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Structured Imagery Training Program for Collegiate Basketball Players

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STRUCTURED IMAGERY TRAINING PROGRAM FOR COLLEGIATE BASKETBALL PLAYERS

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ABSTRACT

The purpose of the present research paper was to develop an imagery program to improve performance with collegiate basketball players. This paper provides information that informs athletes on learning to use imagery. An imagery program can help master skills, increase arousal, boost self-confidence, prepare for the unexpected, and help injured athletes heal faster.

Several topics covered in this research paper include theories of imagery, categories of imagery, and elements of imagery are discussed on the four R's: relaxation, realism, regularity, and reinforcement. When an athlete can make themselves relaxed, they can make the image as real as possible. If an athlete can use imagery on a daily basis, they can have success in many activities. It should only take approximately 5 to 15 minutes a day to perform an imagery session.

Studies have shown that elite and non-elite athletes can benefit from using imagery on a daily routine. With time and practice, athletes can develop imagery skills, whether internally or externally, to perform at a high level. Learning to use imagery will take time and practice. If an athlete knows what they want to image, the timing, and can visualize the place of actual competition, they may become more relaxed and better able to perform. Lastly, with this research paper, athletes should be able to incorporate an imagery program into their daily routines. If they are proficient at using imagery, they should be able to have a program that will fit their needs and improve their overall performance.

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CHAPTER 1

Introduction

Imagine yourself passing, shooting, and playing defense that shows you playing at the top of your game. You have hard, crisp passes, and your follow through is nice and high with your fingers pointed down. You hear the chanting of the crowd in the background and you can smell that freshly-popped popcorn. You are starting to feel more relaxed. You have more confidence and you are in great control. You put up a shot – nothing but net! You tell yourself, "I am focusing on the top of my game. I am having lots of fun and enjoying every minute. I can handle the pressure at the end of the game, and I am a team player. I will help my teammates and they will help me. I am more relaxed and I will get better, day by day, and with each passing game."

Have you ever imagined yourself sinking a clutch putt in golf, smashing a forehand down the line in tennis, or, like the passage above, making a shot in basketball to help your team win? If you have, then you might believe you are a successful athlete. When you see yourself in these situations, you can create positive beliefs about your ability to play sports.

Many sports are starting to use the terms, "get mentally prepared," or "don't make mental errors." What does this mean? In many people's opinion, these are the types of demands that are placed on players. For example, high priorities in basketball should include a well thought-out game plan such as playing great defense, making the proper adjustments, staying calm and focused in clutch situations, and having lots of fun.

As with all sports, an important aspect of any training session should be mental preparation. Preparing athletes mentally is becoming just as important as preparing them physically. There are many new approaches to training that assist athletes in helping them beat their opponent. A serious mental practice can be a good substitute for an off-day of training. Mental practice is an essential instrument for developing physical tools for the game, and unlike in some sports, sheer athletic ability and brute strength play a less important role.

Due to the increasing pressure that is put on players to succeed in competition, athletes are now looking for advantages over their opponents. One of these aids is the use of imagery. Imagery is a key mental training skill thought to improve both physical and mental performance (Sheikh & Korn, 1994). Imagery, also called visualization, is described as a mental technique that programs the human mind to use all of its senses such as thoughts, feelings, emotions, and sensations (e.g., sight, sound, and touch). Whenever athletes visualize themselves performing an action in the absence of physical practice, they are using imagery. Imagery can be used for rehearsing new skills, practicing and refining existing skills, preparing for a certain opponent, and readying for an entire game or match (Barr & Hall, 1992). Studies have also shown that imagery can be helpful in a variety of ways such as reducing warm-up preparation, lowering anxiety, and increasing self-confidence because the athlete can see him- or herself performing successfully – focused, in control, and having fun (Burke, Szabo, & Guidone, 2001).

Another important reason why athletes should use imagery is because it helps the athlete stay motivated along the way. Using imagery can help athletes stay focused and

help them reach their daily and career goals. Finally, imagery can help an athlete "train" when physical training is not possible, such as during injury rehabilitation. When this happens, athletes can use imagery to help them deal with the potential negative emotions involved, and can help increase the healing process of their injury (Sordoni, Hall, & Forwell, 2000)

Approximately 99% of Canadian Olympic athletes during the 1984 Olympic games reported using imagery and found it to be highly effective (Boyd & Munroe, 2002). Findings from this study and many other studies have shown that athletes use imagery predominately for competition, as well as using imagery at school, work, or home. Athletes tend to use imagery prior to competition and during training sessions (Cumming & Hall, 2002).

