think could be done to improve the issue? How can you contribute to improvement?</p>
Closing	Is there anything you would like to add in regards to your role as an athlete?

3)“MANAGER(ADMINISTRATORS)” INTERVIEW GUIDE		
Intro	What is your background? How did you decide to work in Para sport (branch)?	
The perspective of social relational model	relational practices	As a manager (administrator), can you describe how your interact with coaches? How does your organization support Para sport coaches?
	impairment effect	As a manager (administrator), where and how do you conceptualize 'impairment' in coaching practices and your organization?
	structural barrier	Are there any structural barriers you encounter as a manager? If so, how would you describe them? What can be done to prevent these barriers from occurring?
	pyscho-emotional	How would you describe the role of coaches in supporting the psychological health of athletes? As an organization, how do you go about supporting this role?
Key issues & manager perspective	In your opinion, what qualities should a well-trained coach have? How do you think coach education can be made more comprehensive? How can coach education programmes enhance access for all? What are the key and ideal elements of coach education for Para sport?	
	What do you think was the most important issue discussed at this summit and why? What do you think could be done to improve the issue? How can you contribute to improvement?	
Closing	Is there anything you would like to add in regards to your role as a manager?	

4)“COACHING LEADER, EDUCATOR, FUTURE LEADER” INTERVIEW GUIDE		
Intro	What is your background? How did you decide to be a coaching leader?	
The perspective of social	relational practices	Can you describe how coaches interact to athletes and other partners?
	impairment effect	Where and how do you concept 'impairment' in coaching practices?

relational model	structural barrier	Are there any structural barriers that you observe as.....?If so, how would you describe them?
	pyscho-emotional	How would you describe the role of coaches in supporting the psychological health of athletes?
Key issues & perspective		In your opinion, what qualities should a well-trained coach have? How do you think coach education can be made more comprehensive? How can coach education programmes enhance access for all? What are the key and ideal elements of coach education for Para sport?
		What do you think was the most important issue discussed at the summit and why? What do you think could be done to improve the issue? How can you contribute to improvement?
Closing		Is there anything you would like to add in regards to your role as?

Appendix H

Narrative-1

The participant, an able-bodied manager with 8 years of experience in Para sport, shared insights about his **work in a small organization** and how its size can impact role implementation. He **interacts directly with coaches** (2) through the NCCP, organizing courses and coaching development opportunities nationwide. He emphasized *the importance of understanding where coaches are in their pathways and providing them with opportunities to progress*. In the organization, they **adopt a targeted approach for each coach, helping them create personalized pathways in terms of education and financial opportunities** (3). He described their support process for coaches' professional development: *"It's identifying a coach in an area and working directly with them or with their provincial support organization to help them progress to where they want to be... it really is a one-to-one targeted approach to get them to come (S10)."* The participant identified several structural barriers, including **capacity(7), large geographic distances(8), affordability(9), and accessibility(10)**. He noted that there is a need for new personnel as existing staff are overwhelmed with responsibilities: *"A program manager's plate, like mine, capacity is just not there to add another thing to an already very full desk."* He added, *"We are all a small pool of coaches working in a very big country."* To address these barriers, they are exploring **innovative ways to deliver courses**. Strategies include **virtual or partially virtual coaching courses(11), separating theoretical and practical components(12), and collaborating with other fundamental organizations(14)**. The participant stated that *"partially virtual and separated levels allow some coaches to access the training they wouldn't normally be able to get."* The participant highlighted the importance of coaches accessing resources on the **psychological and emotional aspects of their profession at all levels(15)**. He believes that **well-trained coaches** should **lack ego, act on feedback from their athletes(16), and**

communicate professionally with organizations(17). Key elements of coach education, according to the participant, include lived experience advisors(18), creating different pathways for various levels (such as volunteer and parent coaches)(19), prioritizing the needs of coaches and athletes, and understanding the nuances between Para sport and able-bodied sport (21). Furthermore, the participant emphasized the importance of representing people with disabilities in organizations, ensuring they have a voice in the system through advisory committees or professional roles(6).

Appendix I

Narrative-2

The participant expressed her insights about coaching education in Para sport as a non-disabled **coaching coordinator**. She emphasized being a **volunteer** in her role. She **arranges facilities for Para athletes' training and coordinates with people for arrangements**. She stated, *"I do have quite a regular calling. I always get phone calls or emails looking for places where they [Para athletes] can go and shoot" (S9)*. Moreover, there is a need to improve the materials for coaches, so she **is preparing and organizing materials**. She pointed out, *"It's my responsibility to ensure that my coaches are educated, that they have easy access to the knowledge and that we have some resources for them, such as how to build tables, where they can get springs from, where they can get all the stuff to shoot with, which will be unique to that shooter" (S82)*.

The participant is aware of the necessity of coach education resources. She said, *"We improve on what's there because it's not great... competition development modules, it's even worse. We start going into all our plans and motion and everything else" (S129)*. She thinks there is **a lack of sufficient information on the resources available to coaches**. However, she mentioned, *"The plan is for this e-learning module to go out. Coaches will be able to learn" (S32)*. She noted **sport-specific thoughts** about her sport [shooting]. She loves the characteristic of shooting being lifelong. She thinks shooting is suitable for everyone and easy to attend for people with disabilities. Specific to coaching practices, she thinks that some coaches don't want to try new things even though they are so similar in their sport/expertise. She said, *"You learn all the basic skills in shooting at the beginning. Then, you just fine-tune them. The skills aren't much different, no matter what type of shooting you're doing and what kind of athlete you're working with" (S96)*.

The participant pointed out the importance of **managing resources**. Regarding **limited opportunities for Para athletes**, some facilities/opportunities are provided for Para athletes, but some are not. *"We have training camps there often, so our Para athletes never join the training camps. The three of them do their own thing, and that's it" (S102).*

Additionally, she thinks that not all shooting clubs are fully accessible for people with disabilities. So, she arranges welcoming clubs for Para athletes. However, she believes in welcoming the perspective of their community: *"One thing I find about the shooting community. They're very willing to do whatever it takes to have someone participate" (S27).*

She emphasized the **limited human resources and finding ways to increase human resources**.

She gave an example: *"A few years ago, we didn't have provincial coordinators, so I recruited provincial coordinators" (S29).* She added that mentoring programs are important because, at some point, when coaches want to retire, they will need to be replaced. She said, *"I don't think we could do much for the higher-level coaches to keep them going except try and include them whenever possible, but we have an issue right now" (S99).*

On the one hand, she mentioned **the importance of online delivery**. With virtual delivery, they decreased costs and increased the number of coaches. She described online delivery as, *"We've been running the courses that way, but we've been able to have 20 and 30 coaches show up at a coaching course where before it would cost so much to bring a facilitator in and everything else. So, it's really been a blessing, in all honesty" (S35).* On the

other hand, **online courses and online evaluations have some advantages and disadvantages**.

"Although it's very tricky to teach someone how to fire a rifle, pistol, or shotgun online"

(S34). She said, *"We've been doing video evaluations. That's all new for us too, but it's*

working, and it's been great" (S36). She believes that organizations can reduce costs by

providing online training to coaches. With the money left over due to reduced costs, they can

meet the needs of the athletes. *"[In-person education cost] I'd rather put that \$1200 towards*

equipment for my athletes" (S92). She described barriers such as **geographical issues and costs/affordability** to coach education for Para sport. She thinks that even though associations are willing to improve facilities, overcoming the barriers still requires resources such as volunteers, time, and money.

The participant described the **qualities of coaches**. She believes that **well-trained** coaches need to be welcoming, friendly, knowledgeable, and open-minded. According to her, one of the conditions for being a good coach is to be open to trying. *"Not being afraid to try something. We often will get coaches that are dead set."* (S77). She said, *"Some coaches just shut the door. No, don't want anything to do with it. Nope, don't even bring it to me. And there are the same things with Para sport, too"* (S79). She believes that coaches are not open to differences. They are worried because they do not have the knowledge. They don't want to cause harm to athletes. The participant outlined **coach education elements for Para sport**.

"One of the things that I brought up when I was at the conference is that there's not enough entry-level information about Para sport" (S64). She believes that if you put basic information about Para sport in the resources, it becomes normalized/ordinary for coaches. *"The scenario in there doesn't have to be very complex, but maybe you need to help them put their gun away"* (S69). *"If they could introduce it even just in a little teeny piece in every one of their modules, I think that it would help because then every time somebody came out to any sport"* (S72). The critical approach is **understanding the nuances and modifying facilities/equipment according to the athlete's needs**. She thinks that there is a need to ensure that coaches understand that they can also work with athletes with disabilities; it may be possible to include this information in the training/education program. In addition to that information, she thinks that education programs/modules must be planned to be not too long and overwhelming. Also, *training and training materials need to be recorded so people can go back and watch them* (S94).

The participant mentioned **classification criteria** in Para sport, **the adaptability of sports for certain disabilities, and the need for equipment modification according to athletes' needs** under the **impairment effect** theme. She gave an example of the modifications in clubs: *"If they [clubs] knew what they needed, they would go out and build a table for someone in a wheelchair" (S26)*. However, she thinks it is impossible to adapt some disciplines for everyone. *"Certain disciplines aren't suited for them, depending on their disability" (S10)*. The technical requirements for sports may not be possible due to a person's functions to perform specific movements. *"They [some Para athletes] might not be able to do shotguns because they can't move that fast" (S11)*.

The participant outlined the **structural barriers**. She thinks some clubs are doing an excellent job in terms of accessibility, but **not all shooting clubs are fully accessible to people with disabilities**. She stated, *"Places where they [Para athletes] can go and shoot, depending on club situation, some of the gun clubs definitely are not suitable to go to" (S9)*. She added, *"You can drive down, and they can get into the range, but it's not 100% ideal" (S60)*. She mentioned **how facilities do not meet Para athletes' needs**. *"We have beautiful facilities. However, they put no air conditioning or heat in when they built it. When our Para athletes go out there, they're either sweating or freezing cold. Because we can't control the temperature, we have this beautiful legacy, but it's a piece of crap because we have no accessibility" (S100)*. She believes that money/cost is critical to overcoming those barriers.

The participant highlighted the **developing perspective about Para sport (or/and people with disabilities)** She believes that the important thing is to make sure everyone is familiar with Para sport because it has the potential to make a difference. Everyone in the system should be able to empathize with what it is like to be in the system as a person with a disability. Specific to coaching, there is a need to ensure that coaches understand that they can also work with athletes with disabilities; it may be possible to include this information in

the training/education program. For example, entry-level information helps to achieve clarity, and more people can be involved. She said, *"I've always thought, what if an athlete came out that didn't have a leg and because they may have crossed that and their coach training right? If I were running the world, I would do that"* (S73).

The participant expressed her ideas about **the Summit** process. The most critical issue that the participant found was mentoring. She thinks that mentoring programs are essential because, at some point, when coaches want to retire, they will need to be replaced. Moreover, mentoring programs can also be necessary for athletes to adapt to the coach. Her online experience was good because she is familiar with online applications. However, some participants, unfamiliar with online apps, struggle with using them. It can be essential for participants to prepare/practice before the actual event. She thinks the process was productive; participants are very important people in Para sport, and their ideas were great for improvement. She underlined that the critical part is the application of those great ideas. According to her, people within the system address similar needs. She felt not alone and noticed that other people thought like her.

Appendix J

Narrative-3

The participant expressed her ideas as a non-disabled manager in one of the most prominent organizations for Para sport in Canada. She emphasized **that having a coaching background in Para sport** guides her in her current role. She thinks **the system's structure needs to be well-known**. *“Understand how it [sport system] is structured and understand how the National Coach Certification Program works... You have to have a pretty solid base of knowledge of how the sport system works” (S136)*. According to her, **coaches are essential for the athletes' experience**. She thinks that coaches have **the power to create a welcoming environment for athletes**. She **underlined the importance of coaches in getting athletes to think**, *“I came here, and the venue was accessible, the coaches were so knowledgeable, they were comfortable (S105). They wanted to get to know me” (S106)*.

