

# Skills Coach

## GUIDE FOR COACHING ATHLETES WITH DISABILITY

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## INTRODUCTION

Coaches play a crucial role in society, fulfilling various roles and addressing diverse life needs and requirements. It is estimated that nine million coaches, both professionals and volunteers, support over 100 million Europeans in pursuing their sports-related goals (CoachNet 2013). In today's world of sports, inclusion (Pelled 1999), or how we are treated and accepted, entails being open to all categories and social groups that are discriminated against or face barriers to their participation in social life. Involving individuals with fewer opportunities in sports is intended to allow them to enjoy a quality of life considered normal in their own environment. This inclusion extends not only to individuals with disabilities but also to coaches specializing in training this target group. The term "inclusion" is spreading worldwide, used in various contexts as a synonym for integration.

In particular, as noted by Pankowiak (2015), a better understanding is required of how the domain of Paralympic sports is unique compared to able-bodied sports. Key differences between the development of Paralympic and Olympic athletes reflect many characteristic challenges and barriers, including the use of sports classification systems and the impact of technology in the Paralympic context, funding shortages, coaching offerings, accessibility, training opportunities, and competition (Pankowiak 2015, p. 82). The bridge connecting these worlds can be a coach equipped with the appropriate sets of learning outcomes specific to this sports area.

Competing on the international stage, participating in various forms of sports competition, and achieving top results have become an integral part of the sports landscape, and athletes with disabilities are increasingly able to develop their talent and achieve outstanding results. However, realizing the full potential in sports for individuals with disabilities requires not only determination and commitment from the athletes themselves but also the support of competent and well-prepared coaches. This document serves as a guide for coaches of disabled athletes, whose role and responsibility in the development of these athletes are of utmost importance.

## I. LITERATURE ANALYSIS

To boost research on understanding the training of individuals with disabilities, efforts were coordinated as early as the 1970s and 1980s to focus on disabled athletes. Recognizing this trend, the Committee on Sports for the Disabled under the American Olympic Committee established a research subcommittee (DePauw 1986). The first step in expanding knowledge and understanding of disabled sports involved DePauw's leadership in developing catalogs of individuals conducting sports research, as well as bibliographic information related to research on disabled sports. Furthermore, seven research areas common to disabled athletes were identified: (1) training and competition effects, (2) selection and training of coaches, volunteers, and officials, (3) technological progress, (4) sociological and psychological aspects, (5) similarities and differences between disabled and able-bodied athletes, (6) demographics, (7) legal, philosophical, and historical foundations of sports (DePauw 1986, p. 294).

Khoo (2018) and her team conducted an analysis of the citation index of the Web of Science Core Collection from 1993 to 2014 to identify the 50 most frequently cited publications in disabled sports. In their work, they utilized research priority areas defined by DePauw (1986). They used keywords and phrases to search publication titles and abstracts, including "adapt\* sport\*", "disab\* sport\*", "Paralympic\*", "parasport\*", "Special Olympic\*", "unified sport\*", "inclusive sport\*", "Deaflympic\*", "sport\* for the disabled", "sport\* for the handicapped", "sport\* for the impaired", "sport\* for physical disabilit\*", "sport\* for sensory disabilit\*", "sport\* for special needs", "blind sport\*", "deaf sport\*", and "wheelchair sport\*." Based on this, they identified 1,462 publications, with the majority being articles (72.1%). The fifty most frequently cited publications were categorized according to the previously mentioned research categories related to disability in sports (Khoo et al. 2018, pp. 527–528). The majority of publications fell into two categories: sociological and psychological aspects (30%) and training effects and competition (30%).

The next most popular category was the legal, philosophical, and historical foundations of sports, accounting for 12% of the publications, followed by demographic data on disabled sports (8%). The fewest works concerned the similarities and differences among athletes with disabilities and without disabilities (6%) and technological progress (6%). The remaining publications were classified as other (8%), and they were identified as related to sports injury prevention. In total, 148 authors contributed to the creation of the 50 most frequently cited publications, with the majority (n = 16) written by Boninger and Cooper. The remaining most frequently cited authors are Goosey-Tolfrey, van der Woude, and Webborn. All five of these mentioned authors have published works in the fields of physiology, biomechanics, and sports injuries. Among them, van der Woude is the most influential, with a total of 195 citations from his three publications (Khoo et al. 2018, p. 528). The authors of the citation analysis found that over half (66%) of the works focused on a specific disability group, with the majority of articles related to physical impairment (n = 14) and spinal cord injuries (n = 10). There were few publications concerning athletes with cerebral palsy and athletes with visual impairments. Previous research has focused on various aspects, including the motivation of individuals with disabilities to engage in sports. Molik et al. (2010) demonstrated that the athletic aspect motivates athletes to participate in sports. The results achieved by sports teams serve as a significant incentive for athletes to enhance their athletic training. This can be combined with the expected professionalization of coaching staff, effectively meeting this need. In their research, Molik et al. also revealed that "for athletes with greater mobility impairment, health aspects of physical activity play a significant role" (Molik et al. 2010, p. 50).

The issue of providing scientific support to the community of athletes with disabilities is raised in the literature by many authors (Stodter et al. 2021; Cushion et al. 2020; Dehghansai et al. 2020; Huntley et al. 2019; Pankowiak 2015; Purdue 2011). Such support for the community of athletes with disabilities is of utmost importance for the development of adaptive sports and ensuring equal opportunities for all.