With the knowledge that researchers have about imagery, it is now possible to design an imagery program for the needs of the athlete. Several approaches can be taken to learn imagery skills. Many researchers have suggested that to develop imagery skills, one must take the time to master the skills. Along with stimulating both the emotional and mental states, using imagery for an activity before performance can have advantages. Using imagery forces the athlete to focus and concentrate on executing the skill at hand; otherwise, athletes tend to go through the motions during physical practice. Imagery can help the athlete visualize the technique as perfect as possible, and also help compare the perfect image with the physical image to make any necessary adjustments. Imagery helps athletes push through any pain that is involved with competition because it can help the athlete keep good form when he or she feels exhausted. Finally, athletes can use imagery

to rehearse or perfect any strategies that will help them during a performance (Vealey & Greenleaf, 1998).

Athletes should visualize success. If athletes can see and feel themselves attaining their goals, then confidence in their abilities will help them prepare their bodies. Imagery can help athletes refocus as needed. Thinking back to a successful performance can focus and re-motivate the athlete. If focus is lost, the athlete can think back to the images that he or she played in their mind. Not only do athletes need to physically prepare for an opponent, they should mentally prepare for them as well. Through the use of imagery, athletes can prepare for different opponents and circumstances. If an athlete imagines something bad happening during their performance, then analyze what went wrong and correct the mistake during an imagery session. When athletes make mistakes, they do not want it happening again, so they will try harder to avoid the same mistake. If an athlete can correct these mistakes using imagery, they will be more prepared and less likely to make that mistake. Finally, if athletes feel they have mentally and physically prepared to the best of their ability, then they can be successful. An athlete can image positive events happening to them as well as their teammates. Athletes should tell themselves, "I can do it, I will do it," "I have trained my body and my mind," "Win or lose, I am getting better and stronger" (Sheikh & Korn, 1994).

Imagery can help athletes perform new skills, rehearse old skills, and even help in injury rehabilitation. Studies have also shown that athletes can use imagery to lower anxiety, increase performance, and increase self-confidence. The review of literature will discuss many important features about imagery.

Review of Literature

The literature review has been organized into these sections: (a) theories of imagery, (b) categories of imagery, (c) elements of imagery, (d) frequency, intensity, type, and time (F.I.T.T.), (e) methods, (f) perspective, (g) how to perform imagery, (h) when to start using imagery, and (i) empirical studies examining the influence of imagery.

Theories of Imagery

In this section, four theories will be discussed in relation to how imagery can influence an athlete's performance. Those theories include: (a) psychoneuromuscular theory, (b) symbolic learning theory, (c) bioinformational theory, and (d) attention-arousal set theory.

According to the psychoneuromuscular theory of imagery, when the athlete uses imagery, they are programming the muscles for action. Imagery facilitates the learning of motor skills because imagining events innervates the muscles just like physical practice (Glisky, Williams, & Kihlstrom, 1996). For example, an athlete visualizes shooting a basketball. Every time he/she visualize him- or herself shooting successfully, the brain sends out low levels of impulses through the nerves to the muscles that are being activated in one's image, thus re-creating similar neuromuscular connections to the actual physical part of the skill (Sheikh & Korn, 1994). Many people use the term "muscle memory" to describe the psychoneuromuscular theory because imagery can strengthen the neural pathways for movement (Sugarman, 1999).

Second, the symbolic learning theory suggests that imagery helps the athlete understand movement patterns. To be able to do a skill or a movement, athletes must first encode the skill into the central nervous system (Brown & Burke, 2000). To perform the movement, athletes now have a "mental blueprint" that will help them understand and acquire the skill. When the athlete has that "mental blueprint" stored in their mind, the skill will become more familiar or automatic for them to perform (Lavallee, et al., 2004). For example, golfers could practice putting in their mind by getting the feel of the swing of the shoulders or the feel of the club in their hand (Lavallee, et al., 2004).

Third, the bioinformational theory of imagery states that images are made up of stimulus and response propositions (Smith & Collins, 2004). To make imagery work, athletes activate a network of codes involving stimulus and response propositions that have been stored in long term memory. When athletes use imagery, it is important that they can describe the scenario being imaged, (the stimulus proposition), and the athletes' response to that scenario (the response proposition) (Smith & Collins, 2004). For example, when athletes image shooting a free-throw at the end of a close game, athletes should be able to feel the ball in their hands, see the basket, and hear the crowd (stimulus proposition). Then, they must be able to feel the tension in their arms, feelings of anxiety, sweat rolling down their face, and then seeing the ball going through the hoop (response proposition).

Fourth, the attention-arousal set theory suggests that imagery helps athletes get motivated for their event. It also helps the athlete to get focused for the task at hand.

This theory explains why performers focus their attention on the stimuli needed to perform successfully rather than on irrelevant cues (Calmels, Berthoumieux, & Arripe-Longueville, 2004).

When athletes visualize a skill or performance, they are actually training the muscles to fire in that sequence. Using the psychoneuromuscular theory, symbolic learning theory, bioinformational theory, or the attention-arousal set theory can provide a strong rationale for athletes to train on rainy or off days. Training the central nervous system with athletic skills and strategies can help athletes have success.