Moreover, she has a lot of experience with **sports system dynamics**. She mentioned that **organizations have roles in the system**, and she worked in *several provinces across Canada (S7)*. According to her, there are **systematic issues not just for Para sport**. She said, *“I think right now, in the Canadian system, we're seeing that really amplified in terms of if there's a coach who exhibits bad behaviours or, very sadly, maltreatment or abuse or harassment. It's quite devastating” (S92)*. However, **the system has not debatable issues, but somebody is still doing a good job**. She said, *“...don't get me wrong. I critique it [sport system] a lot. But excellent things are happening, and excellent people look at each other” (S223)*. Furthermore, **although organizations are legal entities, decision-makers are real people**. She thinks it is very easy to criticize organizations without seeing the hard work of the people in them. Referring to the empathy map, she said, *“...it can be quite easy to criticize, so it can be easy to say PSOs are not doing XYZ or the NSOs are doing this, but*

when you pull it back to say who's the human behind that and try to understand what are, what's the environment that they are working in... ” (S192).

The participant underlined the **importance of collaboration**. She **mentioned creating different partnerships using every organization's different power** to improve the coaching system in Canada. She said, *“The summit was an example of just being creative where the University of Ottawa and the University of Alberta were able to access this funding from SIRC (S218)... if we [CAC & CPC] could have done this, we would have done it years ago. But we've never had the capacity of the people power and funding” (S219).* She added, *“We could go and look at something like this collaboration, which was a bit different than usual, so I thought it was great” (S226).* Specific to the pathway for coaches in Para sport, she highlighted that it is vital **to create time for collaborative working and conversation between different points of the system**. She said, *“Many people told me that we don't often have time together to talk about the pathway, coaching and development (S201)... We just don't have that often, but it was important to think about [foundational conversations] (S203)... How do we create spaces for these different stakeholders to come together and have a really good conversation about the pathway?” (S204).*

The participant emphasized the **importance of creating supporting opportunities** for everyone in the system. She mentioned she has **a guiding role for new coaches in Para sport, helping them find their resources**. *“I do in my daily work. I periodically receive questions or interest inquiries from coaches working in Para” (S31).* She believes that coaches new to Para sport still have questions about where to start. They try to get information from authorized persons in the institutions and organizations they can reach. She pointed out that *“probably speaks to how sometimes it's challenging to navigate the power system, especially for new coaches” (S34).* She gave an example from the summit activities and her experience: *“The persona was a coach. She felt a little lost trying to find information*

about how to coach in Para. I get those types of requests sometimes where it's literally just a coach who doesn't know where to go. They contact the Canadian Paralympic Committee to ask questions” (S33). Coaches who start working in Para sport feel/see/think that they are alone/isolated. She said, “There are also a lot of people who are working in Para sport, who sometimes feel they're trying to do it alone” (S205). Therefore, she believes that the system can be structured so that people know and support each other, do not feel alone, and improve the support system for newcomers (68).

The participant believes in the importance of **the representation of lived experience** in the system. She thinks there is a need to **increase the number of people with lived experience for all systems, roles, and decision-making processes**. She said, *“If there were more people with lived experience not just in coaching roles but in administrator roles and who are technical leadership roles, the accessibility piece wouldn't be an afterthought. It would be built in from the start” (S156). She continued, “We heard what could move this at the summit organizations with influence, such as CAC, CPC, and National Sports organizations. We all need to do a better job of having more people with disabilities in those important roles” (S157). To create an inclusive Para sport system, it is **necessary to understand the users**. “The world is changing a lot. Whether it's the coaching system, it was traditionally designed and built for a particular pretty narrow slice of person” (S159). “We all recognize that creating more diverse, inclusive, equitable, and accessible spaces is really important” (S160). She underlined the need to understand **“Who is using the system.”** “I've been in quite a few other sport settings and support system settings where that level of honesty and frankness about this system is not reflecting who is using the system” (S199).*

Moreover, the participant underscored prevailing structural barriers encountered by individuals with disabilities within societal contexts, emphasizing a noteworthy observation: the persistence of these challenges even within major sporting events explicitly designed for

participants with disabilities. She said, *“How do they move through society? I don't understand how society isn't set up to be as accessible or inclusive as it needs to be”* (S63) and added, *“When you arrive, there are no push-button doors on Team Canada's building. This was literally built to host the Paralympic event. You're quite shocked”* (S88). *“Then we're trying sometimes to mitigate some of those things [existing barriers]. So, I would say that there's definitely a regular list of architectural barriers. The higher barrier level still has a strong lack of lived experience in organizations that lead Paralympic sport”* (S89). She thinks that **the lived experience perspective helps to overcome barriers for people with disabilities**. For example, *“...decision-making impact which then leads to barriers because there haven't necessarily been as many disabled people who have been involved in the decision-making process from the start”* (S91). For example, she thinks that it is quite challenging to decide what the best practice is or say what it is for coach education resources. She believes that *“Having more disability inclusion contents across all of the coaching systems and having more people with lived experiences who are helping to drive it because that'll help us figure out what our model might be for different sports or different contexts...”* (S187).

The participant highlighted **the value of having the representation of individuals with disabilities among coaches in Para sport**. She emphasized that athletes often struggle to envision themselves as coaches when they don't see individuals with disabilities in these roles. She gave an example: *“Quite a few years ago, I was with an athlete who was a five-time Paralympian multi-medalist, gold medalist. I asked if you ever thought about coaching when you retired. He just said I couldn't coach. His entire career, he'd never had a coach with a disability. This is a brilliant athlete who knows how to win and is a wonderful communicator with every single profile to be a coach. And could not see himself as a coach”* (S125). There are some barriers specific to coaches with disabilities, so she thinks there is a

need for insight into coaches with disabilities' barriers. She said, "...I'm very focused on right now through my work at the Canadian Paralympic Committee is trying to understand and hopefully tackle barriers that are specific to disabled coaches" (S123). She believes **someone can achieve/be a good coach if the barriers are removed**. She believes that "there is a need for coaches with disabilities in the coaching ecosystem" (S147). However, **formal learning opportunities are restricted in terms of delivery**. Existing curriculums are comprehensive, but the problem is **accessibility for people with disabilities**. The resources are not accessible structurally. She said, "It [one of the CAC education opportunities] literally didn't have an accessible venue. A couple of years ago, there was a coach who was deaf, and she asked if there would be ASL at this workshop. There were very strong barriers there" (S146). "That's [accessibility of resources] probably one of the most urgent needs" (S153).

The participant strongly believes **in the value of long conversations for change**. She stated, "If we're continuing to have conversations and we're continuing to try to improve and to try to listen. I'm a pretty big believer in the process being probably more important than the outcome" (S188). According to her, **the point is understanding each other, not creating labels or categories. Trying to understand one's need or perspective takes time**. She believes if the process is managed appropriately, the results will follow. She said, "If we think about the processes, we'll eventually achieve sustainable, effective, and appropriate outcomes. We have to put more thought into the process first before we think about what to do and what these trainings look like" (S189). However, she added how **difficult it is to rethink a well-established system and create common values and experiences for everyone in the system**. "The Canadian sports system has kind of worked the same way for quite a long time" (S169). "I find it hard sometimes to think about what if..." (S170). "It's not what you would call nimble. I wouldn't say which is OK. But sometimes that makes it hard for me to imagine" (S173). "We missed this [Para sport part], so you try to add it. That's probably never gonna

be as strong as if you designed it from the get-go with that intensity in mind” (S176). And added, “What are you doing to ensure that there's a voice from athletes, disabled participants, and leaders embedded in your work? The sports system is set up in a certain way and built a certain way” (S212).

The participant also expressed herself as **knowledgeable about people with disabilities and her experiences as a non-disabled coach**. She thinks that language (chosen words) is an important tool for communication and describing the situation and/or person. She is a volunteer coach, and COVID-19 negatively affected coaching for Para sport. *“Unfortunately, I haven't coached much in the past few years. I think all sports programs had a really difficult time throughout COVID, and then Para sport is very reliant on volunteers. Ontario had restrictions; people from different households couldn't participate together. The program was quite suspended. I didn't really do very much coaching” (S42).* According to her, **being familiar with the environment is an advantage, especially as a volunteer coach**. She said, *“I'm lucky because I've been in this community for a long time. I know most of the athletes quite well. It tends to be more adults in the sport; it's almost more like a master coaching environment” (S45).* She added, *“I think the relationships are maybe a bit different” (S46)* because she thinks the population that the sport appeals to affects the processes related to the coach-athlete relationship. She noted that it is difficult for a volunteer coach to continue the certification process as it is challenging in terms of time. She said, *“There's still a certification piece. It's not necessarily learning, but maintaining certification is challenging” (S114).*

The participant highlighted **the lack of pathways for Para sport coaches**. She mentioned **facing barriers when improving professional skills**. She said, *“When I was coaching, most of my coach training pathway did not really offer information to support working with Para athletes” (S11).* She thinks **no clear pathways affect the professional**

process regardless of how much you love sports. She sees the value of the sport-specific pathway process for coaches for Para sport and pathway creation, which can be changed according to the sport itself. However, the point is the coaching option for Para sport must be shown to coaches. She said, *“I think that making it more obvious to Para athletes and Para participants that this is an option for you [coaches]”* (S142). She described one of the pieces of her coaching journey **using informal learning opportunities for self-improvement**. *“My learning of trying to be a person who's a better coach is that's fine, that's very self-directed”* (S121). She believes **in learning from meaningful interactions** and **using informal learning to see different perspectives**. *“... learn about the craft of coaching, I think I increasingly try to understand people's experiences and like very self-directed learning”* (S113).

The participant underlined the critical role **of understanding and focusing on athletes' needs in coaching practices**. She believes in **creating a personal connection with the athlete and understanding their needs**. She added, *“I haven't really coached little kids, so I don't know, maybe you could have those conversations with them”* (S53). So, the means of **communication might differ for athletes of different ages**. There is a need for **using evidence-based data for practices**; however, it is critical to **understand athletes' needs and not make assumptions or over-generalize**. It is essential *“to have just enough knowledge, and spark conversation”* (S79). She said, *“I don't want to become a burden and make them feel less welcome, or it's another person they have to explain something to. But I also don't want to assume that I understand their experience because I haven't had it”* (S74). She mentioned that **impairment is a clue for creating a safe and inclusive environment for athletes and a consideration of uncontrollable conditions**. She said, *“When I conceptualize disability or conceptualize impairment, it's like what are the things that I might need to understand to create a safe and inclusive and positive experience for this athlete”* (S67). She thinks that coaches are experts in conditions athletes might face, and athletes are experts in their own

bodies' responses. She said, *"I have some knowledge about what's going to happen on the water that maybe they don't know yet, but they're going to know exactly how their body is going to react or not. And then we can put that together and figure it out"* (S82). Coach-athlete collaborative working is an important component when managing the practices. In addition to that, **coaches have a crucial role in athletes' personal development**. She said, *"A coach needs to want to understand people and to support people in their growth and goals. And I think everything else is gonna offshoot from that..."* (S167). Because *"A coach interacts with athletes constantly"* (S96). *"A lot of opportunity for a coach to play a positive role"* (S99).