This topic is quite extensive. Many studies focus on the performance and training of disabled athletes. The capabilities of athletes are analyzed with respect to their disabilities and their potential in various sports compared to different types of disabilities (Davis et al. 1981; Coutts et al. 1983; Shephard 1988; Kosmol 2008; Boguszewski and Torzewska 2011). Disabled athletes represent diverse groups, each with their unique needs and challenges related to performance and training. Key findings are formulated regarding the aspects of performance and training for disabled athletes, and practical applications arising from scientific research in this field are highlighted.

For instance, in the case of wheelchair athletes, training involves improving movement techniques and wheelchair maneuvering skills. Previous research emphasizes the importance of analyzing physical and technical parameters to optimize training for wheelchair athletes. Training strategies adapted to different types of disabilities, taking into account athletes' specific needs, are considered. This specificity can manifest in various aspects related to training, such as the need to adapt equipment for a particular discipline, nutritional aspects in accordance with recommendations from physicians or dietitians, and the adaptation of training facilities for athletes.

Research in the field of wheelchair fencing (Villiere et al. 2021) aimed to achieve expert consensus on physical characteristics (speed, strength, power, flexibility, and trunk and arm motor control) that underlie the performance of athletes competing in this sport. This was recognized as one of the initial steps required for developing an evidence-based classification system. The quality of strength and endurance training is a highly desirable parameter since these training regimes can increase muscle mass, endurance, and strength for those who exercise, ultimately impacting their fitness and the potential for maximizing exercise and sports performance (Stopka 1998).



World literature includes numerous articles and books dedicated to the psychological aspects of training and competition for athletes with disabilities. An example is the book "Psychology of Disability" by Vash et al. (2013), which discusses the psychological challenges and support strategies for athletes with disabilities. It serves as a valuable source of knowledge on the psychological aspects of disability, including disability sports. It helps understand the psychological challenges posed by disabilities and the strategies that can be employed to meet these challenges. For athletes with disabilities, this is a valuable publication that can support their athletic and personal development. For coaches, this book is a valuable source of knowledge that helps them understand the psychological challenges they may encounter and provides tools and strategies to help them achieve athletic success and cope with difficulties. In this book, you can find information on motivation, stress management, dealing with adversity, and building self-confidence in the context of adaptive sports. All of these topics are essential for a coach's work. A deeper understanding of the psychological aspects can translate into more effective interventions and encouragement for regular training.

The authors (Martin 1999; 2005, Bastos 2014; Jefferies 2012, Kowalik 2013) who study the psychological aspects of sports for people with disabilities are addressing an important issue that impacts the success and well-being of disabled athletes. Their research focuses on issues related to motivation, stress management, and the psychological challenges faced by disabled athletes. Various psychological aspects are analyzed, such as self-esteem, self-confidence, and motivation for disabled athletes. The authors also emphasize the wide range of psychological challenges and support strategies for people with disabilities, including psychological factors affecting athletic achievements. Summarizing their work and research helps understand the psychological factors that affect athletes with disabilities. They analyze various psychological aspects that are significant for success in disability sports. The research conducted by these authors can be an inspiration for coaches, encouraging them to adjust their support and training strategies so that disabled athletes can achieve their athletic goals.

Another important aspect to understand coaching in disability sports is equipment and technology adaptation (Burkett et al. 2010; Cooper et al. 2018; Darcy et al. 2017). Research on the adaptation of sports equipment for people with disabilities is crucial to provide appropriate training and competitive conditions. Athletes with disabilities often require specialized equipment tailored to their needs. Coaches must be aware of the availability and type of this equipment and how it can impact athletes' performance. For instance, providing wheelchair athletes access to innovative wheelchairs designed to enhance their performance can be an example. Technology must be tailored to each athlete's individual requirements to allow Paralympians to safely maximize their results. As Burkett (2010) rightly points out, any potential increase in mechanical performance due to assistive devices must be considered holistically, along with the compensatory consequences resulting from the disability. To avoid potential controversies related to technological doping during the Games, the role of technology in sports needs to be clarified.

Significant disparities exist in access to adapted sports equipment. These inequalities are present in all countries and often stem from different sources. A common barrier is the cost of purchasing specialized sports wheelchairs, which is particularly challenging to overcome in team sports. In most countries, athletes must buy sports wheelchairs with their own funds, potentially with the help of friends, family, or charitable organizations. This also leads to individuals with greater resources having access to more expensive and often higher-quality sports wheelchairs. Consequently, people train and compete using equipment of varying quality, especially at the local and regional levels. Some individuals may use the same wheelchair they use for daily mobility, while others require specially adapted sports wheelchairs designed for rugby, basketball, racing, or various other sports. The barrier to accessing adapted equipment means that potentially talented athletes may not be aware of the opportunities that can help them fully realize their potential, and coaches may not be able to achieve and demonstrate the full benefits of participating in sports and exercise.

Coaches must understand the individual needs of each athlete with a disability, both in terms of equipment and training techniques. Each disability may require a different approach and support.

Scientific publications often address the management of sports organizations and the creation of policies to support the development of disability sports (Bloyce 2009; Patatas 2018; Dowling et al. 2018). In general, it can be stated that the development of successful athletes is associated with various organizations operating in this field. These may include rehabilitation clinics, physiotherapists, and local organizations that support individuals with disabilities. They all aim to operate under the umbrella of "parasport," which covers both Paralympic sports and sports practiced by athletes with physical, visual, and intellectual disabilities.

