



MENTAL IMAGERY IN SPORT

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Abstract

Imagery, which can be used by anyone, is appealing to performers because it is executed individually and can be performed at anytime and anywhere. Imagery is creating or recreating experiences in one's mind. From the early theories of imagery understanding the way in which imagery works is essential to enhanced performance.

Athletes can see with their minds eyes performing performances and overtaking obstacles or having failures. Nowadays mental images are an important psychotherapeutic tool and are part of many training sessions. According to the fixing principle setting a behavior leads to an increase probability of repeating that behaviour. Thus mental images can help the athletes come out of the vicious circle of weak evolutions, failures and defeats.

Through the senses man receives information from the external environment that he processes in mind, but information can also produce in mind, creating its own internal environment. The human brain will process this information as if it was from real experiences.

The benefits of mental imagery techniques in improving technical elements consist in the possibility of exercising them in fatigue or injury conditions and in the absence of equipment. Athletes will practice not only the mental images of the sport execution but also its results.

Keywords: *mental, imaginary, performance, motivation*

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Introduction

There are moments in every athlete's career when they have doubts and the future seems like a never ending up-hill battle. In these moments, they must find the strength to push forward, to work harder, to be better. In sports, the mental game is half the battle of any victory. You can train all you want, practice all you want, and run through every single play, but you still won't come out with the win if you and your teammates aren't mentally prepared. Great coaches all know this. Being a great coach isn't just about managing personalities and laying out schemes, it's also about being a master motivator^{1,2}. Some athletes are lucky to have coaches and mentors who have the ability to put things into perspective and motivate the athlete. For others, the motivation must be generated on their own. Whether you are sitting in a locker room, riding in the car on the way to a game or laying in your bed at night, there is no right or wrong time to mentally prepare yourself for success.

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² http://www.complex.com/sports/2014/05/greatest-motivational-speeches-sports-history/GUS_TURNERThe_Greatest_Motivational_Speeches_in_Sports_History



Mental imagery

Mental imagery is a capacity that most people possess, but very few use it. It is a technique that very few athletes have developed to the maximum potential. „Mental imagery is a cognitive rehearsal in the absence of physical movement to imagine sports performance in the mind”³

Imagery has been defined as “using all the senses to re-create or create an experience in the mind”⁴

The imaging center is in the right brain hemisphere which can be developed, thus the ability to form mental images can be improved.

Athletes can see with their minds eyes performing performances and overtaking obstacles or having failures. Nowadays mental images are an important psychotherapeutic tool and are part of many training sessions. „The mechanism that organises the mental activity of the athlete is the attention. The selective orientation of psychic activity on certain objects or phenomena is the process of attention, ensuring the entire psychic activity, productivity and efficiency of thinking”⁵

Mental images are forms of living in the absence of common external stimuli. Mental images are a product of memory that is formed by the remembering and restructuring of previous experiences. Mental imaging can engage each sense in part or all of the senses together, especially sense of sight, sound and kinesthetic.

People associate the lived events with various emotional states or moods, but the same emotions can be lived in time you are intensity imagine something.

Athletes have applied mental imaging techniques from the beginning of practicing sports and continue to apply it today. Mental imaging techniques should be practiced regularly and correctly in order to achieve the desired effect. Mental images help to control psychic energies, improve attention and increase self-confidence.

„Mental Imagery can be divided into two types namely, internal imagery and external imagery. Internal imagery means the athletes visualize themselves as doing the task while, external imagery means the athletes visualize themselves from a third-person’s perspectives. In other words, the situation of visualizing the tournaments in your mind, can be called as internal imagery. While external imagery is when the athletes watch the other opponent in the match or they use video clips to see the tournaments. External imagery produces little physiological responses as internal imagery does and, thus, it is not effective in enhancing muscle forces.”⁶

³ Pranabas, V., Parnabas Julinamary, Pranabas Mary A., 2015

⁴ Cox R. H., 2011

⁵ Dominteanu T. 2017, p. 30

⁶ Pranabas, V., Parnabas Julinamary, Pranabas Mary A., 2015, 14730



Develop mental imagery

Through the senses man receives information from the external environment that he processes in mind, but information can also produce in mind, creating its own internal environment. The human brain will process this information as if it was from real experiences. Such imaginary events can have on the nervous system or brain similar effect to that of real experiences. The ability to form mental images is a technique that can be improved by exercise.

For develop mental imagery for athletes are more theories:

- Psycho-neuromuscular theory starts from the idea that an intense imagined behavior or event can produce neuromuscular reactions similar to real experiments. Thus images created in the mind transmit muscular impulses in order to perform imaginary movements, although the impulses can be so weak that the actual movement not occur or to occur so weak that it is not detected. „A powerful imagination leads to creation of nerve impulse similar to those generated during real performance. In a real sense, the brain cannot notify the difference between an actual physical event and the vivid imagery of the same event.”⁷ „Despite this, Hall (2001) has noted the failure of the psychoneuromuscular theory to examine the various types of imagery and Feltz and Landers (1983) have criticized the validity of this theory because of methodological concerns.”⁸
- „bioinformation theory, Lang (1979) suggests that mental images comprise both stimulus proposition and stimulus response. Stimulus proposition refers to the content or characteristics of the image, such as a competitive swimmer imagining her surroundings and her opponents. Stimulus response, on the other hand, refers to the physiological and affective reaction experienced by the individual imaging. For example, that same swimmer may feel tightness in her shoulders due to the anxiety experienced when imagining the swim meet or she may neglect external stimuli such as the crowd cheering after imagining a personal best time. Images that contain both stimulus proposition and response are most effective in enhancing performance.”⁹
- „Ahsen’s (1984) tripe code theory added a third characteristic—the meaning of the image. Ahsen argued that no two people would have the same imagery experience even if provided with the same imagery instructions. Individuals bring their own unique set of experiences with them.”¹⁰
- symbolic learning theory - mental imagery helps athlete to develop a coding system for move patterns. Mental images help develop a mental