Appendix K

Narrative-4

The participant shared her experiences as a non-disabled coach developer in Para sport. She described herself as fortunate when she started to **develop a professional career**. She started coaching later in life and participated in a supportive work environment. She said, *“When I moved to Canada, I wasn't going to be able to become licensed. Clinical (physical therapy) work was off the table” (S5)*. So, coaching became her main job because of compulsory situations. She has a supportive working environment and team for including the Para sport program in their clubs. She **has a supportive mentor to help create learning opportunities for her and the team**. She stated, *“He did a good job as far as that goes in terms of creating situations where people who all had an interest in para-rowing and could share information and collaborate would gather and talk about coaching or rowing, or a lot of both” (S68)*. However, she thinks that finance is important to improve professional skills, and costs might be a barrier for people who want to work in this area.

The participant stated that **having background knowledge about disability** is one of the key elements for her. **As a coach developer, she has a physical therapy background, which means a lot of interaction with people with disabilities and awareness of their medical conditions**. Her educational background helps her understand the physical conditions of people with disabilities. She gave an example, *“I got fairly lucky in that I had a manager at the time who wanted to include Para sport at the club where I was coaching and recognized that I was a good option for doing that” (S6)*. Furthermore, her background may have helped her get noticed to work in Para sport. She addressed that **qualified coaches need to be knowledgeable about sports-specific technical stuff, the language they use, and physiological information about their athletes**. She thinks the coach must have technical knowledge of the sport, be aware of inclusive language use, and be aware of various physical conditions.

Additionally, coaches need to understand the individual needs of athletes, and compassion is a good tool for developing cohesive understanding. For this reason, **coaches need background information about people with disabilities to be able to think about possibilities based on a person's needs.** She thinks the average coach's background is not enough to understand the physical part of the disability. Coaches need to have a basic understanding of various disabilities. She said, *"I feel like I am in a little different situation than a lot of coaches. Because I have already had so many experiences with interacting with people with disabilities"* (S70). Overall, she believes qualified coaches need background information, such as interaction with people with disabilities and the physical dimension of disability. So, that information needs to **be added to educational resources.** She added, "That is probably what I need to work on next" (S99).

The participant pointed out the importance **of being aware of individual differences and needs.** **Coaches should try not to make assumptions and understand their athletes' goals, backgrounds, and needs.** She stated, *"In general, not making assumptions, asking the person what their goals are"* (S26). Moreover, she thinks coaches need to find common ground with their athletes and set their goals together, not alone. According to her, *"Coaches assign goals to athletes all the time, and especially with a Para athlete, I think that can be problematic"* (S27). She thinks that making too many assumptions is not the right way to go and that coaches should try to understand their athletes' skills by asking questions. Asking questions about what the athlete can do or has done before is essential and helpful. There is a need to understand the person's needs and communicate in a way that you have enough information. She addressed that **the Para side of sport has more components than the non-disabled side, so coaches need to be aware of the processes and the necessary conversations about individuals' needs.** She thinks that Para rowing has more components than rowing for coaching practices, and she is guiding coaches on the language to use. Also, **individual differences require the**

adaptation of setups according to the needs of athletes. She said, “*Each setup is gonna be different*” (S12). The classification can give an idea of the equipment, but small adaptations are still needed due to individual nuances. **Adaptation of equipment is a complicated process, and it might cause different issues that are sport-specific.** She believes that the most complicated part of Para rowing is adapting the equipment. It affects the whole process. Also, there are sport-specific and athlete-specific nuances. The practice process and applications may vary according to the program level. For example, a wide range of athletes can find it challenging to meet standards, especially for applications at high-performance levels. Therefore, **preparing to coach, being open-minded, and adaptive** is important. Coaches should be ready for different situations. She believes that the content is intended to familiarize coaches with various Para athletes, equipment, and situations. She believes that qualified coaches are open-minded and have the capacity to solve problems creatively. She mentioned **focusing on progress and measurable improvement** in practice. She thinks that “focus on progress” is important and helpful, and goals for the session need to be measurable and not dependent on other factors. Because she thinks that measurable improvement helps increase athletes' self-confidence.

The participant emphasized the importance of **being open to collaborative working** in Para sport. An empathic perspective is essential **to understand each other for all roles.** She believes that developing empathic understanding and interactions is important. Coaches need to put effort into being aware of Para sport. There is a need **to face the realities in Para sport.** She believes conversations about inclusion and diversity should reflect reality, not just polite words. She is **open to collaborative work as a coach developer** and thinks coaches should be open to collaborative work. **Coaches for Para sport have a quality that respects the limits of their athletes and creates collaborative solutions.** Coaches have stereotypes that they are “afraid to ask questions about athletes’ needs.” However, she believes that the important

thing is to work cooperatively and ask questions within the boundaries of respect. She believes that coaches who are working in Para sport have the opportunity to improve their collaborative problem-solving skills.

The participant addressed **enhancing coach education resources**. **Creating sport-specific, inclusive, and practical resources for clubs as a coach developer**. They are **adding all kinds of rowing to resources to increase the comprehensiveness of resources** and enhance the Para rowing information in the material. They are developing a sport-specific workshop and integrating the para-rowing knowledge into it holistically. It doesn't look like a bolt-on. Moreover, she is working on preparing sport-specific training and equipment resources for coaches and clubs. For the next step, she thinks that "language" is an important issue for resources and materials that need to be developed. She stated, *"I'm hoping that I can work with them to do some professional development for myself, but also hopefully create materials that create some emphasis around the language we use around anybody who comes into our growing spaces. Who doesn't look like the typical rower"* (S109).

The participant pointed out the need **for improvement of communication skills and being familiar with interaction**. She **guides and facilitates the coaches struggling to communicate with their athletes**. She interacts with coaches to improve their practices. There are some nuances in communication with athletes with disabilities and others. She thinks many coaches need support in interacting with athletes in Para sport at the club level (rowing). Coaches are unfamiliar with working with athletes with disabilities. They need support on the boundaries and ways of communication with their athletes. Moreover, **some coaches have stereotypes about people with disabilities, and it affects their communication with their Para athletes, such as the equipment set-up process**. There are stereotypes about "people with disabilities" in general. Coaches are unsure about the inclusiveness of their language. She interacts with coaches to meet the need for constant communication with the

athlete. She thinks it is an advantage to **working with adults in Para sport** in terms of having constructive conversations. She said, *“One of the advantages of coaching a late entries sport is that it's easier to talk about the ways that people come into the sport and learn it” (S59).*

The participant addressed the **psychological health of athletes**. She believes **that coaches for Para sport have better psychological support skills compared to non-disabled ones**. She thinks a well-qualified coach in Para sport will do a much better job managing mental health than a coach working with non-disabled athletes. The collaboration between Para athletes and coaches can enable coaches to support their psychological health much better than other athletes. She stated, *“If a coach is doing a halfway decent job, the coach will do a much better job managing psychological health than somebody who hasn't worked in Para sport. Because there needs to be a much more collaborative relationship between coaches and athletes in Para sport” (S50).* She thinks it is obvious that people with disabilities have health problems, and it is easier to address the issue of psychological health because of the comorbidity. She mentioned that **coaching for Para sport contains collaboration and caring**. She thinks coaching for Para sport has multidimensional characteristics such as collaboration and intention. She thinks it is important to talk to athletes in a way that does not undermine their confidence to avoid doing things that could lead to injury. Therefore, one of the important qualities of a coach is caring.

The participant addressed the **restricted accessibility of facilities**. **Many structural barriers exist**. She thinks that places where rowing is practiced are inaccessible for transit. Finding public transportation or community services to rowing locations can be problematic. Moreover, building structures for rowing are not designed to be accessible. Also, there are no measures to protect against the impact of changes in the water level. **Limited access to facilities has led to non-autonomous results for Para athletes**. Water-level facilities are not suitable for wheelchairs. There is an unwelcoming environment for people with disabilities.

These situations can lead to behaviours that interfere with the personal boundaries of Para athletes. She gave an example, “...*gonna have to have a chair that you're OK with, going through rocks and getting wet, or have somebody carry you to the boat*” (S41). **Traditional perspectives are obstacles for diverse participants and athletes.** She thinks the “traditional” structure of training facilities is not inclusive, and some traditions have to be adapted to be up-to-date and cover the needs of the athletes. They have conversations about structural, equipment, and cultural barriers to overcome those barriers (because they exist). **Clubs need to increase their capacity to reach everyone.** She thinks the clubs are improving their application in Para sport (rowing specific). As a coach developer, she helps clubs find creative and workable solutions to improve the efficiency of their practices for everyone. They are **using checklists to overcome accessibility issues.** They are preparing checklists to control the accessibility of facilities and equipment and work on adapting the resources that provide general information to the needs specific to their sport. They are working **on creating facilities that are appropriately accessible and welcoming.** She believes in the value of creating facilities that are welcoming for everyone, and they feel they belong to them.

The participant emphasized **increasing the representation of lived experience** in their sport. They are **trying to support and create learning opportunities for people with disabilities even though barriers still exist.** She thinks a cultural barrier exists to including people with disabilities as coaches or in coach training opportunities. She said, “*The biggest obstacles are cultural, structural and safety and not necessarily their safety*” (S92). She believes creating a support system for coaches with disabilities is a crucial step to include them. However, although teamwork is a best practice, she finds it challenging to implement. They include **people with disabilities in the resource creation process.** She believes in the value of including people with lived experiences in the system and the importance of reflecting on them when creating a task. In her organization, everybody sees the value of Para

sport, but still, somebody has to put it to them and remind them. She said, *“The good news is that everybody in our organization sees the value. We just haven't all; none of us have gotten there yet. But if I mention something, if I say, hey, we don't have this para event listed in that we're planning, everybody says you're right. We should put that in. So it's I'm the nag, but everybody else is willing to be nagged”* (S113).

The participant shared her summit experience. She believes that **attending in person** is much better than online. She realized the importance of starting with “yes,” asking questions, and reasoning together to understand people's needs. She said, *“Actually figured that out at the summit, and I was very glad to have a direction for my next ideas there”* (S100). She likes the **idea of creating an online network with a different layer for Para sport**. She believed creating a “general Para sport communication channel” could be great for the applications and developments. She thinks the impact of collaborative efforts (sharing ideas from the communication channel, at least baseline knowledge) will be stronger than individual efforts for Para sport. She thinks **the great learning of working collaboratively across the country**. She added, *“Yeah, I mean, this was the summit was a great way to learn, learn and meet people and create some networks, but that could be continued in a virtual space as well”* (S135).

The participant shared her idea about the Design Thinking process. She thinks some of the participants found it difficult to keep up with the DT process. However, she liked to follow the DT process because she thinks it helped them not to miss problems or solutions. She **trusted the process** and thought the DT process helped her to think more. She thinks that some participants tend to **hinder the process**, and the group facilitator managed well. She had the chance **to reflect on her knowledge**. She thinks the summit helped to increase and strengthen awareness of one's own knowledge and practices. Many things need to be improved to create a welcoming system for everyone.