The conclusion drawn from previous research and analyses (De Bosscher et al. 2016; Andersen et al. 2015) is that the elite sports system is conceptually the same for able-bodied athletes and parasport athletes. However, the development of policies in this area is still in its early stages, and there is a significant knowledge gap regarding the development of programs for Paralympic athletes and an understanding of how to establish long-term athlete development pathways. Research results are still needed to fill this gap by identifying how sports policy approaches differ between able-bodied athletes and Paralympians.

The findings of a study conducted by Patatas et al. (2018) suggest that a "one-size-fits-all" approach does not exist in developing an effective parasports system. This study provides a framework illustrating the major differences between systems for able-bodied individuals and parasports. Specifically, it influences how sports policy should be developed to raise awareness among sports decision-makers and sports directors, helping them understand parasport as a whole and its complexities.

In summary, scientific literature provides insight into the differences between able-bodied individuals and Paralympic sports from the perspective of sports policy, psychological understanding, the necessary exercise equipment, and physiological adaptation to exertion. Ensuring equal access, funding, support from professionally trained coaches, and providing adequate education for athletes with disabilities is crucial for promoting integration and the development of this important field of sports. Sports policy should take these differences into account and work towards providing equal opportunities for all athletes, regardless of their disabilities.

Worldwide literature includes research on the health, social, and psychological benefits of participating in disability sports, analyzing the impact of physical activity on the health of individuals with disabilities. Today, there is no doubt that sports for individuals with different needs are essential and can lead to many positive social changes. It provides opportunities for improving fitness and physical wellbeing, as well as a platform for those who wish to compete, earn medals, and gain recognition.

The development of the Paralympic movement, along with the standardization of sports competition rules, enables a gradual and long-term transition away from the convention of amateur sports toward professionalism and specialized expertise. This encompasses both the athletes themselves and the professionals who assist them, such as coaches, doctors, physiotherapists, psychologists, and sports event organizers.

## II. CONDITIONS OF THE TRAINING PROCESS AND PROFESSIONAL WORK OF ADAPTED SPORTS COACHES

In parallel with research aimed at understanding various aspects of training individuals with disabilities, the idea of educating specialists who use physical activity for the development of people with disabilities has developed. A coach primarily trains people with their well-being in mind. In the case of children and youth sports, their educational functions take precedence (or should take precedence) over the technical functions, which become more significant in high-performance and professional sports for adults. Similar mechanisms come into play in the field of sports for individuals with disabilities, where there is also a pursuit of professionalism and results. Researchers are progressively trying to identify the essential competencies required in coaching: "safe use of modern specialized equipment, appropriate development of training programs, prevention of overuse and sports injuries, and so on" (Koper and Tasiemski 2013, p. 115).

According to the views of Botwina and Kowalik (2013, p. 7), sports for individuals with disabilities were initially treated solely as a form of rehabilitation that enriched comprehensive intervention for people with disabilities. However, it gradually began to resemble high-performance sports practiced by able-bodied athletes. Consequently, there was a demand for professionals who could professionally prepare this particular group of people to meet the challenge of pushing the limits of a disabled body. Coaches work with increasingly diverse populations, requiring them to fulfill various roles: teacher, guide, sports psychologist, and manager. In this context, coaches are responsible for continuous improvement and expanding their own capabilities to fully meet the needs of the athletes they serve. Organizations employing them should provide coaches with adequate educational foundations, a philosophical orientation, and resources to fulfill their expected duties (ISCF 2012, p. 4).

Despite the increasing number of publications on the subject of coaches for athletes with disabilities, the area of analyzing coaches of adapted sports still requires further examination. Changes in the realm of sports for individuals with disabilities have been influenced by developments in Olympic, youth, and women's sports. In recent years, this field has gained more attention in terms of theoretical research, as well as the creation and support of physical activity for people with disabilities. We have seen a distinct shift in research focus from recreation, through rehabilitation, towards competition (DePauw 1986; Huber 1984; Lindstrom 1984). These studies provided preliminary knowledge and understanding of sports for individuals with disabilities, which, in turn, led to many changes in the perception of disabilities and the understanding of sports competition.

Various researchers have explored the field with a focus on areas such as history (Guttman 1976; Huber 1984; DePauw 1986; DePauw and Gavron 2005; Legg and Steadward 2011), sports classification and rehabilitation (Brasile 1990; Richter et al. 1992; McCann 1996; Molik et al. 2010a), biomechanics (Steadward 1980; Cooper 1990; Steadward et al. 1980; Boninger et al. 1996; Van der Woude et al. 2001; Keogh 2011), exercise physiology (Davis et al. 1981; Coutts et al. 1983; Shephard 1988, Kosmol 2008; Boguszewski 2011), and sports sociology/psychology (Asken 1991; Martin 1999; Kowalik 2007; 2009a; 2009b; 2014; Bosselut et al. 2012; Niedbalski 2017).

For individuals with various types of disabilities, adapted sports represent not only a form of physical activity but also an opportunity for high-level competition and skills development. Coaches who specialize in this field play a crucial role in the training process and professional work of adapted athletes. The challenges of working with individuals with different types of disabilities and the strategies and tools necessary for effective coaching and achieving sporting success must be considered. The role of a coach in adapted sports is particularly significant because it impacts not only the development of sports skills but also the building of self-confidence, competitive spirit, and a positive approach to sports for individuals with disabilities.



