



Research article
**FUNDAMENTALS OF SPORTS COACHING TECHNOLOGY FOR
PERSONS WITH VISUAL IMPAIRMENT**

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Abstract

The gross motor characteristics of sports persons with visual impairments vary widely. This has made the prediction of sports performance very difficult. By identifying their nature of visual loss will help the coaches to understand their behavior and adapt to a suitable way to meet the unique individual needs. It is well-known that communication is the most difficult barrier while teaching persons with visual impairment. Coaches should make sure to learn manual language system to address the instructional points. The usual forms of nonverbal language will not suit them. The coaches those who aspire to achieve higher sports performance have to understand the following namely (1) First reactions, (2) Making assumptions, (3) Accommodating the situations and (4) Getting into technical aspects to achieve higher performance in sports. Predicting sport readiness involves an evaluation of cognitive, social and gross motor development of individuals with visual impairment to determine the demands of the selected competitive sport. Sports coaching should be tailored to the developmental level through the well informed simple modifications, namely smaller equipments, reducing the court size, frequent change of positions, short duration games and practices. These practices can definitely help them to improve sports performance and to lead a happy and healthy life.

Key words: *Gross motor, sports coaching, visual impairment, Sports technology*

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INTRODUCTION

World Health Organization has published in its report that over 285 million visually-impaired people are around the world. Of these, approximately 39 million people are considered legally blind (WHO, 2014). Yet, despite this impairment, most of them continue to lead lives filled with exercise and activity. It's universally believed that an individual with sight loss has the right to participate in the sport of their choice. However, it is understood that there are many barriers to overcome to ensure visually impaired person also has the same opportunities as their sighted peers.

The emotional effect of having a visual impairment cannot be quantified. Sports coaching can develop a number of skills and can also improve self-esteem and provide a safe environment to create enjoyable experiences. "A Visible Difference Through Sport" is the catch word for us for future. We are all different, so each person with a visual impairment will be different too. Their sight levels, personality, ability and fitness levels will vary. It is important not to generalize the visual impairments across participants but to understand how much the person can see and how to maximize the use of their sight.

Thumb Rules of Coaching

The best way for persons with visual impairment to develop sport skills is to get training under a qualified coach. Coaching sports person with visual impairment is fundamentally no different from coaching normal sighted persons. **Colin Higgs** expresses that the core element in coaching is to find out suitable persons, assess their need to get to come to sports coaching and find the path down that road.

Initially, however, it is not unusual for coaches who have never worked with persons with a disability to worry about whether they can provide the right type of support, be it at the grassroots or at more advanced competitive levels. There may be situations where coaches may not yet be totally confident with their own knowledge or abilities; there may also be questions about safety and about how to communicate properly with a person with visual impairments. Coaches should know that it is normal to experience some unease initially but that they can go fairly quickly beyond these first reactions to start and continue sports coaching. The following points may be kept in mind for an effective sports coaching.

1) First reactions

When the occasion presents itself to coach an athlete with visual impairment for the first time, a coach's first reaction could be fear or worry about speaking to the person with visual impairment in terms that might be inappropriate. Some coaches may be asking themselves what they can do and have doubts about their own ability to provide adequate coaching support. It's really a matter of coming back to what you know as a coach and experimenting with it. Finally, there may be concerns about the logistics of integrating athletes with visual impairment into the sports coaching program.

2) Making assumptions

Beyond the initial reactions, many coaches may make various assumptions about what persons with visual impairment can or cannot do. Coaches can just ask athletes what they can and can't do.

Rather than speculating about the athlete's capabilities, coaches should engage in a frank dialogue. Communication is a key component in any successful coach-athlete relationship. When persons with visual impairment decide to join in an organized sports coaching, most of them have already accepted their disability and are at a stage where many of the initial issues have been addressed. In general, they are also open-minded about discussing personal issues and concerns and this can help coaches better understand their abilities and level of motivation.

Some people may also assume that coaching athletes with visual impairment increases their liability. There is no need to be any more concerned about liability issues when working with athletes with a disability than when working with any other athletes.

3) Accommodating the situation

Once the coach overcomes those initial assumptions and learns more about the person with visual impairment, the general conclusion is that there is not much difference in the sports training methodology used for the normal athletes. "What the coaches tell me is that the necessary modifications or adjustments were not extensive" says **Mary Bluehardt**. "It is the fear of the unknown at first — wanting to do the right thing but not feeling comfortable about what to do or how to do it."

Swimming coach James Hood has been taken to surprise on several occasions by how swimmers with visual impairment have surmounted their disability and surprised even themselves. "You need to be aware of their capabilities but I try not to

put limitations," he says. I generally follow that philosophy. For example, if a swimmer comes in and says 'I can't kick in the water,' my challenge is to find a way to prove the contrary if I know it's possible. You must emphasize their qualities to help them reach and sometimes even exceed their goals.