⁷ Pranabas, V., Parnabas Julinamary, Pranabas Mary A., 2015, 14729

⁸ Munroe-Chandler Krista J., Guerrero Michelle D., 2017

⁹ Munroe-Chandler Krista J., Guerrero Michelle D., 2017

¹⁰ Munroe-Chandler Krista J., Guerrero Michelle D., 2017



plan by creating a motor program in mind. „The recent performance imagery research (e.g., sport, exercise) has developed as a result of Paivio's (1985) analytic model. It is well established that imagery has cognitive and motivational functions that operate at a general or specific level. The cognitive general (CG) function entails imaging strategies, game plans, or routines (e.g., a fast break in basketball), whereas the cognitive specific (CS) function involves imaging specific skills (e.g., follow through on a free throw). The motivational general (MG) function of imagery involves imaging physiological arousal levels and emotions (e.g., staying calm when taking a penalty shot), and the motivational specific (MS) function of imagery includes imaging individual goals (e.g., winning the championship)”.¹¹

Mental imagery can follow the same learning principles like observable behaviors. According to the fixing principle setting a behavior leads to an increase probability of repeating that behaviour. Thus mental images can help the athletes come out of the vicious circle of weak evolutions, failures and defeats, which causes a decrease in self-confidence and anxiety, it leads to lower performance for athletes. „Many researches had proved that imagery has a great tendency to improve performance, reduce anxiety, enhance concentration and self-confidence.”¹² Athletes must see with mind eyes improve themselves in performance and to fix mentally this process. In this way they can make a winning schedule.

Develop mental imagery must to experience three stages:

- *increasing the degree of sensory perceptions*: the mental images that athletes use in sports are based on direct experience. Athletes need to access this information from memory and use them to create images that they can shape and control. The first step is a good awareness of the sensory experiences that accompany the technical execution: body position, legs and arms movements, movement tempo, change of direction, visual, kinesthetic and auditory perceptions. Increasing awareness can be achieved by focusing attention in this direction.
- *increasing the intensity of mental images* is done using imagination. „The ability to adjust the speed of your imagery. Slow motion is effective for focusing on technique”¹³
- increase control over mental images by increasing the ability to manipulate mental images to achieve goals.

¹¹ Munroe-Chandler Krista J., Guerrero Michelle D., 2017

¹² Cox, R.H. 2011

¹³ Taylor, J. 2012



Applying mental imaging

Applying mental imagery techniques must take into consideration:

- environment should be right for focusing attention. At first environment must be quiet and later mental imaging can be used in the competitive environment that is extremely demanding.
- athlete's condition should be relaxed. Relaxation is an essential component in perfecting mental imaging.
- athlete's motivation - to improve physical and mental techniques must be intrinsic motivation.
- athlete's attitude and expectations - for efficiency, the athlete has to believe in mental images. Negativity and distrust counteract the power of mental images just as it negatively influences performance. The attitude should be reasonable, they don't have to expect immediate results.
- practicing techniques - simply performing techniques can not lead to the achievement of these goals its must be exercised continuously.

„Many sports such as golf, tennis and skating, not only require physical skills, but a strong mental game as well. Most coaches preach the line that sports are 90% mental and only 10% physical. Especially in sports where hundredths of a second or tenths of an inch separate the champions from the mediocre athletes, an extra edge can be extremely crucial. Hence, numerous athletes are turning towards mental imagery to take their game to the next level. Different uses of imagery in sport include: mental practice of specific performance skills, improving confidence and positive thinking, problem solving, controlling arousal and anxiety, performance review and analysis, preparation for performance, and maintaining mental freshness during injury.”¹⁴

Factors affecting imagery

Researchers have identified a wide range of factors that have been found to influence imagery effectiveness, including imagery ability, image speed, age, skill level, and perspective.

The application of mental imagery techniques is less beneficial during the learning of new technical and tactical elements, its useful is better in improving technical and tactical elements acquired.

The benefits of mental imagery techniques in improving technical elements consist in the possibility of exercising them in fatigue or injury conditions and in the absence of equipment. Mental images offer a change of tempo in training. „Imagery can be used by the brain to provide powerful repetition, elaboration, intensification and preservation of important athletic sequences and skills”¹⁵. Athletes will practice not only the mental images of the sport execution but also its

¹⁴ Plessinger Annie

¹⁵ Cox, R. H. 2011.



results. Using video images of perfect executions can help optimize their achievement and forming mental images related to them.

Mental imagery use

After Mackenzie¹⁶ mental imagery can be used to:

- Familiarize the athlete with a competition site, a race course, a complex play pattern or routine etc.;
- Motivate the athlete by recalling images of their goals for that session, or of success in a past competition or beating a competitor in competition;
- Perfect skills or skill sequences the athlete is learning or refining;
- Reduce negative thoughts by focusing on positive outcomes;
- Refocus the athlete when the need arises e.g. if performance is feeling sluggish, imagery of a previous best performance or previous best event focus can help get things back on track;
- See success where the athlete sees themselves performing skills correctly and the desired outcomes;
- Set the stage for performance with a complete mental run through of the key elements of their performance to set the athlete's desired pre-competition feelings and focus.

Conclusions

That imagery is a powerful psychological technique is undeniable. Imagery allows individuals to search through, skip over, and select images from their memories in order to re-experience past events. Imagery also allows individuals to travel through time to create and manipulate never-experienced events.

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¹⁶ Mackenzie B. 2002.



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