Coaching in this area requires both specialized knowledge and empathy, as well as engagement in the training process. Issues related to adapting training for different types of disabilities, the role of technology in the training process, and the psychological challenges faced by both coaches and athletes should be reflected upon.

The conclusions drawn from this analysis can contribute to the improvement of the work of adapted sports coaches, leading to the enhancement of the quality of training and sporting achievements for individuals with disabilities. This can make adapted sports even more inclusive and inspiring for both athletes and society as a whole. The knowledge and skills of coaches are essential for providing proper support, adjusting training, and achieving sporting success for athletes with disabilities. In the scientific literature, there are numerous studies and publications that help coaches understand disabilities (Kimber et al. 2023; Hammond et al. 2019), enabling them to envision the inclusion of individuals with special needs in their training. Ultimately, it all comes down to developing competencies that will serve and benefit athletes with disabilities. According to Moena and Federici (2013), "coaching competencies focus on issues related to building relationships based on trust and respect, self-awareness in self-learning and teaching others, asking questions skillfully, active engagement and facilitating learning, and achieving results. Clearly defining the athlete's responsibility in the learning process also appears important for achieving success" (Moena and Federici 2013, p. 248). Competency research utilizes the definition of coaching effectiveness and knowledge that is both specific and conceptually embedded in the context of the coach's professional duties, teaching, positive psychology, and literature on athlete development proposed by Côté and Wedge (2009). Considering the interaction between coaches' knowledge and athletes' outcomes in specific coaching contexts, to achieve comprehensiveness, attention should be focused on the coach's education and experience, as well as the feelings associated with coaching, such as self-worth and satisfaction. Context should also be taken into account, including differences in age, level of training, needs, and goals (Côté and Wedge 2009, pp. 308–309).

When discussing a competent coach, we often think of their knowledge, most frequently in the context of specialized knowledge about a particular sport, competition, and additionally, knowledge of medicine or physiology. According to Côté and Wedge (2009), an effective coach is someone who, regardless of the context, can utilize the following resources:

- a) Professional knowledge – expert knowledge for coaches, including declarative knowledge in sports sciences, knowledge about the sport, and pedagogical knowledge.
- b) Interpersonal knowledge – the effectiveness of the results obtained depends on individual and group interactions.
- c) Intrapersonal knowledge – this relates to self-understanding and the ability for intro

The athlete's performance and their commitment to training are influenced by a competent attitude combined with the athlete's specific abilities in a particular sport. This mainly refers to technical and tactical skills, improvements in health and fitness, and the demonstration of healthy training habits. It also involves an "internal sense of overall positive self-belief" (Côté and Wedge 2009, p. 314). Coaches also demonstrate competence through building positive relationships and social connections with the people they work with. A good coach is distinguished by respect for the sport and others, as well as moral qualities like honesty, empathy, and responsibility (Côté and Wedge 2009). Coaches work in various contexts and at different levels of expertise, including involvement in training individuals with disabilities. The definition of coaching effectiveness, drawn from Côté and Wedge (2009), identifies the components of competent coaching based on four pillars:

1. Knowledge in sports sciences.
2. Group interactions tailored to specific needs.
3. Professional, interpersonal, and intrapersonal coaching knowledge.

4. Ensuring training effectiveness expressed through consistency and continuity of results (Côté and Wedge 2009, p. 316).

Coaches in adaptive sports must be able to adapt training to specific types of disabilities and the athletes' sport-specific abilities. The importance of tailoring training to individual needs is emphasized, based on the consistent building of trust and motivation among athletes. A practical approach to sports psychology is highly significant and provides coaches with answers to many uncertainties and concerns they may encounter in their work. Coaches can find motivation in the growing body of evidence showing significant physical and psychosocial health benefits for people with disabilities through exercise and sports participation.

While there are numerous challenges associated with physical activity and sports participation for people with disabilities, the potential benefits of increased participation can be immense. Coaches need to be familiar with technologies that can support the training process for individuals with disabilities. For example, biomechanical analysis or telemetry can provide valuable information, and education on these technologies is crucial. Disability is not uniform, which makes adapting training crucial. Collaborating with disability experts and physical therapists can provide valuable guidance and specialized knowledge.

It's worth emphasizing that developing coaching competencies in working with people with disabilities is not only an ethical and moral obligation but also opens doors to new opportunities and successes in the world of sports. Coaches should be well-versed in the regulations and rules related to adaptive sports to ensure training compliance with the applicable standards. It's important to note that each type of sport, due to adaptations based on disability-related capabilities, modifies its rules. As Niedbalski (2017, p. 55) states, "the specificity of disabled sports also lies in the fact that when determining sports rules and regulations, the functional abilities of individuals with different types and degrees of disability are taken into account (e.g., different for blind individuals and those with various musculoskeletal conditions).

There are also disciplines specifically created for certain disability categories (e.g., wheelchair rugby, boccia for individuals with tetraplegia, or goalball for the blind)."

This is aimed at providing access to sports while considering individual preferences related to practicing their favorite forms of physical activity, and on the other hand, it creates an opportunity to tailor the right activity to the functional capabilities of a person with a disability. Therefore, when considering the concept of including individuals with disabilities in sports, two main approaches have been adopted: integration between people with disabilities and those without disabilities in mainstream sports (e.g., athletics or swimming) and participation in separate sports activities (e.g., goalball, wheelchair rugby). An additional challenge for coaches and sports organizations is the reality in which non-disabled individuals participate in sports for people with disabilities. An example of this might be wheelchair basketball (Black and Williamson 2011, p. 210).