Categories of Imagery

Imagery can be divided into different categories based on cognitive or motivational function and specific or general level (Short, Monsma, & Short, 2004). Cognitive general (CG) is one category of imagery (Lavallee, et al., 2004), which is used for strategy development and execution. For example, basketball players remembering an entire fast-break play in basketball successfully from the outlet pass through the primary break and onto the secondary break or creating cues in which to remember these complex tasks. The second category of imagery is cognitive specific (CS). Unlike cognitive general, cognitive specific is used for the correction and execution of specific skills. An example of this imagery is a free-throw shot in basketball. The athletes could see the rim, feel the ball in their hand, see the athletes down the lane, and feel the pressure of making the shot. If athletes want to learn about skills and performance, cognitive specific seems to be the most appropriate (Munroe, Giacobbi, Hall, & Weinberg, 2000).

Motivational specific (MS) imagery, helps the athlete boost their motivation to help them achieve a set goal. Motivational specific is the type of imagery that involves seeing athletes winning an important event or receiving a plaque. Researchers have stated that motivational specific can be broken down into two components: motivational general-mastery (MG-M) and motivational general-arousal (MG-A) (Boyd & Munroe, 2002). Motivational general-mastery helps athletes become mentally tough and gets them through difficult situations. An example of motivational general-mastery is when a basketball player has a sore ankle, but by using MG-M imagery, the athlete can cope with the pain and can continue with his/her performance. Motivational general-arousal helps the athlete "psych-up" for an event. Motivational general-arousal helps the athlete control feelings of stress, relaxation, anxiety, or arousal during the event or performance (Munroe, et al., 2000).

So, depending on what the athlete hopes to accomplish, be it getting "psyched up for the game" or improving their shooting technique, specific types of imagery can help the athlete achieve this goal. Building on this, the following section discusses the specific elements of imagery.

Elements of Imagery

Just like any skill, imagery needs to be practiced regularly to be effective for the athlete (Sheikh & Korn, 1994). If an athlete can focus attention on the four R's, (relaxation, realism, regularity, and reinforcement), the athlete should be able to have success at his or her sport or activity. Having a relaxed body can help athletes actually feel their body moving during an imagery session (Sugarman, 1999). Being relaxed can

also help athletes experience any emotions involved with their activity. When an athlete can be fully relaxed, they can feel themselves bending at the knees and following through during a free throw shot in basketball. However, an athlete might have to learn relaxation techniques prior to performing imagery.

Second, the image should be as realistic as possible (Syer & Connolly, 1984). In order to attain this, incorporate clarity, vividness, control, emotions, and positive outcomes. With clarity, the images should be in great detail including the color of the jerseys, the sound of the ball hitting the floor, and the feel of the ball in the athletes' hands. The athlete must be able to see the net from the free throw line or see the bricks in the wall behind the backboard. The next step is to include all of the athlete's senses to make the image vivid and as close to real life as possible (Syer & Connolly, 1984). Athletes should feel the sweat run down their face and smell the popcorn when they are standing at the free throw line. Then, incorporate all of the emotions involved with the image. The athlete should be able to feel their heart beating, tension in their muscles, and the excitement they have as they go to shoot a free throw. Athletes should be able to control their images. They must be able to manipulate the image to get the image to do what they want. Finally, make sure athletes visualize a positive outcome. Have the athlete make that free throw to win the game for their team. Thinking of a negative outcome might actually lead to a negative performance because negative images can lead to a decline in self-efficacy and increase anxiety levels (Munroe, et al., 2000).

Third, regularity is how often and consistently imagery is incorporated into training. The term "practice makes perfect" can apply to imagery. Anywhere from 5 to

15 minutes a day on imagery can have an effect on performance. Finally, reinforcement is when athletes can write imagery scripts in their mind to help them plan the content and timing of their imagery training. For reinforcement, imaging of positive self, social, and/or performance consequences is what is important (Buckles, 2003).

Being relaxed is an important step in learning to successfully use imagery. When athletes are relaxed, they can focus on the image and make it real as possible. If an athlete can use imagery in their daily routine, they can have success in many activities. Frequency, Intensity, Type, Time (F.I.T.T.)

When athletes plan out their imagery program, they should be reminded of four principles known as F.I.T.T: frequency, intensity, type, and time. Frequency refers to how often an athlete uses imagery during the course of a week. Athletes practice physical skills everyday, so imagery should be no exception. Intensity refers to when athletes visualize an activity in regular motion (Syer & Connolly, 1984). Slow-motion mental rehearsal of a skill will be of no value to full-speed physical execution to the athlete. All images should involve movement that is of the same intensity and timing of real life situations (Rushall & Lippman, 1997). Type refers to the desired outcome and make sure the athlete selects the type of imagery to match the outcome. Lastly, time refers to 5 to 15 minutes a day. Again, spending 5 to 15 minutes a day on imagery is better compared to long imagery sessions (Syer, & Connolly, 1984).