Appendix L

Narrative-5

The participant expressed his thoughts about the coach education system in Para sport as an able-bodied coaching manager. According to him, **he has a supportive role for coaches and their teams as a coaching services director, and he has limited experience with coaches for Para sport.** He believes that **the accessibility of facilities is a big issue.** There is a need for more awareness about disability and **improving the accessibility of facilities.** He thinks that even some new facilities have restricted accessibility. **When creating facilities, not only the area where sports will be played but also all stages should be taken into consideration.** He gave an example, *“...the university parking for handicapped parking is very far away from the gyms and the changing rooms. The gym is quite nice, but from the parking lot to the gym is not nice. Because we've got 14 people coming to play basketball who use wheelchairs, there are only 9 parking spaces that are accessible. What do we do, right?” (S89)*

When he looked at the sports system, *“One of the first things that came through was to recognize. How most of the sports system is very ableist (S66) ... very focused on able-bodied sport” (S67).* There is a need to **be open to having a role for people with disabilities in different parts of the system.** He said, *“Where the classification is an important conversation for the competitive part of the sport, but if someone just wants to be in that sport and to participate in that sport and maybe see themselves as an administrator or a referee or as a coach in that sport, then they should still have the opportunity to play that sport” (S74).* He believes **increasing the number of people with disabilities in the clubs** might be a good starting point. He thinks that increasing Para sport participation might help to understand the need for coaches (supply-demand cycle), including coaches for Para in clubs, which helps to increase Para athletes' numbers (more athletes, more money for clubs). Therefore, he thinks there is **a need to create opportunities for Para athletes and connections for empowering in**

Para sport. He believes **there is a need to pay attention to the first contact of Para athletes with their sport and matching the needs of people with disabilities in the community and sports system. Classification is an essential issue for participation in sustainability.** He sees coaching as a critical role. *“The suggestion I would make would be to focus on the entrepreneur coach” (S39).* Moreover, **increasing the representation of people with disabilities in the coaching system** is also essential. He said, *“But for the most part, I would say that we probably don't make too many accommodations. Most of my para sport coaches are able-bodied with no impairment” (S19).* He believes that when creating professional development opportunities, it should be recognized that people with disabilities will also want to utilize these opportunities. He said, *“From a coach education standpoint, all of the coaches that have identified as coaching Para athletes are all able-bodied with no impairments” (S13).* However, they take care to create accessible versions of educational resources. He mentioned **increasing online education opportunities.** He thinks virtual opportunities help increase accessibility because they are easy to manage logistically. He added that a “learning management system” is helpful for inclusive online education resources.

The participant believes that **coaches' needs** are essential when creating education opportunities for them. He underlined the **need to understand coaches' needs for education/resources and their professional development in Para sport.** He thinks about what kind of content coaches who start working in Para sport need in their development (coaches' need specific). He added that coaches need resources about what athletes need to learn about their needs. *“For example, if a coach was new to coaching para hockey. Maybe learning more or having an in-service about transferring athletes from chair to sled and looking for professional development and how to do that more respectfully or doing it more safely so that we're not hurting backs and having a health concern for the coach” (S64).* He believes that

coaching resources need to include content about different athlete outcomes (modifications, training planning, transfer to athlete's chair, etc.). There is a need to provide **the necessary training support to meet the needs of athletes** as a parallel to some **characteristics of coaching for Para sport**. He believes that individualization is important in coaching for Para sport. He said, *"From my experience with it, that's where para coaches take the information and then really individualize it for their people"* (S8). He added, *"The able-bodied coaches would kind of take the information and do it more generally for their whole group, but the Para coaches seem to be more focused on individual needs, further athletics"* (S9).

Moreover, there is a need to **collaborate with other professionals to individualize the process**. He gave an example, *"We had a wheelchair curling coach who was in the class talking about recovery and regeneration for their program. At the side project, they worked with our physiotherapist to help support the athletes' temperature regulation while training"* (S6).

The participant emphasized the value of **awareness of Para sport and coaching for Para sport**. **There is a gap between research and community in Para sport**. He thinks **that non-disabled people may not be aware of Para sport**. He said, *"I think that the able-bodied sports program, don't think that having disabled participants by as able-bodied coach I just don't think it other coaches have thought of that"* (S46). He gave an example and underlined that most of the coaches (average coaches) are unaware of coaching for Para sport: *"For most coaches, my background is in coaching gymnastics, and gymnastics has been quite clear that they just aren't in a disabled or a para gymnastics pathway"* (S48). He believes that **there needs to be a Para pathway on coach education documents and to encourage the coaches for Para sport to attend personal/professional development sessions**. The participant described **qualified coaches**. **Good coaches are aware of their athletes' and/or teams' needs and bridge the gap between these and administrative expectations**. He thinks that well-trained coaches can meet athletes' goals and outcomes. He said, *"A high-quality coach has more individual*

awareness of the abilities that drive that forward” (S36). Coaches are aware of psychological factors that affect their athletes, but there is an administrative gap in psychological support.

He said, *“Coaches are quite aware of psychological safe space, and they're actively working on it, but the administration isn't, so there. That's probably where the hard part is” (S24).*

The participant expressed his thoughts about the summit process. He believes that the empathy map activity is valuable because it makes the participant “real” and helps to understand user experience and see the realities of people with disabilities. Specific to the Design Thinking process, he thinks that some participants resisted the process and tried to focus on solutions; those who didn't understand the process perspective, those people might be affecting the process negatively. He thinks that DT needs to be explained more because it is a new concept for so many people. He thinks that without resistant people, everything was so obvious regarding the process, problem, and solution. He believes in the importance of understanding the “problem.” He is familiar with DT activities and liked the summit process; he adapted the way of thinking about DT activities quickly. He believes that the content was great, but there was so much information that he needed to review it again. Lastly, he thinks there is a need to improve production/delivery.

Appendix M

Narrative-6

The participant expressed her experiences as a retired athlete, coach, and administrator. She mentioned being **aware of the existence of opportunities related to sports and being a part of it as a young individual with disabilities**. She said, *“I learned about sport when I was in grade 8, so I didn't even know that I could do sports before that” (S1)*. *“After I learned about Para sport, I wanted to try every sport that they offered at the time, just to see what I liked” (S2)*. However, **accessibility issues are encountered in facilities, and people need to find their own solutions for those issues**. She thinks there are differences between inaccessible facilities and accessible facilities in terms of meeting the basic needs of athletes, such as bathrooms and changing rooms. She underlined that sometimes facilities are not fully accessible. She addressed that she had to overcome not only physical but also **cultural barriers**, the most difficult of all. For example, **barriers are created by prejudices about “coaching.”** She stated, *“Some of the barriers were just I was a young female when I wanted to transition into a male-dominated coaching world. I found it really hard” (S26)*. *“The first time I took the course, the coaches told me that I would never be a good coach because I smiled too much” (S27)*. *“Come on! They wouldn't respect me because of smiling; that's crazy” (S28)*. She added, *“People didn't really take me seriously as a female, as a young person, and as a person with a disability, and sharing all those three things” (S131)*. *“They worked against me when I was trying to become a coach” (S132)*. But she **fights against “crazy people”**. She said, *“I just kept going and trying. I've now been coaching for about 18 years” (S29)*. *“Just ignore the crazy people” (S30)*. *“I wanted to be a coach. I knew I would be a good one” (S32)*. She thinks that the main thing **people and coaches need is more education about working with diverse groups (i.e., people with disabilities)**. She said, *“If they [people] had more education and felt more comfortable being around people with*

disabilities” (S118). “If you go to a coach and you say to them, would you like to coach a Para sport athlete, or would you like to coach the next Michael Phelps? They would say. Let's have the Michael Phelps guy. But in reality, they're the same because they're not outliers” (S120). “That comparison shows that it's not that different from coaching anyone who will excel” (S121). She believes that education is essential to overcome people's prejudices about people with disabilities. “It just comes down to education, and there's education and involvement in the system. Because I don't think there's any way to overcome it [biases] otherwise” (S122). “The only way they will change their minds is if they change their minds because not everybody will. But you know, you can try” (S124).

The participant mentioned physical changes as a factor in the career ladder process. She said, “I was done competing for medical reasons; my doctor said not to compete anymore” (S4). “There are certain things that I had to alter or change throughout my athletic career” (S12). She is working with young athletes as a coach with disabilities in Para sport. She stated, “I look at all levels of the athlete, what they're doing in their lives, and help them just be a mentor role model for them” (S46). “Showing them what you can do in the world, outside of sport” (S48). “There is a sports element to it, and there are many things to learn in that area” (S49). “But it's also how to succeed in the world that also falls in there” (S50). On the one hand, she defined coaches as role models and mentors: “...mentors, role models, and in the disability world in general, good role models, teachers, and supporters” (S9). On the other hand, on the practice side, athletes' adaptation to sports equipment can be complicated. “They [athletes] were scared to transfer into it [basketball wheelchair], and they wanted to stay in their own day chair. They didn't want to use the sports equipment, so I just kept working with them” (S77). “If you do this [used sports equipment], it will help you out... Seeing their teammates do it helped a lot, so just working with them on that, sometimes just showing them” (S79). Therefore, working with a team (assistant coaches and volunteers)

and creating solutions according to the needs of athletes is essential. She underlined, *“Have a group of coaches working with the team...”* (S64). *“Even though I would be the head coach, I'd like to have a couple of assistant coaches or volunteers helping out”* (S65). She said, *“I had volunteers working with the juniors or the younger kids, and they were kinesiology students. So sometimes it would run different things by them. We'd brainstorm or try to figure out ways to work with different athletes”* (S66). **Coaches need to work collaboratively.** It is important to keep an open mind and work with other professionals and coaches for development. She said, *“If you work with or sometimes discuss some of the problems you're encountering with other coaches, even if they're in different sports, it can be very helpful”* (S103).

The participant emphasized **characteristics that a coach for Para sport should have.** First, **coaches need to be good problem-solvers.** She gave an example from her coaches, *“They all really liked being a coach. They were very good at problem-solving. When something didn't work, they would keep trying something else”* (S10). *“I would say they were very good problem solvers”* (S105). *“If something were going wrong, they would always be problem solvers. Find a new way to do it that would work better and help me succeed in that way”* (S36). And added, *“That's basically it; coaches have to be good problem solvers”* (S102). Second, **coaches need to make athletes feel they care.** She said, *“[Athletes] could tell they cared about me. Good coaches need to be caring”* (S106). Moreover, **coaches support the athlete's development by making small touches to equipment and practices for the athlete's success.** She explained, *“...based on my disability and what was happening at the time, the coaches were really good at just changing small things to make it easier and more beneficial for me and then help me succeed at the same time”* (S13). Also, **coaches should be skilled in finding solutions and practical thinking, taking into account the needs of their athletes (the effects of the disability) in the face of external conditions.** She described,

“Something was wrong with my disability that I couldn't control” (S14). “When I was competing, they found different ways to deal with that” (S16). “And then, they sometimes dealt with the equipment, such as the chair and the chair size I used” (S17). **Coaches can influence their athletes positively.** She stated, “Coaches helped me to become more confident, believe in myself more, and just develop as a young athlete” (S33). “They were both extremely willing to do whatever needed to be done to ensure I had a positive experience” (S35). So, **coaches can understand athletes' needs (i.e., logistics, equipment), create solutions, and support them in overcoming obstacles.** She expressed as a coach, “It depends on the athlete itself, but unless sometimes they can't make it to practice, I'd have to go” (S52). “If they don't have the proper equipment, I'd have to source out equipment for them and find something that works well for them” (S53). She thinks **athletes' skill spectrum is very broad in Para sport.** She said, “Sometimes there are different drills or skills that we're teaching. There's a lot of variability between the abilities of each of the different athletes” (S56). “I have to make sure that all the athletes are learning and progressing, but none are holding each other back” (S57). She added, “In wheelchair basketball, there's a huge range of abilities. I have to ensure that all of them succeed” (S62). **Disabilities can impact the practice process, so coaches need to be aware of their athletes' specific needs.** She gave an example, “...If an athlete will come to practice and they never had breakfast that day, and you could see that their energy levels are diminishing” (S58). Lastly, **coaches need to have an empathetic perspective.** She highlighted, “They [coaches] won't understand completely what the person is going through. Because it's impossible to have two people that have the same disability or even just in general, everybody's different” (S107). “Especially when you're dealing with somebody with a disability, just understand how they are, what the struggles in their daily life are, so that you can be there for them. Sometimes, it's a lot more than just in the sports setting” (S109). “They won't understand completely, but be open to hearing what

the athlete says” (S108). Also, she mentioned it would be very useful to have training on the communication skills of coaches. She gave an example, “It's not as intimidating sometimes as some of the other ways of learning, and then you also have that person you can go to if you have really strange questions that you wouldn't ask in a huge group setting” (S114).