The key link between those interested in physical activity and competitive sports can be a coach equipped with appropriate learning-effect sets specific to the field of sports. To better understand and enhance the Paralympic sports system, we must blaze new trails and encourage the development of quality standards aimed at improving service delivery, which will translate into better sports performance and the quality of life for athletes with disabilities. Close attention is paid to the factors that promote the development of these specialists who can develop new skills in coaches. By recognizing the need for external support and introducing a person responsible for collaboration between coaches, and thus, gaining a deeper understanding of how coaches perceive their experience, we can bridge the gap in collaboration between coaches and scientists. Specialists in teaching others have been successful in supporting coaches by shaping their interventions in contextual circumstances, rather than through a one-size-fits-all approach.



The surveyed coaches expressed a desire to gain an advantage over other competing nations and were willing to accept innovative practices to broaden their knowledge and achieve better results. However, they were not interested in personally delving into the literature to identify innovative ideas. They were also seeking a specialist for mediation (Dehghansai et al. 2020, p. 678).

### III. EDUCATION OF COACHES FOR ATHLETES WITH DISABILITIES IN LIGHT OF RECENT RESEARCH

Education of coaches in the field of adapted sports is crucial for providing the appropriate support and development for athletes with disabilities. Coaches play a central role in the success of adapted athletes, making the investment in their education and development highly significant. With the proper training of coaches, adapted sports can become even more inclusive and inspiring for everyone. The required skills for a coach involve bridging the gap between scientific literature and the practical application of accumulated knowledge, tailored to the specific needs of the coach and the cultural context. These skills are associated with building trust and responsibility on the foundation of the coach's personal and social abilities, as well as their capacity to engage athletes. Research on coaches conducted by Dehghansai and colleagues (2017) has contributed to understanding the key elements that effectively establish and develop partnerships with coaches when it comes to coaching individuals with disabilities. They observed that informal and non-formal consultations conducted by experts in teaching others play a significant role in the learning process of coaches working with individuals with disabilities<sup>1</sup>. Duarte and Culver (2014) sought answers to the question of how coaches learn in their research. They conducted a series of interviews with sailing coaches and recorded the complexity and richness of coaching narratives regarding the ways they acquire knowledge and skills. They paid particular attention to the importance of coach education through non-formal educational channels. Meanwhile, Cregan's team (2007) examined the career trajectories of swimming coaches in search of specific specialized knowledge resources necessary for training athletes with disabilities. The research conducted by Tawse and his team (2012) aimed to explore the personal experiences of wheelchair rugby coaches and the impact of these experiences on coaching individuals who have experienced spinal cord injuries. The results of these studies emphasize the crucial role of a coach in shaping the personal and athletic development of athletes with disabilities.

Townsend and colleagues (2015) conducted a critical review of the literature to understand the specific learning processes of coaches and their coaching practices in para-sports (learning processes understood as a coach's self-aware learning process and practice acquisition in coaching individuals with disabilities).

They consider four models of disability: 1) a medical model based on medical aspects, 2) a social model relating to norms that restrict people with disabilities, social practices, and norms, 3) a social understanding of relationships that limit the athlete's self-esteem and participation in sports, and finally, 4) a human rights-based disability model. "To contextualize the models and demonstrate their usefulness in advancing understanding in coaching, we use the models as lenses to examine existing concepts of coaching individuals with disabilities" (Townsend et al., 2015, p. 81). It is assumed that a common ground and language in researching para-sport coaches will deepen knowledge in understanding their work. Further scientific research is needed to confirm the practical and theoretical dilemmas that the pursuit of rebuilding the existing coach education system poses. These discussions primarily have a political and cultural dimension. However, if we consider these discussions as a starting point, one can argue that the change is long overdue. Furthermore, neglecting coaching staff can negatively affect the inclusion of people with disabilities in sports, limiting their social participation opportunities in both competitive and recreational sports (Townsend et al., 2021, p. 11). Scientific support within the community of athletes with disabilities is crucial for the development of this sector and ensuring equal opportunities and development possibilities for all athletes, regardless of their disabilities. Scientific research helps better understand the specific needs and challenges of these athletes, which can lead to improvements in training, sports management, sports policy, and the quality of life for individuals with disabilities involved in sports. Coach education is often presented as a useful supplement to the literature in situations where the emphasis is on experiencing grounded specialized knowledge, with the resulting network of connections and interactions as the basis for knowledge sharing.

Coaches' experiences and knowledge about "disability," "exercise capacity," and "specialized knowledge" are most often shaped by their social environments. Much depends on the organizational culture presented by national sports associations or international sports federations. The support that novice coaches can receive from more experienced colleagues is invaluable. Therefore, understanding and collectively experiencing the challenges that may arise in a professional career take on a different meaning and significance. By participating, individuals construct meanings for themselves in the context of interaction with others. The ability to reflect on issues, expressed in questioning and deconstructing norms, values, and ways of knowing, plays a significant role in this process (Taylor et al., 2015).