4) Getting into the technical aspects

After the initial imbalance, most coaches become curious about the technical aspects of coaching athletes with visual impairment and reach a degree of comfort in the process. When this occurs, coaches seek and usually find answers to questions such as how the performance of the specific athlete can be improved? They say that reaching this stage is a major victory. The disability is no longer a factor and the focus is on coaching and on helping the learner improve his or her athletic abilities.

Coaching Assistive Technology

A long list of coaching assistive technology devices is available for students who are visually impaired. Some are considered "low tech" and inexpensive while others are "high tech" and can be more expensive. Assistive technology devices are available in a variety of categories to help persons with visual impairment in sports coaching also along with the enhancement of their functional capabilities.

- (a) **Cane-less LIDAR Detection:** This device concept uses a **LIDAR detector** mounted at the center of the chest to detect objects anywhere in front of the user. Vibratory feedback on the four corners of the torso allows the user to determine the approximate height and

positioning of an upcoming object. Hip mounted lights designate a path on the ground.

b) Soccer Balls with Bells: Soccer Balls with Bells allow visually-impaired person to join in sports coaching and the auditory tracking of the ball is made less cumbersome.

- c) **Basketball with Double Bells and Directional Beeper:** The Basketball is equipped with **double bells inside and a directional beeper** to provide persons with total vision loss or low vision to locate the ball with less difficulty.
- d) **Cricket Ball:** This Cricket Ball contains **loud ball-bearing rattles** that enable the players to hear where the ball is going. In addition to use in cricket, this hard plastic ball can be used in other ball games, including baseball and is recommended for blind or low-vision users. They are white only.
- e) **Bleeping Foam Soccer ball:** This **Bleeping Foam Soccer Ball** is great for playing soccer. Not only are the players able to see the ball but they can actually hear the sound of the ball and know where it is and which direction it may be coming from.
- f) **Mini Beeper: Mini Beeper** helps athletes to follow the produced sound in games and to identify the obstacles with less stress.
- g) **Tennis ball with bell:** They are little larger balls than the normal tennis balls and allow extra bounce. They are also brightly coloured.

Coaching Principles

It's now more obvious that interacting with persons with visual impairment is a complex task. However, the knowledge gained from these insights serves to aid in the formulation of certain practical teaching principles. However overriding them in importance is the ability of the coach to communicate with them. Communication is the most difficult barrier to overcome while teaching persons who have severe visual impairments. Hence, the teacher must learn the manual language systems to make sports teaching and coaching more easy and effective. Although verbal language is available, the usual non-verbal language is not available. Communication used during sports coaching can be enhanced through 1) giving the learner more descriptive responsibility 2) modifying demonstrational responsibility 3) utilizing precise vocabulary. An attempt can also be made to overcome this difficulty by using positional words like "front or back" or directive phrases like "to the left or to the right". If the coach asks the learner to investigate a sports instrument tactually or at a short visual distance for a couple of minutes and asks the learner to describe its parts, the communication barrier can be definitely eased.

Although demonstration is more difficult with learners who have severe visual impairments, they can be modified and probably are better instructional choice than verbalization. "**Modeling**" is one form of demonstration and can be used as an effective communication tool. "**Tactual means of modeling**" is the most common and can be used either by having the learner follow the coach movements or by manipulating the movements of the learner. Manipulation of the learner's movements

can sometimes be helpful but may not always be well received. This is because controlling someone's movements may have "ego implications". However, permission should be requested before using such procedure.

The second popular way to effectively communicate with them is "**verbal explanation**". This method is also cumbersome particularly when the task to be taught is "complex" in nature. However, verbal instruction is appropriate when the sports skills can be explained easily or when there are no better alternatives. If explanations are used in instructions, there are two guidelines to be kept in mind. They are: 1) use of familiar and appropriate analogies 2) use of specific words.

"**Precise word usage**" is important while giving instructions and subject teaching or sports coaching. Therefore, sports teacher must be very specific and consistent in his attempt. Verbal instructions may be supplemented by using "auditory cues". For example, if the coach is trying to bring a learner closer to a specific sports equipment, it's better the teacher himself be near the equipment and tapping once or twice and say the name once or twice. (Ex: the weight training barbell is here) The other helpful technique may be using the

"**sighted guide technique**". Virtually anyone who is visually impaired for even a short period of time will generally follow the guide with ease. Some persons prefer to be told of the upcoming stairs but usually no need to announce turns, stops, etc. Guides should pull their elbow in and behind their back to warn him/her of the upcoming hazards.

CONCLUSION

The author has tried his best to present technical information about the fundamentals of sports coaching in general. It's time to put our foot down strongly to initiate some more efforts to motivate especially the visually impaired persons and to instill more courage and hope to take up sports coaching little more seriously. The thumb rules of sports coaching are simple and less cumbersome. All, would be teachers can use any of the appropriate coaching methodology to pursue and attain their goal. They can consult other senior teachers and coaches to know more suitable communication tools to make sports coaching effective and fruitful. The abovementioned methods have nearly universal application. Hence, let's work together achieve our aim together and to build a stronger society.

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