Athletes should incorporate imagery into their daily routine and practice imagery in short bouts. Athletes also need to visualize positive outcomes and visualize at the proper speed of the activity.

Methods

Over the past decade, researchers have studied the use of imagery by athletes to understand the who, why, when, where, and what type of imagery is most beneficial (Munroe, et al., 2000). An important factor that has been addressed is whether the skill level of the performer can have an influence on the effectiveness of imagery. Studies have shown that imagery can help the professional athlete as well as the novice or inexperienced. Imagery can be equally effective for elite and non-elite athletes. Athletes tend to use imagery before competition more than at any other time (Barr & Hall, 1992), and athletes tend to use imagery in relation to competition more than learning or refining skills. Athletes use imagery as part of their pre-competition routine in order to control arousal, positive motivation, and positive outcomes at the athletes' competition level (Sheikh & Korn, 1994).

Finally, why are athletes using imagery? Studies have shown that imagery has helped athletes improve performance skills and help athletes cope with injuries by increasing relaxation, decreasing anxiety, increasing motivation, relieving pain, and returning the athlete to competition earlier than expected (Sordoni, Hall, & Forwell, 2000). Also, imagery helps athletes rehearse game plans, strategies, and routines (Munroe, et al., 2000). Lastly, imagery can be used to learn strategy for a given performance and be used to enhance the performance for strategy (Burke, Szabo, & Guidone, 2001).

As discussed, imagery can help either the elite athlete or the non-elite athlete and it helps them understand why imagery is important for their competition. Imagery can

also help the athlete with many different aspects of competition rather than just learning the skills involved. The next section will discuss the internal and external approaches to imagery.

Perspective

Imagery perspective relates to how athletes are viewing their strategies or skills. The perspective of an image can be classified into two cognitive approaches: internal or external (Pie, et al., 1996). The difference between the two is that internal imagery is when the athlete actually imagines being inside of his or her own body while performing. For example, when athlete's imagines themselves shooting a free-throw, they can look up and see the rim, the players down the lane, and can see the ball in their hands (Pie, et al., 1996). External imagery is when players see themselves from an observer's perspective. Using the same examples as before, the athlete can see him- or herself standing at the free-throw line from the bleachers or his or her team's sideline. Depending on which perspective athletes use, ultimately depends on the athlete and the situation. Studies have shown that more elite athletes use internal imagery over external imagery (Sheikh & Korn, 1994). External imagery has a more positive effect on the performance of skills such as a free-throw shot in basketball or a gymnastics routine. Internal imagery is better for performance on open skills such as a defense in basketball or football (Brown & Burke, 2000).

Overall, the perspective an athlete chooses should be based on comfort and the ability to control and vividly create an image. With time and practice, most athletes

should be able to develop the skill to use both internal and external imagery. The following section discusses how to train and learn to use imagery.

Learning to Use Imagery

Learning to use imagery is a big step for athletes. There are a number of features an athlete should consider while learning to use imagery. Athletes must first learn what content an image should include. Content of an image should include any type of physical actions and motivational features. Athletes who are beginners in using imagery should stress the importance of being organized while more advanced athletes can consider physical and tactical skills. When an athlete uses all of the feelings and senses, they can make the image as real as possible.

Second, the timing in imagery plays a role in effectiveness. This involves athletes knowing how many times they want to image a skill in their mind and how long each session should last. Athletes should also use reinforcers (Rushall, 1991). Reinforcers are positive outcomes that athletes visualize during their imagery session. One type of reinforcers are self-talk statements. These statements let the athlete know that the imagery session was done successfully. For example, "you did it," "that was great," and "well done" (Sheikh & Korn, 1994). Significant others are another type of reinforcer. Athletes image the positive reactions from their teammates, coaches, parents, and peers following their imaged performance. Lastly, the athlete should image group scenes. This is when athletes image the crowd going wild or an excited greeting of fans.

Another way athletes learn to use imagery is involvement criteria. When athletes properly visualize clear and precise movements during imagery, the athletes should

successfully perform the skill or activity (Bakker, Boschker, & Chung, 1996). If skills were not performed correctly, athletes might have to image the skill over during another imagery session, this involves the homework section of imagery. If athletes need to continue using imagery after physical performances, they should do so. In doing this, athletes can maximize their total performance for use in developing skills or strategies (Rushall, 1991).

To successfully use imagery to develop skills or strategies, the next section will help athletes mentally prepare for future competitions. Athletes must practice these six techniques with the same seriousness as they would if they were physically practicing. They should try these before a competition and any time they have several minutes to themselves. These techniques will make athletes feel relaxed, less nervous, and more confident.