In such an approach, a very helpful tool that a coach can use is a set of questions. Therefore, challenging normalized values, beliefs, and practices can be achieved by engaging in questions aimed at promoting a reflective disposition. These questions can serve as the basis for critical discussions in coach education, workshops, or coach-mentor relationships (Hardwick et al., 2020). Hardwick and other authors of ParaCoach Rapport (2020) is proposing examples of questions to promote reflexivity:

- a. What is your view of disability and disability sport and how did you come to know?
- b. In what ways does engaging with models of disability challenge your perceptions and practice?
- c. In what ways have you challenged disabling barriers that exist in sport and physical activity?
- d. In what ways has coach education impacted your coaching practice?
- e. How is coaching success understood and how did you come to know?
- f. Who or what has been then greatest influence on your coaching practice and why?
- g. In what ways have you benefitted from coaching disabled performers?

- h. To what extent are athletes involved in the design and evaluation of the coaching process and your practice?
- i. In what ways do you adapt training and your communication to meet the needs of your athlete(s)?
- j. In what ways do you understand the needs of your athlete out of sport and to what extent do you support these needs?
- k. What resources or support mechanisms are you able to draw on in order to improve your knowledge and practice?

These and other insights provided in this chapter are intended to inspire future generations of coaches who want to specialize in coaching individuals with disabilities. Reflection serves as a powerful tool for shaping one's autonomy and coaching awareness. It can be used by sports coaches to develop athletes' awareness and skills. This is a process that encourages athletes and coaches to analyze their experiences, emotions, and behaviors to gain a better understanding of themselves and their development. Coaches keep journals in which they record their thoughts, feelings, and experiences from training and competitions. Athletes can assist coaches in analyzing these entries, helping to identify areas for improvement. During these meetings, athletes can express their thoughts and feelings, while coaches aid in developing athletes' self-awareness. In this way, coaches learn to evaluate their methods, identify strengths, and areas for improvement. This self-assessment can be used to determine training goals and strategies that will ultimately benefit the athlete. Athletes, together with their coaches, set short-term and long-term goals. Reflection allows them to monitor their progress toward these goals. As a result of reflection, coaches and athletes develop strategies for improvement and skill development, as well as for dealing with challenges. It's important to note that reflection is not just about analyzing mistakes but also about appreciating achievements and cultivating a positive approach to sports. It's a tool that helps athletes gain a deeper understanding of themselves, their environment, and shape a more conscious approach to their sports career.

#### IV. COACHES AND THEIR ROLE IN TRAINING ATHLETES WITH DISABILITIES

In this chapter, we will examine the key aspects of coaching athletes with disabilities, focusing on the differences between coaching able-bodied and disabled athletes, as well as the specific needs and challenges that coaches working with this group of athletes' encounters. We will also provide practical tips and tools that can help coaches improve their skills and conduct effective training sessions. We hope that this guide becomes an inspiration and a valuable source of knowledge for all coaches who aim to support the development of athletic talents among individuals with disabilities and contribute to building a more inclusive and just society through sports. This guide will briefly address athletes with disabilities and how their condition can be tailored to appropriate activities to enable their participation in physical activity and sports. The guide also aims to help coaches conducting training sessions for individuals with disabilities first understand their condition and then develop programs suitable for their condition.

Training athletes with disabilities is a field of sports that has gained significant importance in recent years. Athletes with disabilities, regardless of the type and degree of their disability, have the ability to achieve outstanding results in many sports disciplines. However, to achieve this, they require a special coaching approach. We want to take a closer look at the role of coaches in training athletes with disabilities, drawing from literature and scientific research.

##### Diversity of Disabilities

The first important aspect that coaches must understand is the diversity of disabilities. There are many types of disabilities, each with specific needs and challenges. Disabilities can result from spinal cord injuries, limb amputations, autism, visual impairments, intellectual disabilities or other conditions. Coaches must be aware of these differences and tailor their approach to the individual needs of the athletes. The diversity of disability cases that coaches may encounter is immeasurable.



Literature and research in the field of sports psychology emphasize the importance of understanding different types of disabilities and their impact on athletes' individual experiences. This awareness is essential for creating an effective training program and psychological support. A valuable source of knowledge regarding the diversity of disabilities in sports is Hayley Fitzgerald's work "Disability and Youth Sport" (2009). Fitzgerald analyzes various types of disabilities in the context of youth sports, identifying specific challenges and opportunities associated with each group. This work underscores that coaches should understand that disability is not uniform and should adapt their approach to the individual needs of the athletes. It highlights the complexity of developing policies in this area and the ongoing challenges related to the development of this sports field and the improvement of training methods. By exploring disability, social theory, and youth sports, referring to medical and social understandings of disability, it considers how this can be adapted to the concepts and practices in youth sports. Unfortunately, many children with disabilities, particularly those with more severe disabilities such as physical, visual, intellectual, or autism, are excluded from participating in youth sports (Moran et al., 2010, p. 3). It is highly likely that coaches may be hesitant about the responsibility associated with the involvement of a child with disabilities in sports activities due to the risk of injury and potential accidents. In other cases, coaches may not want children with disabilities in their teams because they believe they lack competence in coaching disabled athletes. In yet other cases, parents of children with disabilities (and the children themselves) may be reluctant to enroll in sports activities due to fears of injury, lack of success, or peer harassment (Moran et al., 2010). Coaches may have questions in their minds, such as: How should I train these children? What should I do if someone gets injured? Can this person learn? How to plan the effort without overexerting them? How to adapt the equipment? How to provide access to sports facilities? When coaches cannot find answers to these questions, they are reluctant to make efforts, citing numerous difficulties that they cannot overcome without support or deepening their knowledge.