The participant emphasized the importance of **coach education resources in Para sport**. She is **searching for different resources and adapting them to her own sport because sport-specific resources are restricted**. She stated, *“There aren't a lot of resources out there, and a lot of it is trying different things that are part of different programs” (S60). “And usually, that's how we would figure it out. Sometimes, I go to wheelchair basketball Canada and ask them if they have anything that would work. Not a lot. Usually, I try to source it out myself” (S67). She gave an example of the benefits of following updated resources. “All the sessions that I could take, wheelchair basketball, and then all the certifications that I needed for multiple sports are helpful just to learn and be more confident in what I was saying. Also, just supplement it with what's happening in Basketball Canada” (S43, S44). She underlined that resources for coaches in the field are an important starting point, especially for beginners. “Basically, that [formal resources] helped me at the beginning” (S68). Recently, she has benefited from online resources. She stated, “Lately, it's attended different webinars, virtual information sessions, or things online that I can just be a part of for a couple of hours if it's available” (S71). Because in-person education opportunities are restricted due to the scarcity of coach numbers. She said, “There are not a lot of in-person things because there have to be a bunch of coaches to do that” (S73). “There just hasn't been any in Saskatchewan recently. So I just try to find what I can to keep learning and developing as a coach” (S74). She is contributing to creating sport-specific new resources. “I'd have to adapt their programs because, obviously, wheelchair basketball does not adapt to take into account the disabilities of the people I'm working with” (S61). “Well, they didn't take into effect the*

disabilities at all. So I'd have to adapt them. There wasn't a lot available" (S63). "Somebody at Wheelchair Basketball Canada was tasked to change it" (S89). "So he did the physical work, consulted with us to ensure accuracy, and would work in a real-life situation" (S91). She gave an example of sport-specific program opportunities. "My team was the first one to implement the Junior NBA program" (S80). "I found the program throughout the year really helpful because it was made for basketball athletes, but the ability varied so much on the team" (S82). "It's now run all across Canada through Wheelchair Basketball Canada. They have a wheelchair basketball-specific curriculum now that they can give to the coaches. So kind of cool" (S87). She believes that sport-specific programs are useful for managing practice. "I found this junior NBA program to be extremely helpful because the practice plans were right there, and at the beginning of practice, I could give them a practice plan and tell them what to change to make it wheelchair basketball related instead of basketball" (S85). "It helped a lot so that the kids could learn basic skills. Also, the volunteers and coaches could be confident in what they're teaching and know this" (S86). However, she added that it is not possible for the education content offered to the coaches who will work in Para sport to cover everything. "...in adaptive sport, it's hard to teach the coaches everything you need to know" (S111). "You need to just experience some of it in your life" (S112). For that reason, coaches need to have an idea of what they can expect when working and be open to learning from experiences. She described, "A lot of it comes down to learning about different disabilities and what some people might encounter and how to put coach, how to adapt coach education around people with those different disabilities" (S125). "Hands-on learning is important, too. If you just look at textbooks or curriculums and you don't have any in-person working with athletes or you're not exposed to the equipment they'll need or the things the athlete will deal with..." (S126, S127). "If they don't have that knowledge, they're not going to succeed" (S128). She emphasized that mentorship practices are promising for

coach education for Para sport. *“I think actually mentorship is a really good way to do it because then you can learn from others” (S113).*

The participant expressed that she has **an administrator** role and is also consulting for organizations for Para sport. She thinks that **coaches are not knowledgeable about Para sport**. She stated, *“I think one of the big problems with Para sport/adaptive sport is people are scared because they don't know about it” (S116).* *“They don't know what is involved with it” (S117).* There is a need to **increase the number of coaches in Para sport**. She said, *“So right now, we don't have a lot as far as supporting Para sport coaches, but I was actually going to talk. I haven't had a chance to yet because I'm catching up on a bunch of things; talk to my colleagues and see what we can do and if there's somebody somewhere else that we can leverage to help get more Para sport coaches in the system” (S97).* *“Also to support the ones that are already there” (S98).* She believes that **supporting coaches' development for Para sport** is essential. Therefore, she is helping to create opportunities for coaches for Para sport. She said, *“When new programs are starting, those coaches can access funding to learn and get their coach certification” (S94).* *“...it's not a ton of money, and it's supposed to be used for more than coach development” (S96).* However, **the pandemic impacted Para sport negatively**. She mentioned, *“...that's what we were trying to [start new programs], but we weren't actually able to because of the pandemic” (S101).*

The participant highlighted the need to **consider coaches with disabilities**. **Openness is needed to see people as a coach**. She stated, *“I think just being open to seeing more people as coaches” (S130).* *“I think that everyone is more open to having people in the coaching role involved in coaching would make it easier for others to evolve into a coaching role” (S133).* Moreover, she focused on **recognizing coaches with disabilities**. She highlighted, *“In the Para sport world and especially for coaches with disabilities, I really liked that they did consider coaches with disabilities because normally that's a new thing that is just starting to*

be talked about” (S173). “They never really talked about that in the last 10 years or so. It's just coaches, any coaches within the Para sport world, it's not specific. They didn't really always look at the barriers” (S174). “They would look at the barriers for the athletes but then forget about the coaches, so I really appreciate that. And I think it's helpful that people are now considering it” (S175). It can create a supporting system for people with disabilities to make involvement easier. She said, “Sometimes it's more being aware that there's support too, because if you go into an organization, they say you can be a Para sport coach or adaptive coach for this team, but you're the only one. You have this whole team, and it's only you that they're relying on” (S137, S138). She added, “But the more people involved to make it better, like a team effort, the better as well” (S141). “If they know there's somewhere they can go if they encounter something and then support is available to them, I think that would be helpful. Because if you're just a coach with a disability just coming in and you're trying to navigate everything on your own, you come across some kind of barriers” (S157). “I couldn't do it by myself as a person with a disability and get the equipment there and help the athletes. You needed somebody who is able-bodied to move their equipment and help the athlete transfer and things like that” (S143). Moreover, an important part of increasing involvement is creating a welcoming environment for athletes and showing them opportunities. She said, “I think if we looked at the athletes that are active in Para sport, made sure that they were aware that there are opportunities and they were welcomed to take these opportunities” (S135). “More people would be more willing to be involved in” (S136). Put differently, there is a need to create opportunities for all-level athletes and people with disabilities in the sports system. She gave an example, “Another thing that was against me too is that I was a national-level athlete, not a Paralympian” (S147). “They focus a lot sometimes on the success of the athlete. Even though I was not a Paralympian, I still had tons of experience in the sport. I wanted to give back to the sport” (S148). “I'm sure other athletes with disabilities

are in similar situations, but they never asked, or they never felt confident enough” (S149). “Or another leadership role in sports and without that little nudge or just invitation, they just decide to leave the sport and not pursue anything further” (S150). She thinks it is important to offer different opportunities to people with disabilities as a coach and minimize barriers based on individual needs. She said, “Create a pathway for them [coaches with disabilities] in a way so that they can know what's ahead and try to minimize the barriers to going from an athlete to a coach” (S146). “I think we should just try to overwork with the coach and determine which sport they want to be involved in or what they want to do” (S145). Because some sports have more barriers for people with disabilities. She gave an example, “When I was doing training for a skiing coach, I couldn't really do it by myself because there were too many barriers to access to get to the field of play or the snow tracks” (S142). “So there are some instances when it's really hard for a coach with a disability to continue in the coaching role in certain sports” (S144). Altogether, she pointed to the increasing representation of people with disabilities as coaches and considered their unique needs when creating pathways for them. She stated, “The most important thing was how to get more Para sport coaches involved. What we're trying to achieve, and then part of that goal, was getting more people with disabilities involved in Para sport coaching” (S151). She added, “Active in the Para sport system as well, so it's getting more coaches and then ensuring some coaches have good stability” (S153). “It's hard because each person will have different barriers based on what their disability is and their current situation at the time” (S154). “However, I think we should be aware of some barriers that coaches might experience and talk to them about those barriers when they're trying to enter the system or work as a coach or leader in the sport” (S155). She thinks that having people there to support the coaches has the potential to prevent quitting or not continuing on the pathway.

The participant talked about the summit process. She liked the Design Thinking activities and the networking opportunities. However, she believed that the feasibility of many of the final ideas was questionable.

Appendix N

Narrative-7

The participant expressed his experiences as an able-bodied manager and coach in the sports system. He addressed that **coaches have a bias about working in Para sport. They can't see themselves in Para sport.** He said, *"It's just a question of the chicken and egg thing, which is that coaches don't see themselves as Para coaches (S60). When there's a Para module offered, they're saying that's not me. I don't want to take it, but then they won't become a Para coach unless a coach and Para events" (S61).* Moreover, **coaches not knowing what they don't know is a barrier to working in Para sport, but when they understand the mindset, it is easier to get involved.** He stated, *"The big barrier for most coaches is they don't know what they don't know. And so they're kind of afraid of that (S29). But once you get into Para sport, you realize this is mostly just already know how to do all this [coaching]" (S30).*

Therefore, there is a need to **understand Para sport's nuances and be familiar with Para sport knowledge.** **One of the differences in Para sport is that there is more equipment than in able-bodied sports, and the need to figure it out to adapt to athlete needs with their guidance.** He thinks that using equipment is different in able-bodied and Para sport, and coaching for Para sport practice requires more than formal education. Because formal resources can only guide you to figure it out, the main thing is to find practices and solutions that fit the needs of athletes. *"What I've noticed is that's not in the formal training... kind of thing you learn by we talked and have to put kind of do some adjustments... (S33) ...you learn it by figuring it out" (S34).* He emphasized that **adding the Para sport information to the general coach education content is a good way for coaches to become familiar with it.** He thinks it is necessary to show the coaches the similarity of the processes in Para sport, to expose them to information about it. He gave an example from their applications: *"A good*

example of what we did. So we did webinars for coach professional development, and we did a webinar on the middle distance, and we had a couple of the top middle distance coaches, but we also had a middle distance coach of wheelchair athletes” (S63). “The principles are kind of the same. So we were able to kind of include that. So, any of the middle-distance coaches that are watching are then exposed to the idea of wheelchair racing at the same time” (S64). “I think including Para sport in all the elements and stages of coach education” (S69). However, adding Para sport knowledge to training materials may vary from sport to sport, but the point is to see it as a part of the sport. He thinks that it is possible to include Para sport information in coach education. Although the amount and duration of inclusion may vary depending on the sport, it can be adapted. He thinks that when you add all the technical parts to the training, coaches can synthesize and apply them without separating them into Para sport or not. He said, “I think that there's a lot of opportunity there to make it part of all of the event group kind of technical modules, etc... Coaches sort of get sensitized to it, and it's not other, it's just part of the sport” (S72). He added that mentorship opportunities have the potential for coach development in Para sport.

The participant pointed out the need **to increase the participation of athletes and coaches in Para sport. There are not so many athletes in Para sport, so there needs to be an incentive to increase participation.** He thinks that there is a need for financial incentives to actually attract people with disabilities to the sport. Moreover, **there is a need to expand the coaching pool for Para sport, but the budget is also an issue.** He thinks that affordability is important to gain experience. He said, *“Trying to expand that pool and having something in our national teams’ program generally we would like to try to do, but again, it's a budget thing of like having an almost an apprentice slot on each team to get someone more experienced in each area” (S81). “For example, the guy coach Lee is in Switzerland right*

now. There's a whole series of races and it would have been nice for me to go, but I can't afford to just go to Switzerland..." (S80).