The first technique should be to go to the place of actual competition. Have athletes go to the opponent's gym and mentally take a picture. If an athlete can see the actual place of competition, it will benefit the athlete by imaging their actual surroundings during competition. Have them run a track or a baseball diamond so they can get familiar with the surroundings. If athletes can, they should observe their opponents, either by watching a practice or seeing them on film because it will benefit the athlete by seeing what their opponent will do in certain situations.

The next technique is to have athletes find a quiet place, sit down, relax, and mentally go to the place of actual competition. The main key is to relax (Sheikh & Korn, 1994). Take deep breaths, letting in air slowly and exhaling slowly. Have athletes close

their eyes and see themselves externally at the place of competition. If athletes are able to go to the place of competition, make sure they remember it the best they can and as clearly as possible (Sugarman, 1999). If they are unable to see the place, have them try to remember it from a past experience.

The next routine is problem solving. If athletes have a difficult time performing a physical task, they continue to practice until perfected. The same should go for imagery. Athletes should visualize their task over and over again until perfected (Syer & Connelly, 1984). Athletes should image skills from different angles and different places, making sure their image is as vivid, clear, and as realistic as possible (Pie, et al., 1996). When athletes perfect certain skills or cues, have them incorporate them into the whole game or competition.

The fourth technique should have athletes predicting what will happen. They should be imaging the worst things that can happen, whether it is dribbling a ball off of a foot or missing a clutch shot. Then, have athletes analyze the incident and mentally fix the mistake. When athletes make mistakes, they tend to try hard not to make them again. If athletes can correct those mistakes in a mental imagery session, they will be more prepared the next time the mistake might happen (Munroe, et al., 2000).

The fifth technique involves practicing good form. When a task or skill has been perfected by athletes they should still mentally practice the skill. The final technique is to get athletes "psyched up" (Syer & Connelly, 1984). The best thing for athletes is to relax and think positive thoughts. If athletes are certain that they have physically and mentally practiced for an opponent, they can be victorious. Athletes should always be thinking

positively. If a negative thought comes in their mind, have them immediately think of a positive thought. Then athletes should use self-talk statements such as, "I can and will do it," I have trained my body and mind to succeed," and "whether I win or lose, I will be a better and stronger person" (Sheikh & Korn, 1994).

Learning how to use imagery is a big step for an athlete. Athletes must know the content they want to image, the timing, and their place of actual competition. In order for imagery to be successful, athletes need to learn to be fully relaxed and predict what their opponent will do. And then they must practice good form in their imagery section. Now, athletes must learn how to perform imagery to increase performance.

How to Perform Imagery

Athletes have to devote time to learning physical skills, so they should devote anywhere from 5 to 15 minutes a day for imagery. The first step in using imagery is to find a quiet place within a controlled environment, free from any distractions. Athletes may turn down lights, sit down in a chair or find a comfortable place to lie down (Singer, 1982). It is best to sit or lay down because athletes will be able to take off all pressure on ankles, knees, and their back. The next step is to close their eyes and clear their minds of any distractions. The biggest step in using imagery is relaxation (Sheikh & Korn, 1994).

First, have athletes loosen all of their tight clothing and remove their shoes. Next, instruct them to sit or lie down and if they are lying down, have them put a pillow underneath their head. If they are lying down, direct them to lie flat, and have their feet about shoulder width apart with their arms to their side (Sugarman, 1999). Athletes should let their body go as limp as it can from head to toe (Sheikh & Korn, 1994).

The final step to getting a full, relaxed body is to have all the muscles "get loose." Several techniques can be used to help athletes relax. To do this with athletes' legs, have them flex their left leg by raising it 6 – 10 inches off of the floor or bench, pointing their toes back to their head and having them feel the tension in their leg. Have athletes do this exercise for about 10 seconds, before letting the leg drop (Singer, 1982). Allow the athletes to rest the leg for about another 10 seconds and then repeat the process. After about 2-3 times performing this process, have athletes repeat it with their right leg. The same process of tightening your muscles and letting them rest can be done with your buttocks, thighs, and the stomach. The same relaxation techniques can be used for the upper body, dividing the upper body into the back and neck, spine, arms and shoulders, and then the face and jaw.

While athletes perform these relaxation techniques, they need to be reminded of breathing. Breathing is an important factor in getting athletes totally relaxed for their imagery session (Sugarman, 1999). When athletes inhale, they should inhale deeply and slowly. Have them fill their chest with air while counting up to four seconds. After athletes have inhaled fully, direct them to hold their breath for a four count before exhaling slowly through the mouth. When they have exhaled as much air as they can, they should start feeling a sense of relaxation. The breathing exercise can be repeated several times depending on the individual (Tremayne, 1989).