The study conducted by Moran (2010) showed that as coaches' perceived competencies increased, their willingness to coach athletes with intellectual disabilities also increased. Those who were less competent in their skills were less willing, expressing the coach's concerns about entering the "unknown." Sport psychology offers insight into how different attitudes toward disability can affect aspects of sports. An example is the work "The Sport Psychologist's Handbook: A Guide for Sport-Specific Performance Enhancement" edited by Dosil et al. (2006), which discusses psychological techniques and strategies that can help athletes with various disabilities and, in turn, coaches in coping with an understanding of the social context, effective intervention methods for assisting disabled athletes. Regardless of whether a coach needs help in developing more exercises for their athletes during training or advice on how to organize training for a child with a physical disability, Carol Dweck's self-development theory (2006) can help coaches understand that athletes with disabilities have different beliefs about their potential. Some may have a "fixed mindset," assuming that their disability is an insurmountable barrier, while others may adopt a "growth mindset" and believe that they can develop and succeed despite their circumstances. The diversity of disabilities requires coaches to be flexible and take an individualized approach. Understanding and respecting the diversity of disabilities in sports is crucial for creating an inclusive sports environment where every athlete has the opportunity to reach their full potential.

IPC (International Paralympic Committee) oversees and guarantees the growth and development of the Paralympic movement through collaboration with National Paralympic Committees. By contributing to the development of sports from grassroots to elite levels, it ensures the global promotion of the vision of sports for individuals with disabilities. However, the world of disability sports goes far beyond the Paralympic movement. It encompasses a large community of individuals with various disabilities for whom special rules are created to enable competitive opportunities. This significantly influences the directions for the development of this sport and the organizations supporting it.

For someone not familiar with the field, the multitude of organizations working for people with disabilities can be challenging. "The International Committee of Sports for the Deaf is the oldest, established in 1924. The youngest and, at the same time, the fastest-growing organization is the International Paralympic Committee (IPC)" (Kosmol, 2008, p. 66). In the early 1960s, the International Special Olympics organization was established, with its primary goal being to provide sports competition for individuals with intellectual disabilities. Leaders in the development of sports for people with disabilities have long been organizations and associations uniting disabled athletes. These include the International Wheelchair and Amputee Sports Federation, International Blind Sports Federation, Cerebral Palsy International Sports and Recreation Association, and Virtus: World Intellectual Impairment Sport. Over time, there was a need for professionalization and coordination of activities in this field. According to Bailey's book "History of the Paralympic Movement" (2008), in 1982, the initiative named the Coordinating Committee of World Sport Organizations for the Disabled (ICC) was born. Its primary goal was to bring the Olympic movement and sports for people with disabilities closer together. Goals were set to organize the Olympic and Paralympic Games in a single common cycle, using the same facilities. Bailey writes that the foundation of the present-day Paralympic Committee, established in 1989, was based on the arrangements developed by ICC based on the "speaking with one voice" strategy (Bailey, 2008, p. 2).

Numerous sports competitions are organized worldwide for people with disabilities, with the most recognizable being the Deaf Olympics, Special Olympics, and Paralympic Games. In recent years, we have observed the greatest dynamics in this area. For comparison, at the 2012 London Paralympics, there were competitions in 20 sports, while in Rio de Janeiro in 2016, there were competitions in 22 sports. The number of athletes increased from 4,245 participants in the English games to 4,328 participants in the Brazilian games. Similar trends characterize the Winter Paralympic Games. In Sochi, there were competitions in five sports.

There were 541 athletes from 45 countries, while in Pyeongchang, snowboarding was added to the program, and 564 athletes from 49 countries were accepted. The subsequent Tokyo Paralympics again broke all records. The approved competition plan, previously consulted with international federations, aimed to increase opportunities for women and provide more support for athletes with high support needs (e.g., in boccia competitions). Two new sports were introduced: badminton and taekwondo. Canoeing, which debuted in Rio 2016 with six medal events, increased to nine due to additional competitions. Over the past 30 years, disability sports have transformed from rehabilitation to competition (DePauw 1986; Huber 1984; Lindstrom 1984). To win a medal at the Paralympics, you must surpass many more highly trained individuals than was the case several decades ago.

### Training Adaptations

Coaches working with individuals with disabilities in their professional practice may encounter numerous challenges similar to those in mainstream sports. However, many issues are specific to disability sports. One of the challenges in working with athletes is assessing their fitness level. This is more complex for coaches of individuals with disabilities compared to coaching able-bodied athletes. It's advisable to classify the type of disability at the beginning to determine which category an individual falls into<sup>3</sup>. A distinct feature of Paraspport is that athletes are classified early in their careers. This classification affects the competitive opportunities available for each athlete. Training adaptations in disability sports are a crucial element in the success of athletes with various types of disabilities. Understanding and applying these adaptations require interdisciplinary knowledge, integrating medical, physiological, and psychological aspects. There is a wealth of scientific research and literature on this topic, providing valuable guidance and guidelines for coaches and athletes (Purdue, 2012; Molik 2010). In the context of training adaptations, the importance of sports facilities and infrastructure should be emphasized, as they play a significant role in promoting disability sports and creating appropriate training conditions.