The participant addressed the coaching characteristic. **There are many different dimensions to being a qualified coach, and different aspects are being emphasized more and more from time to time.** He thinks being a qualified coach requires a wide spectrum of skills and knowledge. He said, *"I think that you could probably create a few different buckets. Technical knowledge, interpersonal knowledge, and support knowledge are sort of the same. I think those are very large buckets, and you could get a lot of bullet points underneath each one" (S90).* *"This is sort of the main thing, and I think that we do tend to emphasize well over what we have in the past, overemphasized the technical side. I think there's a bit of overemphasis now on some soft skills, moderately to the detriment" (S91).* According to him, **coaching is a team effort, and each member has strengths.** He said, *"We're collaborating with another coach. So it's not just one coach; we work on planning, training, and supporting the athlete in training" (S7).* **It is teamwork to support the athlete's individual needs.** He thinks that practices and aspects of focus can vary according to the athlete's needs. He gave an example from his athletes: *"He's not looking to me for my wheelchair racing expertise. He's looking to me for my sort of personal support type thing" (S40).* *"But it's again going to be very individual" (S42).* He believes that individualizing is key for coaching for Para sport.

Therefore, **coaching practices should be individualized; in this sense, it is important to focus on the athlete's needs.** He underlined **taking a pragmatic approach to impairment and considering external and internal situations for all athletes.** He thinks that coaching an athlete with disabilities requires considering potential external factors and how they might be affected, equipment, and equipment adaptations based on the athlete's needs and function. Apart from that, he thinks some specific considerations exist for Para sport, but no vast differences exist in working with able-bodied or athletes with disabilities. The point is

understanding the athlete's needs and adapting practice to those needs as for all athletes, not specific to Para athletes. He believes that coaches aim to ensure their athletes give their best in every training session and/or throughout the process. He thinks that disability can only be a factor to be considered for optimal training, not something extra. He underlined that what matters is what the athlete can and wants to do. **Every athlete has a unique background and expectations from their coaches.** He thinks it is important to develop the athlete's performance in line with their needs and abilities. According to him, the focus needs to be on the athlete's experience.

The participant pointed out the coach education resources in Para sport. According to him, **although those that exist have good content, there are limited formal training opportunities for coaches in Para sport.** He thinks the delivery of coach education needs to improve, and there is a need to increase coaches' awareness of Para sport. **Coaches who want to work in Para sport need to be self-motivated because coach training opportunities are not frequent in Para sport.** So, **coach training resources are still open for improvement. Moreover, sport-specific resources should be created and offered frequently.** Currently, **informal learning is more common.** He thinks it is important to keep in touch with experts (athletes, coaches, coach developers, etc.) in the field and follow developments and processes.

The participant addressed systematic issues. He highlighted that there **is a need to optimize sports facilities for sports training because it creates an unwelcoming environment even though they have support teams for Para athletes.** He thinks the use schedule of sports facilities has become a structural barrier. Even though facilities are accessible and support teams are available, problems related to using sports facilities cause athletes and coaches to feel uncomfortable. According to him, the main issue is **the sports system itself (connections and funding process).** There is **a need to centralize the sports system.** He thinks that dynamics within the system can cause processes to be stifled. He underlined the

necessity of creating system alignment and thought acting with a nationwide common approach was necessary. There are **different applications across the country at different levels, which might be a barrier for coaches**. He thinks there is a need for collaborative work between organizations. Moreover, according to him, **some funding practices contradict athlete development knowledge**. He said, *“Giving a 14-year-old kid \$2000. If their family isn't well off, that's obviously great. But the bigger picture is that it's not good for the sport because it sends the wrong message” (S99)*. So, he believes that **changing some applications about funding might be helpful to improve coaching in Para sport**. He believes that funding coaches can increase efficiency and sustainability in the sports system. He stated, *“Don't fund the kids. Fund coaches. If you fund a coach, you'll get multiple athletes that that coach supports” (S107)*. *“Have a coach who is doing a full-time job. 90%+ coaches are volunteer coaches. If you can get some of that financial support to coaches away from athletes, then you're going to be able to support more athletes and provide better service for athletes” (S108)*. Lastly, he mentioned that **the pandemic had impacted negatively and positively**. **The pandemic caused a change in plans; however, it also helped to expand the organization's capacities for online resources.**

The participant attended the summit in person and shared his experiences about all processes. **According to him, the summit provided an opportunity to network, share experiences, and understand where their sport is at (34)**. There were so many good ideas; however, the process was artificial in speaking about problem vs. solution (35). There were points during the conversations where they went off-topic (36). Discussion topics are not unique to Para sport (37). Pitches are not realistic or logical (38).

Appendix O

Narrative-8

The participant expressed his thoughts as **a person with lived experience in different roles**: retired athlete, performance advisor, and coach. He emphasized his **role in system development**. He said, *“I primarily work on the high-performance level, but my role is going to shift a little bit, and I’ll have a broader, deeper connection into the system (S6). Right now, my main role is to assist with the development of our overall Paralympic system, the summer sports, and in the future, the winter sports, to maximize the potential of all the athletes in the system and all the people” (S8)*. He supports the coaches’ development in different ways: working with coach developers/directors, directly with coaches, and creating pathways for coaches. The participant underlined **the focus on function and maximizing the potential** of people in the sports system. There is a need to **maximize a wide range of people’s potential within the system according to their needs**. He said, *“When we’re talking about maximizing the potential of the athletes and the people in the system, it can be very nuanced or broad” (S12)*. He added, *“Basically, what we want them to do is to achieve whatever their athletic or personal goals are” (S13)*. Personal and athletic goals can differ for everyone. Therefore, it is essential to **work with people in different parts of the system and help them achieve their goals, understand the different range of functions of individuals, and adapt them to achieve their goals**. He thinks function/potential is important to attain the goal, and functions can be supported differently for different people. **It is necessary to ensure that work at all levels is valued and people continue in roles appropriate to their function**. He believes there is a need to make sure that all coaches are in places where they can show their abilities at an optimal level.

The participant highlighted some **barriers** for coaches in the system. He believes that the **Canadian sports system itself is a barrier to the improvement of coaches because of the**

disconnections and fragmentation. He said, *“The first barrier within our sport system is the design of the system itself”* (S21). He believes **there is a lack of an appropriate long-term strategy to build a desirable system for all.** Moreover, he believes that short-term plans lead to fragmentation and disconnections. He stated, *“I think what we have to do is we have to move away from all these short-term decisions and actually build the system that we want”* (S28). He thinks that every sport has its own timeline in the system building. He said, *“Remove the timeline... it could vary from sport to sport as well since it has to be built on a system basis”* (S29). He believes there is a need to **optimize resources regarding people and funding.** However, **financing opportunities need time to grow organically.** He said, *“I think that the simplest way of describing that is there are two pieces to this under resource. One, I believe that we've got people inside the system that we are not maximizing their potential, and then the second part of resources is funding”* (S34). He added, *“I think we have to build capacity and gradually increase the money... Bankrupt. That's what our sports system would be if we were to have a massive injection”* (S36, S38). **There is a need for a connection between high-performance and pathway environments.** He believes that people need to understand connections in the system and create solutions based on those connections. He said, *“I think we try to simplify things in Canada too much in that what we'll do is we wanna just do one thing, and then that's all we do, and that actually creates some fragmentation and those one-off solutions”* (S157). Lastly, he described a barrier to a **lack of awareness about the important role of coaches in society.** He believes that there is a need to raise public awareness of how important coaches are for the development of athletes/people. He feels that coaches are underappreciated in Canada. Having qualified coaches is very critical because of their power of influence. Coaches hold the power to either mold or shatter an individual's development.

The participant emphasized **the culture/values** in coaching. He believes coaches are **central to a safe and empowering environment for athletes**. He said, *“And so you need the two pieces connected, and we have to start to link those in conversations. So the coaches understand they have two responsibilities linked together to create that safe environment and environment that thrives”* (S45). **Creating values that fit the purpose of the environment and making them central to the whole process** is essential for the sports environment. He stated, *“I think the fundamental strategy is that you build a culture that's appropriate for the space that you're in... You establish what is the agreed set of values that you're gonna function from, and those values will change a little bit depending upon the nature of the athletic arena you're competing in or participating in”* (S47). **People have the potential to feel they belong when their values and the values of their environment are shared, and it helps to achieve sustainability**. He described, *“...what happens then is that the people with that set of values gravitate to that space because they'll feel a sense of belonging”* (S49). The participant highlighted the **elements of coaching**. According to him, **many factors can influence the process of being a coach**. He stated, *“Three things really folded together. For me, my informal education happened with my mentors, my formal education happened through my academic pursuit, and the opportunity to get the volume of repetitions was critical”* (S68). He believes that **having an academic identity contributes to his coach development perspective**. He gave an example, *“I'd covered basic learning differences in special education and then cultural differences as well, alongside the foundational experience of just education period”* (S62). He believes that **a considerable number of repetitions contribute to his coaching journey**. He said, *“I got a huge number of repetitions coaching and a while on a wide spectrum of athletes”* (S63). He pointed out his mentors: *“I had great mentors. They constantly encouraged me to learn and grow in different ways”* (S66).

The participant described **the characteristics** of coaching. He believes that **integrity is a crucial component of coaching**. He said, *“I believe they [coaches] have to have integrity before anything else. If they don't have integrity, then every other thing that they do comes into question”* (S99). Also, he believes that **discipline is an important component of coaching**. He said, *“I think you're going to have to be disciplined. It's because if you want your athletes to be disciplined, you're going to have to model that yourself”* (S104). He says **good coaches are selfless and lifelong learners**. He described, *“I think that all great coaches are selfless. I think that's a fundamental premise for a great coach”* (S108) and added, *“They're constantly looking back on what they did in practice, in a year, in a block of time. They're reflecting on it and looking at how they can take that reflection and learn and grow”* (S112). He pointed out that **coaches develop the whole person**, not just an athlete. He said, *“A great coach develops the whole person”* (S147). The participant explained some **Para sport nuances for coaching**. **The nuances in Para sport are how to teach athletes with different types of functions and non-linear athlete pathways**. He said, *“It's nuanced for Paralympic sport because you have to understand how to teach athletes with different types of functions”* (S155). *“You have to learn how to teach athletes that are going to be nonlinear in their pathway”* (S156). He described **coaching as a profession**. He thinks that one of the conditions of being a profession is cost. He thinks the cost can be charged and reimbursed through different applications. As the coach develops and participates in self-development activities, he/she can be given the chance to be exempt from cost.

The participant stressed the importance of **improving resources** in coach education. **Coaches need to be taught the culture-building process because they are creating the environment for athletes**. He said, *“[Coaches] spend more time in that area initially than all of the technical and tactical stuff they work on; it falls into place much more readily. But coaches aren't taught how to build a culture”* (S52). He believes coaches are central to the

system. He described, *“Coaches are absolutely central because they create that environment, and they orchestrate athletes who will come into it or leave it, depending upon how those values fit”* (S54). He thinks that a part of the NCCP is overlooked, and this part is about teaching culture. Moreover, there is a need **to create purposeful mentorship programs for coaches and for coaches to be evaluated more frequently based on criteria**. He said, *“I’m not saying we always have an evaluation there helping our coaches get better, but I think we have to have it more frequent than when the intro to competition”* (S118). *“[Evaluation criteria] At the level at your NCCP or whatever the different support calls it”* (S119). **There is a need for format utilization of education resources and an affordable and timely manner of organizing them**. He gave an example, *“I’d say first physical education resources have to be actually accessible from a format utilization standpoint”* (S134). *“If you have a visual impairment, coach education has to be accessible for somebody with a visual impairment and has to be provided in an auditory format”* (S135). He added, *“Coaches don’t have a lot of time generally. If we’re going to provide education to them, we have to fit that into their yearly plans... let’s make it affordable. Particularly at the pathway level where a lot of coaches are volunteer coaches, they’re not paid”* (S138, S140). He had a **suggestion for NCCP modules**. He believes NCCP needs three layers: general, sport-specific, and practical modules.