When athletes have found a quiet place and are fully relaxed, the next step in using imagery is seeing themselves performing or practicing a skill. Athletes need to image themselves in a room or gym as if they were actually in that environment (Brown

& Burke, 2000). They should be able to see the color of the walls, hear the ball bounce on the floor, and notice the smell in the air. Athletes should then image themselves performing a skill at which they are proficient. For example, they should be able to feel the muscles in their arms, the sweat on their face, and the ball in their hands. Tell athletes that the image should continue to get more clear and realistic. If the image fades in and out, athletes should not worry. Athletes should then focus on positive images and emotions, noticing how they are feeling when the ball goes through the hoop or into the back of the net. Once athletes have imaged skills that they can perform, move on to new skills and then to competitive situations. Athletes should image each skill for about 15 to 20 seconds. After about 5 to 15 minutes of an imagery session, athletes should be able to open their eyes, stretch, and continue to work on their physical performance (Buckles, 2003).

Relaxation is an important part of successfully using imagery. Using the muscle tightening exercise can help the athlete release any tension that might be involved. Athletes must also know that they must breathe in and out during their imagery time. The next section will tell athletes when the best time to start using imagery for themselves.

When to Start Using Imagery

There are four phases involved when an athlete wants to start using imagery. The first phase involves the coaches, teachers, and parents selling the idea to the athletes. These people must stress that imagery can help each athlete's performance. They can use professional athletes, such as Michael Jordan. For example, Michael Jordan once said,

> "I visualized where I wanted to be, what kind of player I wanted to become. I knew exactly where I wanted to go and I focused on getting there." (Buckles, 2003, page 2).

Coaches can "reel athletes in" by getting them to reflect on a negative performance and tell them that by using imagery, they can decrease the chance they will not go through that experience again. They can also tell athletes how famous athletes use imagery and show them support for how imagery has helped elite athletes perform better (Richardson, & Latuda, 1995). Finally, coaches can give a brief explanation on how it works and how they can implement it into their practice routine.

The next phase would be to evaluate the athlete's imagery abilities. Coaches can ask athletes how they use imagery and have them describe the image. Athletes will go through basic training exercises, which is the next phase of an imagery program. Athletes need to develop a foundation and then find out what they need to work (Richardson, & Latuda, 1995). Athletes need to get proficient in the three properties of imagery as discussed before: vivid images, controllability, and the including exactness of reference. The last phase is implementing a systematic program. After basic training, athletes should be more able to perform imagery. They should be ready to start an imagery program, which should be incorporated into their daily physical training. Make sure the program fits the athlete needs. The program should not be long, athletes should imagine skills that they can already perform. When they become more proficient and are accepting of the imagery program, they can then increase the variety of the program (Vealey & Greenleaf, 1998).

Empirical Findings

Much research has been done over the years to show that mental imagery has been successful in helping athletes increase their performance. Fisher (1997) explored the influence of imagery on shooting and overall performance with a sample of junior high school female basketball players. The girls were taught mental imagery techniques to improve their overall shooting performance, and over 94% of all who participated in the event, reported improvement in their overall performance of shooting basketball. Other such studies have shown that imagery not only has positive effects in basketball, but also in soccer, hockey, diving, and muscular endurance tasks (Burke, Szabo, & Guidone, 2001).

Other research has been aimed at finding which function of imagery is most effective or used most during imagery sessions. Cumming & Hall (2002) found that among 36 female athletes, motivational general–mastery imagery was used the most, followed by motivational general–arousal, motivational specific, cognitive specific, and cognitive general. Finally, other studies examined track and field athletes and rock climbers. With a sample of 86 athletes, the results showed that climbers used more motivational specific imagery while track and field athletes used more motivational general – arousal and motivational general – mastery (Boyd & Munroe, 2002). Several studies have shown similar findings concerning the when and the why of imagery and competition (Barr & Hall, 1992; Beauchamp, Bray, & Albinson, 2002; Munroe, et. al., 2000). Their findings concluded that athletes used imagery prior to competition more than any other time and used imagery more for self-efficacy. Not only can imagery

improve skills or performance, imagery can also be used to help athletes during injury rehabilitation. Sordoni, Hall, & Forwell (2000) concluded that imagery during rehabilitation can improve motivation and help the athletes return to play faster. They also concluded that the athletes do not use imagery as much during rehabilitation as compared to competition.

Summary

Based on the findings, imagery seems to be promising and beneficial. If athletes use mental imagery, they should receive several beneficial effects that can lead to performance enhancement. Although imagery is not as beneficial as physical practice, imagery is better than no practice at all. Using imagery can benefit athletes who want to improve at their performance whether that person is an elite– or non–elite athlete. Not only can imagery improve specific motor skills and performance, it can also enhance motivation, mental toughness, and confidence to elevate an athlete's play.

The literature review examined the categories, theories, and the elements of imagery along with how to use imagery, when to use imagery, and when to incorporate imagery into your daily routine. The literature to date suggests that imagery will positively affect the athletes through performance enhancement.