The works of scientists and doctors (Liow, 1996; DeLisa, 2005; Nixon, 2007; Dehghansai, 2017) stress the importance of thinking about the possibilities of participating in sports and making training adaptations depending on the type of disability. For athletes using wheelchairs, adaptations involve adjusting strength training and sprint techniques for a seated position. For visually impaired athletes, it's important to focus on communication methods between the athlete and their guide and teaching techniques for guiding the athlete.

Compared to mainstream athletes, relatively little is known about the factors influencing the development of athletes with disabilities. Sport-specific training programs are essential for achieving satisfactory results for these athletes. However, to create appropriate programs and strategies, a clear understanding of the nuances of the development of athletes with disabilities is crucial. The lack of structured training can lead to overtraining, an increased risk of injury, and poor performance (Liow, 1996). Disabled athletes without coaches won fewer medals in the 1988 Paralympics than those who trained with coaches (Davis et al., 1993). Coaches should be more aware of the various impairments and differences among athletes when developing training cycles.

An examination of factors affecting the development of disabled athletes conducted by Dehghansai (2017) was considered from the perspective of three groups: training and practice, short-term interventions, and long-term changes due to training. The review reflected a lack of research on the athletic development of athletes with disabilities, raising concerns about the effectiveness and adequacy of current training practices. However, to provide coaches and athletes in parasport with appropriate recommendations for optimizing their training environments, it is essential to attain a thorough understanding of the unique factors affecting development and performance (e.g., training history, practice routines, milestones) over time (Dehghansai, 2017, p. 34).

## SUMMARY

Literature and scientific research provide valuable insights and tools for training adaptations for coaches and disabled athletes. Sociology of sports analyzes the social context of disability sports, medicine contributes knowledge about physiological aspects of adaptations, and psychology aids in building strong motivation and psychological resilience. When combined, these fields create a holistic approach to training disabled athletes, enabling them to achieve their best results and promoting social inclusion. Literature on the training of disabled athletes underscores the significance of training adaptations. Coaches must tailor training programs to the specific needs of athletes. For example, an athlete with a mobility impairment will require different exercises and training techniques than someone with a visual impairment. These adaptations should consider not only the type of disability but also the individual goals and abilities of each athlete.

Coaches should be equipped with tools that help athletes cope with emotional challenges related to their disabilities. Literature emphasizes the importance of a positive coaching approach, building trust, and fostering motivation to achieve goals. A good coach for disabled athletes must also possess knowledge of specialized training techniques. This includes training techniques for athletes from different impairment groups, such as those using wheelchairs, visually impaired athletes, amputee athletes, and those with autism. Available information and specialized literature on modern training methods that can help athletes with disabilities achieve their best results mention the following factors:

1. Individualized Training Programs: Tailoring training programs to an athlete's type of disability, physical abilities, sports goals, and overall health. A personalized approach to training is crucial because different impairments require different training approaches.



2. **Advanced Technologies and Equipment:** Focusing on advanced technologies and specialized equipment to enhance the training of disabled athletes. Examples include advanced prosthetics, specialized wheelchairs, and sensory tools to monitor progress.

3. **Psychological Support and Motivation:** Concentrating on the psychological aspects of training for disabled athletes. Providing psychological support, teaching stress management, and maintaining motivation are crucial in achieving success.

4. **Physiotherapy and Rehabilitation:** Central in the approach to disability sports. Training methods help strengthen muscles, improve body functions, and prevent injuries.

5. **Biomechanics and Kinesiology Research:** Providing valuable information on optimal movement techniques and equipment adjustments that can enhance performance and reduce injury risk.

6. **Nutrition and Dietetics:** Highlighting the importance of proper nutrition and dietetics in training for athletes, often with specific recommendations or contraindications for certain foods based on the disability.

7. **Anti-Doping Measures:** In the context of Paralympic sports, scientific literature also covers research on doping substances and the development of effective anti-doping procedures to ensure fair competition.

8. **Technological Innovations and Data Analysis:** Systems for monitoring and computer simulations that contribute to improving training and the performance of disabled athletes.

In summary, scientific literature provides extensive knowledge of advanced training methods for disabled athletes, supporting their pursuit of the best results. It encompasses physical, psychological, technological, and social aspects of training. The role of coaches for disabled athletes goes beyond

teaching sports techniques; they must adapt training to each athlete's specific needs. Valuable insights and tools are increasingly available to help coaches effectively develop the potential of disabled athletes. Investing in coach training and raising awareness in this field can aid disabled athletes in achieving remarkable sporting success. Emphasized are the barriers and conditions affecting the participation of disabled athletes in sports, especially those related to health, safety, and medical considerations, which coaches should understand and manage carefully. The information in this report should be regarded as a guide containing recommendations for how coaches should train disabled athletes.

Due to the extensive nature of the topic and publishing constraints, as well as the multitude of various forms of adapted physical activity for individuals with special needs, we could not provide a detailed expertise on every type of disability. It is challenging to comprehensively discuss every sport discipline, including its adaptations, game rules, and administrative context. Our primary goal is to draw attention to the essential areas in the work of a coach for individuals with disabilities. We encourage all coaches to follow their inspiration and respond to the needs that contribute to the development of their coaching skills. By highlighting literature and the key findings from scientific research, we aim to support self-reflection and encourage the evaluation of one's coaching practice. Consequently, this process can lead to the identification of areas of competency that require particular attention and understanding, ensuring that coaches serve individuals with disabilities effectively and do not harm them.

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# Skills Coach