The participant highlighted the importance of **enhancing opportunities and creating individualized pathways**. He thinks **there is a need for different types of formal coach education opportunities**. He said, *“It doesn’t necessarily need to be tied to NCCP, but NCCP is certainly one of the vehicles, and I think we need to make those vehicles a little bit more robust”* (S75). He pointed out **creating a robust system at all levels for coaches because athlete development is non-linear in Para sport**. He thinks there is a need to connect pathways and high-performance parts of the sports system. He said, *“We have to understand that high*

performance has to go deeper into our pathway system. They can't sit there and say, well, we'll decide performance. You only work with high-performance athletes. No; they have to participate in making the whole pathway more robust” (S84, S85). He thinks that robust pathway opportunities for coaches for Para sport are essential for Para athlete development, which differs from non-disabled sports. Therefore, it is critical that opportunities are provided for athletes at every point within the system and that they are interrelated. There is a need to understand Para sport nuances. He mentioned **creating broad development opportunities for pathway coaches as much as possible.** He thinks pathway coaches need to find as many different sports environments and levels as possible and expand their repertoire/knowledge/experience. He said, “*...in providing them that broader education, they're going to be able to teach better an athlete that might be in different spots in a sport system at the same time... by letting them be exposed to different spots within the sport system, you let those pathway coaches learn all the different spaces and where the best space is for them” (S95, S96).* Moreover, **there is a need to create opportunities to increase the exposure of coaches to various sports and levels according to their needs.**

The participant spotlighted **mentorship** opportunities. He believes there is a **need to create mentorship opportunities.** He suggested **creating mentoring programs by pairing experienced elite-level coaches with pathway-level coaches.** He said, “*I think a way we can do it on the pathway side is we make our high-performance coaches available to pathway coaches as mentors because very often they're individuals with lots of experience” (S81).* **Pathway coaches need to be more aware of the benefits of development opportunities because currently, mentoring opportunities randomly occur.** He believes in the importance and benefits of purposeful mentorships. He thinks mentoring practices can have a perspective-broadening role for coaches, and discussions with the pathway coaches have increased their awareness of the significance of resources.

The participant explained his thoughts specific to athletes. **Introducing opportunities for athletes to take part in different roles in the system.** He thinks that athletes should be offered transition options appropriate to their functions. It is not enough to create opportunities for athletes; athletes should be informed about the existence of these opportunities. He thinks that Para athletes don't even consider the possibility of pursuing other career opportunities. There is a **need for individualized pathways** for athletes. He thinks there is a need for overall pathway principles that can be individualized based on a person's needs and functions. Moreover, **providing a support system** is valuable for encouraging athletes. The needs of athletes should be considered in all dimensions when creating resources, such as cost and time.

The participant described his experience at the summit as an online participant. He thinks that online participants have some disadvantages in terms of communication because of technological barriers, even though the facilitators were good. He thinks **ideas are good but is curious about applications/future impacts.** He believes he didn't hear anything he doesn't know, but he underlines the implementation part. He believes **following what happens in practice is vital, not just numbers.** He suggested **that there is a need for regular basis applications like the Summit.**

Appendix P

Narrative-9

The participant expressed his thoughts as a non-disabled **coach developer**. He believes that a coach developer has the potential to reach a large volume of people through coaches and have a positive impact. He thinks there are **different ways of communication** between coach and athlete: it all depends on the sport, athlete, and coach. **The coach's approach to people with disabilities and the concept of disability has the potential to influence the process in their interaction with the athlete and in their technical practices/application.** He believes that a coach's perspective on disability impacts their coaching style. For example, he thinks that the impairment of the athletes might be a clue as to which technical knowledge will be used and how it affects the performance of athletes. Also, he thinks that equipment is important in Para sport coaching from a performance perspective. According to him, coaches need to consider the athlete's needs and functions. He said, *"If you think about the concept, how can we better fit the athlete with his potentialities or strengths? [example] Adding weight could create more stress on only the upper body of that athlete and in the medium term create more problems than a good outcome"* (S11). However, it is common for **coaches who are not well-trained in Para sport**. He thinks that in the current situation, some coaches are not trained in coaching for Para sport. He added that being motivated to help is not the same as being professionally qualified. Therefore, the coach is required to have knowledge appropriate to the needs and level of the athlete.

According to the participant, **coaches need to improve their ability to understand their athletes' needs and struggles.** He said, *"I mean, most need to be empathetic, in a sense that they need to connect with the athlete and understand and listen to them because they are the experts on their own impairment. They are living with an impairment for portions of their lives, if it is required, and for their whole lives if it is congenital. So, understanding that it is*

a partnership and not imposing your knowledge on your athletes is huge” (S33, S34). Yet, coaches mostly lack experience-based learning in Para sport. He thinks that regarding rules and practices, able-bodied and adaptive sports versions are pretty different and that learning by experience, one of the ways of learning, is mostly missing in Para sport. He highlighted that most Para sport coaches are volunteers and/or parents. At some point, they have to be coaches because a limited number of coaches are working in Para sport. He said, “I’m just raising my hand and saying I want to help [as a volunteer or parent]. You have to do a lot of pick-up because you know you’re unfamiliar with many aspects. It is not only the formal learning opportunities that are lacking, so the coaching courses, but the whole experience” (S27).

The participant emphasized that **coach education needs to improve** in Para sport. **Adding sports information in general coach education materials is important to familiarize/normalize coaches and Para athletes.** He said, “...when you include those little pieces here and there, you are making them think, and they’re not there to take up Para sport... NCCP teaching-learning, with all those small examples, becomes part of the vocabulary. You start talking about what we do and what we think. We [coach developers] make them [coaches] think and reflect... It’s flipping the way they think about the work from the Para perspective, but then that’s it. You can give an example during your coaching course... it’s a slow process, but if every module has a couple or a few examples about that, just like they have about safe sports and concussions right now. It starts to become the new norm; it becomes part of the landscape” (S56, S57). **Coaching is coaching, no need for adjectives and is related to the ability to adapt.** He stated, “You have to adapt a little bit. Don’t think as I’m a Para coach. No, you’re a coach. Does it have to change who you are? It’s changing how you adapt to support these people a little bit” (S58). He thinks that coaches who have adaptability skills are better, and this mindset needs to be part of coaching.

The participant **discussed professional development opportunities for coaches** for Para sport. He thinks that **sport-specific resources are limited** and that coaches have limited opportunities to develop themselves, such as fewer competitions and informal resources. **Competitions and interactions with others are less frequent than in able-bodied sports.** He thinks there are not many opportunities for coaches to observe and gain experience in Para sport, and the number of athletes and coaches is limited to interaction and learning. He said, *“...there are fewer opportunities for coaches to attend events specific to Para. There are fewer coaches for them to interact with, and there are fewer athletes for them to coach, so the whole aspect of learning by doing or learning from experience is really constrained because there are not as many learning opportunities occurring”* (S24, S25). **Coaches need to be exposed to a wide range of sports and athletes as much as possible to improve themselves** (17). He thinks that education is in the coach development; moreover, coaches should be open to learning from/with others, and Para sport is not a large community, so coaches need to connect with coaches from other sports, not just their sport, to improve themselves robustly. He suggested that Community of Practice (**CoP**) **as a way of increasing experience and learning.** He thinks being in a small community makes finding the right person for interaction harder. In a larger community, there is more chance of finding the right person. However, the CoP is valuable for coaches to overcome isolation and make meaningful connections with the CoP.

The participant pointed out that coaching for **Para sport has some nuances** because of **the unique characteristics of each impairment/disability.** He thinks that every Para athlete has a unique impairment, which makes coaching more complicated than able-bodied sports, and there is a need to be aware of the differences and nuances of each athlete. Therefore, **collaboration is a key component of Para sport.** He thinks that having a medical background

sometimes leads to missing the collaboration part of coaching, but one of the characteristics of Para sport is collaborative working for so many reasons, such as the uniqueness of disability and improvement of equipment. He added that intrapersonal knowledge is so important because of the multidimensional characteristics of Para sport. **Regarding the characteristics of Para sport, coaches need to be multidimensional and can see outside the box.** He said, *“There's a lot of places for innovation. The coach needs to reflect all the time and be open to new perspectives because they could change how the game is played because there's so much untapped potential yet” (S36).*

The participant highlighted the **coach education system needs**. He thinks **the structure of coach education resources is an issue**. He said, *“I would say it is a structural problem. Some organizations are very separated. You do the generic model, or you do the Para model, but because not many people want to do the Para-specific, they just have a document, but it's never used. It is a barrier for coaches who want to take that, and it's not financially viable to train one or two coaches specifically for Para, so this barrier is a big problem” (S14).* He thinks cost is a barrier because most coaches are unpaid in Para sport. **Online delivery has the potential to increase resources and decrease cost and time.** He thinks that online resources have the potential to improve accessibility and scheduling shorter but more frequent meetings throughout the day, rather than intensive pieces of training packed into a short period, which can increase attendance. Another issue is **increasing capacity**. He said, *“There was always more to be learned and developed, so we cannot find excuses. Two people want to take their course; we're not delivering it. A good question would be if we think about infusion. So even the generic sports, if they had infused apparent aspects or some aspects of the Para, that would be a huge aspect, that's for sure. It would be a huge aspect of simulating sports to infuse coaching education within the generic ones because then you just*

open the breadth of people who could potentially be welcoming athletes with a disability. After all, they do not feel threatened by not knowing what to do” (S52).

The participant mentioned mental health support. **There is no need to adapt resources/practices for mental health support in Para sport.** He thinks there is no need for Para sport-specific tailoring in goal setting, and there is a need for openness to development and achieving potential. He said, *“The same way that you're coaching an able-bodied athlete who might have a goal to increase well-being. It could be that I want to win the national championships and be faster on my 100-meter sprint. The other question is the goal you could have to read a book a month. So because this skill or strategy of goal setting could be taught to everybody, it's just a matter of taking the time to ask those questions within the sport: what are your goals outside of sports? What are your goals? Health wise, mental health wise. It's simple, but it takes time” (S17).* **The funding is an issue for Para sport.** He thinks that supporting mental health requires funding, and it is not frequently available in Para sport.

The participant thinks that the summit was a great networking opportunity. After the summit, he started to reflect on the infusion perspective for different levels and sports. He thinks that *“There is a lack of a unified approach to course development and coach education” (S62).* Moreover, he said, *“There is an issue of lack of representativity, so there are few coaches with limited life experience. There are not many sports administrations with lived experiences. Allowing their voices to be heard within the environment is also very important. Uh, and they could be, for sure, some of the champions of increasing the integration” (S63).*

Appendix R

Narrative-10

The participant expressed her thoughts as a person with disabilities involved in the Para sport initiative. She mentioned **that having an educational background and lived experience** made a significant difference for her. She said, *“I was very much exposed to things at the Steadward Center at university, which I was very fortunate to have”* (S4). Before that, she wasn’t aware of Para sport opportunities other than the high-performance representation of Para sport. She continues **as a volunteer**. She stated, *“I also started volunteering and eventually worked at the Steadward every summer. I always find some kind of recreational job that usually involves Para sport. I got pretty heavily involved in that”* (S7, S8). However, from her athlete experience standpoint, **being the only Para athlete was a disadvantage**. She said, *“My first navigating what Para sport, where Para sport exists, and that looks like and seeing maybe the discrepancies when I guess in Edmonton at that time, we didn't have any wheelchair racers”* (S23). When she started as an athlete, there were many obstacles regarding equipment, participants, and coaches. But the situation is gradually improving. She thinks her coach managed it very well despite the general lack of Para sport knowledge and awareness. She underlined the **structural barriers** faced. She thinks structural barriers are encountered even in places where adaptive sports work is being carried out. She gave an example from her education process, *“I would say, my entire degree, it felt like I had to do extra work to adapt everything and figure out how to do that”* (S81). She thinks that she had to make a lot of effort during her education in terms of adaptation to equipment and structures. Moreover, she had to deal with many obstacles that were not her own and that she did not have to solve. She added that her connections helped her overcome many barriers in terms of training. She thinks it is very challenging for outsiders to get into the process.