Mental imagery can be practiced anywhere and just about anytime. Imagery is mastered through constant use and is only limited by the athlete's imagination. Being mentally prepared can successfully help athletes perform through adversity, and can help them stay focused during important parts of the game or activity. Many players and coaches are starting to say that the game is "90% mental and 10% physical." Nonetheless, the use of imagery can enhance athletes' understanding of the role the mind plays in physical activities, speaking to the question laid out "who is playing the game, the mind or body?"

CHAPTER 2

IMAGERY PROGRAM

October 1st (31 days prior to season opener) Monday

Imagery training in a classroom (1 hour)

All athletes will meet in a regular classroom

"Reel them in:"

Have the students relax and imagine they are holding a juicy yellow lemon from an internal perspective. Feel the coolness, its texture, and its weight in their hand. Imagine cutting it in half and squeezing the juice of one half into a glass. Perhaps some pulp and a seed or two drop into the glass. Imagine raising the glass to their lips and taking a good mouthful of the tart juice. Swish it around in your mouth, taste its sourness, and swallow.

Ask them these questions:

Did they salivate?

Did they pucker their lips or make a sour face?

Did they get thirsty?

Introduce imagery

- Definition
- Value and benefits

Go over schedule

Go over all rules of the research project

Go over rules of the journal

Have athletes answer Individual Imagery Program Questionnaire

October 2nd Tuesday

Classroom Instruction (1 hour)

- Where you can image
  - Suggestions on the best place to perform imagery
- When you can image
  - Before, during, or after practice/game
- Discuss and explain Internal and External Imagery
- What you can image
  - Five different types of imagery
    - Cognitive General
      - Perfecting Strategies
    - Cognitive Specific
      - Perfect Skills
    - Motivational General-Mastery
      - Help successfully deal with difficult situations
    - Motivation General-Arousal
      - Regulate their energy and anxiety levels
    - Motivational Specific

- Help stay motivated

- How you can image

***** Relaxation Techniques**

- Clenching and then relaxing
- Breathing

October 3rd Wednesday

Classroom Instruction and Practice (30 minutes)

Working on External Imagery

- Have athletes visualize a certain place.

Have athletes see themselves in a special place. This place can be real or make believe. This place can be in nature or in their home, it doesn't matter. Make sure the athletes stay in one place. The only thing that matters is that they are in a safe place, one in which they feel comfortable in. Have them appreciate their scene with all of their senses. Hear the sounds, smell the aromas, feel the air as it caresses your skin, and feel the ground underneath you.

Notice what you have on your feet.

What time of year is it and what time of day is it?

Are you alone or with other people?

Notice the colors around you.

What is the temperature?

Now notice anything around you that would make this place more distinguished.

Finally, notice how your body feels in this place, now take some time to enjoy this feeling.

- Have athletes journal and answer these questions:

1. How vivid you saw the image
2. How clearly you heard the sounds
3. How vividly you felt your body move (if you were moving)
4. How was your mood
5. How well could you see yourself from outside of your body
6. How well could you control the image

October 4th Thursday

Classroom Instruction and Practice (30 minutes)

Working on Internal Imagery

- Have athletes visualize a basketball in their hands while in the gym

See the color of the basketball

See the word Spalding on the basketball

Feel the texture and the panels

What smells are in the air?

Can you hear the buzzing of the lights in the gym?

- Have athletes journal and answer these questions:

1. How vivid you saw the image
2. How clearly you heard the sounds
3. How vividly you felt your body move (if you were moving)
4. How was your mood
5. How well could you see yourself from inside of your body
6. How well could you control the image

October 5th Friday

Classroom Instruction and Practice (30 minutes)

Working on External Imagery

Have athletes visualize themselves running on a track

See the stadium

See the color of the track

See the lines and the numbers on the track

What are you wearing?

What is the weather like?

What sounds are you hearing while you are watching yourself run?

Can you smell anything?

- Have athletes journal and answer these questions:

1. How vivid you saw the image
2. How clearly you heard the sounds
3. How vividly you felt your body move (if you were moving)
4. How was your mood
5. How well could you see yourself from outside of your body
6. How well could you control the image

October 6th Saturday

Practice – Internal Imagery (15 minutes)

All athletes need to image for 15 minutes and journal their experience

- Athletes must visualize their own gym internally

October 7th Sunday

Practice – External Imagery (15 minutes)

All athletes need to image for 15 minutes and journal their experience

- Athletes must visualize their own gym externally

October 8th (24 days until first day of practice) Monday

Classroom Instruction and Practice (30 minutes)

Working on Internal Imagery

- Have athletes visualize a basketball in their hands while in the gym

Start out with the ball being brown

Change the color to green

Now switch back to brown

Change the color to black

Make the ball smaller
Change the ball into a volleyball
Feel the difference in texture and weight between a basketball and volleyball
- Have athletes journal on their experience

October 9th Tuesday

Classroom Instruction and Practice (30 minutes)

Working on Internal Imagery
- Have athletes visualize a basketball in their hands while in the gym
Feel the bumps on the basketball
Make the bumps on the ball bigger and feel the difference
Feel the panels on the ball
Have the panels run from front to back rather than from side to side
Change the ball into a smooth texture
- Have athletes journal on their experience