The participant highlighted that **Para sport needs to be based on disability community values**. She believes that people with lived experience need to be part of decision-making. She said, *“For someone who doesn't have that involvement, looking at support, others into leadership roles, because people with disabilities should be the ones running the show in the Para sport world”* (S17). She thinks people with disabilities are a minority within the sport system/Para sport. Not just including people with disabilities in the decision-making process, she also pointed **out the recognition of the values of the disability community by all roles in the system**. She thinks that everyone in the system should know about disability, especially those who are decision-makers in Para sport. Because people in decision-making need to be able to understand the needs and values of the people affected by their decisions, she thinks the sports organizations need to internalize Para sport and disability community culture. She added that people have to embrace the culture of the people they manage. She believes that people who want to work in Para sport (in whatever role) need to be aware of what is happening in the community, the values, and the practice dynamics. She believes in **the possibility of participating in a disability-conscious sports system/society that is disability-conscious and organizes its facilities in a way that is inclusive of everyone**. She said, *“It just comes from, for my example, through my degree where I was constantly adapting things. If all of that was actually created with the mindset of not everyone is walking”* (S138, S139). She thinks there is a need to **build coach education for Para sport based on the values of the disability community**. She thinks that Para sport and able-bodied sports are not the same. They have their own dynamics. So, it doesn't make sense to try to ensure that coaches for Para sport are trained according to the dynamics of able-bodied sports. She believes that Para sport should have a system and process based on its own dynamics. She said, *“Whereas if we had a model that was built off of our own experiences and our own disabilities, and the very different pathways that we have into sport compared to*

the ability sport, I think we would maybe see a little bit less of those gaps. I feel like we're always trying to fit us into this box that we don't fit into" (S121, S122).

The participant emphasized the value of **understanding Para sport nuances**. She thinks **Para sport requires more equipment and modifications than non-disabled sport**. She said, *"The coaching looks a little different" (S48)*. She believes that adaptive and non-adaptive versions of the sport have differences/implementations. Adaptive sport has more components than non-disabled ones, such as equipment, setups, and modifications.

Adaptation of equipment is so individual based on the athlete's needs, and some coaches are scared about Para sport because of their individualistic and less structured characteristics. She said, *"For example, we can change the height difference of the bike if someone with cerebral palsy comes in and they want extra foam, and so they would usually let us know ahead of time some of that kind of structure piece. I wouldn't say there's a specific checklist that we go through. It's very individual" (S73, S74)*. She added the process is based on trial and error in one way. Another important nuance is **understanding athlete development in Para sport**. She believes many coaches are unaware of the wide range of disabilities. She thinks that athlete development is different from able-bodied sports, and coaches need to be exposed to a variety of disabilities. She believes there is a need for a new perspective of coach development from the viewpoint of people with disabilities. She believes it is impossible to add all disability information to resources because the range is vast, and she believes in the value of practicing with athletes. She added one of the key components is being familiar with disabilities and their communities; if one wants to develop an understanding, one has to be exposed to it. But overall, **being open-minded about possibilities** has a critical role. She said, *"You can't fit it into a checkbox. It just doesn't work like that [modifications/adaptations]" (S166)*. She believes that a coach who wants to be part of Para sport has to understand a variety of

athletes' functions, equipment modifications, and the individualistic characteristics of coaching for Para sport.

The participant underscored **that one must consider athletes' effort output holistically (must consider everyday living expenditure) as a coach**. She thinks that knowing the effort of everyday living is critical for training planning and efficient use of the athlete's function. She gave an example of how she and her coach figured out the physical and technical background and optimized the process for the athlete's needs and abilities. *"So that's why [effort balance] I made the switch in rowing because rowing is the opposite motion of what I do all day"* (S30). She believes that **communication with athletes as a coach with disabilities helps them find balance in their daily lives and sport**. She thinks that athletes with disabilities already exert a lot of effort in their daily lives. Balancing the use of force in training and their daily lives is critical to their incentives. She added that having lived experience is helpful in communicating with her athletes. She said, *"Another one is that because I have lived experience, I don't have a challenge connecting with athletes because they usually have that reciprocal piece to it"* (S117). She believes that coaches can learn from their athletes and their daily lives, and modification is necessary for the equipment and every moment of coaching. **The process of persuading athletes to take additional practices**. She gave an example, *"I support some of the wheelchair tennis players in BC with their strength programs, and they're the juniors and trying to convince a bunch of teenagers that they need to play is actually quite challenging"* (S112). She thinks convincing athletes to do certain things can be hard, so she works with others collaboratively. She said, *"I try and utilize others around them [athletes] to start that conversation because sometimes it's very hard to convince them to do some of those other things"* (S115). She mentioned that the **sharing circle activity helps improve the athlete's experience**. She said, *"One of the things we do as tradition and some of the women's groups that I do is doing like a sharing circle every*

day. And it's really interesting because every time we do it, it gets better because people feed off the community within the disability community” (S97, S98). She thinks their sharing circle helps develop an understanding of sports and struggles even though the sport is so individual and helps participants realize that everyone faces similar problems. She said, “*The interesting thing about those is we also bring some volunteers into those conversations. Some of the women who are supporting started highlighting some of the things they've seen on the trail that were also positive*” (S103). She thinks that these circles are helpful not only for athletes but also for volunteers. It also contributes to the volunteers' empathic understanding. She highlighted that they **try to create a sense of community/belongingness**. She believes that sharing experiences helps with belongingness and thinks a sense of community belonging helps participants persist.

The participant accentuated the value of **exposing a variety of sports and disabilities as a coach**. She believes in the benefits of multisport. She gave an example from her practices with athletes: “*When some of them are starting to work on their strength and start seeing that applied to how well it's helping them in other areas of their sport, I find that it's easier*” (S111). **Having lived experience is not enough to understand all disabilities; modifications for others still need to be understood**. When she comes together with athletes with different disabilities, she also needs to learn, and they solve the process through reciprocal communication. Having lived experience does not mean that they know everything about disabilities. To find solutions by taking advantage of the experiences of athletes with similar disabilities (even though everybody has their unique needs) and evaluating the possibilities for new adaptations. **Exposing different sports and disabilities** is crucial. She thinks that exposure to different sports also lets you observe and be informed about different disabilities. She said, “*It's always fascinating to me because when we're in our own little sports, we often are only associated with certain disabilities*” (S159). She thinks that

exposing different disabilities is helpful for their own practices, and even though the training schedule looks the same, each athlete does it differently. She stated, *“I found the more we can include other disabilities together, the more we get further ahead because we have so many more ideas of how to train or coach, right”* (S164).

The participant highlighted the benefits of **mentorship** opportunities. She thinks opportunities for people with disabilities to participate in sports are insufficient and hard to find. According to her, having a network from her education makes her participation easier than others, and people without a sports network or education need support to get involved. She added that trying to be part of a sport can be scary for people with disabilities who don't have any network. She believes that mentorship has huge value for Para sport. Mentoring opportunities are valuable because mentoring allows you to discuss unique problems and develop solutions and facilitates collaboration. She said, *“For example, whenever we're running mountain biking, I have a blind woman that comes. I have networks to go and ask for guides, and I have networks to know what things we might need to consider regarding the facilities”* (S156). She believes that mentorship allows her to gain different perspectives, and learning from other sports is also a mind-opener. She stated, *“Having the mentorship of brainstorming with people on what might not be working and then just having different perspectives has been helpful as well. When you're constantly in your own sport, I find it super helpful to go to another sport and learn from what they're doing because there's always things I take away from that as well”* (S157, S158).

The participant gave an example of reciprocal working: **Sport-specific adaptive modules**. She explained the process of **creating a sport-specific adaptive module**. The module creation is a collaborative and iterative process. They built the modules based on a variety of functions because not only athletes but also coaches differ in the equipment they use and how they teach because there are many possibilities for the range of athletes and types of

equipment that coaches may encounter. She believes that coaches need to have sport-specific technical knowledge and consider athletes' unique needs to adapt these fundamentals. She believes that reciprocal communication is the most important tool to figure out the modifications. It is necessary to control the process frequently until the bond of trust and the right communication channel is built. Be open-minded in the approach and accept practices that sometimes you can't understand but are solutions. Since the organization does not have the capacity to modify, they have provided the space for those who can do so. She found it interesting that the organization initially involved them because it is uncommon. Nobody is an expert in their mentorship, but they had space and worked on it together. She expressed her experience **contributes to modification processes as a person with lived experience**. She believes that coaches need to be strategic about their time use and consider different parameters when planning their daily practices; athletes need time to be familiar with the equipment.

The participant emphasized the recognition of **coaches with disabilities and their coaching pathways**. She describes her aim **to work to include more people with disabilities in Para sport**. She said, *"We're trying to get more people with disabilities into coaching roles and thinking about how to get more people in that"* (S15). She **has different roles as a coach in Para sport** and expressed her experience as a coach with disabilities. She said, *"It looks a little different than the average coach, probably in Para sport"* (S31). She has built her pathway on two sides: creating modules for coaches in collaboration and as a personal trainer. They are creating sport-specific modules that coaches with disabilities can use. She thinks creating the module is an iterative process, which is beneficial for constructing networks with others. She uses **different resources to improve herself even though some organizations still do not support adaptive sport** because some organizations may not be willing to support Para sport. She believes that creating a support system for coaches with

disabilities is critical for them to do their job. She said, *“I obviously would not be able to coach all these other people with disabilities unless I had other supports around, and so we're pretty intentional about having a ton of people on the ground supporting and being able to do that so that I can independently focus on the project”* (S71). She explained the concept that coaches with disabilities face, which they call **“initiation fatigue.”** She said, *“When I have to get my first aid every year, my first aid training looks a lot different for me than it does for anybody else. Every time I go to that first aid training, I have to educate the instructor to then educate me on first aid. There's a barrier of, I don't know what the word is, we often call it 'initiation fatigue,' where I have to initiate going and chatting with the instructor to modify it. If that instructor were already equipped to do all that, I wouldn't even have to think about it, right?”* (S131,S134).

The participant shared her views on **coach education**. Firstly, she thinks **that resources are not in an accessible format for all**. She gave an example, *“I have friends who have visual impairments, and a lot of material right now is not screen reader friendly”* (S128). Secondly, cost is a barrier to receiving training. She mentioned how she started her certification process: *“[an organization] helped support me and funded me to get all my certifications that I needed to coach”* (S35). Thirdly, she likes and finds beneficial hybrid education opportunities. She thinks she needs to manage some structural barriers when the training is in-person, so it means much more effort than online. However, she believes that the practical side of the training is also necessary. Therefore, she believes that hybrid educational resources are very useful in eliminating the disadvantages of online and face-to-face education. Lastly, she thinks that the certification process is discouraging for people. She said, *“I think that's another barrier because a lot of the certifications and coach developments I've done, it's usually that practice, right? So that takes a lot out of people and discourages a lot of people as well”* (S135).

The participant expressed her thoughts about **the summit** process. She thinks having a diverse group (lived experience, managers, athletes, coaches) is beneficial for discussing issues in Para sport. She sees great value in seeing different perspectives and finding common solutions that can be worked on together. She believes that DT is an exciting approach to finding solutions to wicked problems. She added that years later, there are still some gaps and that it is inevitable that there will be gaps. But it is vital to make these gaps as small as possible.