October 10th Wednesday

Practice (15 minutes)

Working on Internal Imagery for 15 minutes
Athletes should visualize an object on their own
It can be any object they want
They must visualize this object internally
They must change the objects color and texture
- Have athletes journal on their experience

October 11th Thursday

Classroom Instruction and Practice (30 minutes)

Working on External Imagery
- Have athletes visualize a basketball in their hands while standing in the gym and seeing themselves from the front
Change the basketball into a football
Bend your knees into a triple threat position
Jump up and down three times
Stand straight up
Lift your right leg and stand on one foot
Put that leg down and stand on the other foot
- Have athletes journal on their experience

October 12th Friday

Classroom Instruction and Practice (30 minutes)

Working on External Imagery
- Have athletes visualize a basketball in their hands while standing in the gym and seeing themselves from the side

Change your clothing and put on a suit
Change the style of your hair
Change the color of your hair
Go down on your right knee
Stand up
Go down on your left knee
Stand up
- Have athletes journal on their experience

October 13th Saturday

Practice (15 minutes)

Working on External Imagery for 15 minutes
- Have athletes visualize themselves performing a basic skill in basketball such as dribbling, passing, or defensive maneuver from the front

Notice how their knees are bent
Notice wear their arms are at
Notice what they are wearing
See perfect form
- Have athletes journal on their experience

October 14th Sunday

Practice (15 minutes)

Working on External Imagery for 15 minutes
- Have athletes visualize themselves performing a basic skill in basketball such as dribbling, passing, or defensive maneuver from their dominant side

Notice how their knees are bent
Notice wear their arms are at
Notice what they are wearing
See perfect form
- Have athletes journal on their experience

October 15th (17 days until first day of season) Monday

Classroom Instruction and Practice (30 minutes)

Working on Internal Imagery
- Athletes will be visualizing shooting form from the free throw line
- Make sure athletes go at game speed

Feel the ball in their hands
Feel how your knees are bent
Feel the tension in your arms
See the backboard and what's behind it
Feel the sweat rolling off of your head
See the rim and the white net

Move the ball up to your forehead and jump straight up
At the top of the jump, feel your arm extend
Feel the ball leave your hands
See the rotation of the basketball in the air
See the ball go through the hoop without touching the rim
- Have athletes journal on their experience

October 16th Tuesday

Classroom Instruction and Practice (15 minutes)

Working on External Imagery
- Athletes will be visualizing shooting form from the free throw line from their dominant side
- Make sure athletes go at game speed

See the ball in their hands
See how their knees are bent
See the tension in your arms
See the gym and where they are standing
See the sweat rolling off of your head
See yourself moving the ball up to their forehead and jumping straight up
At the top of the jump, see your arms extended
See the ball leave your hands
See the rotation of the basketball in the air
See the ball go through the hoop without touching the rim
- Have athletes journal on their experience

October 17th Wednesday

Practice (15 minutes)

- Athletes may choose which type of imagery they will use for their practice session
- Athletes must visualize the same shot as practiced yesterday
- Make sure athletes go at game speed
- Have athletes journal on their experience

October 18th Thursday

Classroom Instruction and Practice (30 minutes)

Working on Internal Imagery
Athletes will be visualizing shooting form from the free throw line with a defender in front of them
- Make sure athletes go at game speed

Feel the ball in their hands
Feel how your knees are bent
Feel the tension in your arms
See the backboard and what's behind it
See the defender in front of you

Notice what they are wearing
See the expression on their face
See the sweat rolling down their face
Notice wear their arms are at
Feel the sweat rolling off of your head
See the rim and the white net
Move the ball up to your forehead and jump straight up
At the top of the jump, feel your arm extend
Feel the ball leave your hands
See the rotation of the basketball in the air
See the ball go through the hoop without touching the rim
- Have athletes journal on their experience

October 19th Friday

Classroom Instruction and Practice (15 minutes)

Working on External Imagery
- Athletes will be visualizing shooting form from the free throw line from their dominant side with a defender in front of them
- Make sure athletes go at game speed

See the ball in their hands
See how their knees are bent
See the tension in your arms
See the gym and where they are standing
Notice wear the defender is positioned
Notice what they are wearing
See the position of the defenders feet
See the position of the defenders hands
See the sweat rolling off of your head
See yourself moving the ball up to their forehead and jumping straight up
At the top of the jump, see your arms extended
Notice the defender putting a hand in your face
See the ball leave your hands
See the rotation of the basketball in the air
See the ball go through the hoop without touching the rim
- Have athletes journal on their experience

October 20th Saturday

Practice (15 minutes)

- Athletes may choose which type of imagery they will use for their practice session
- Athletes may visualize an advanced skill such as shooting a three pointer, shooting a free throw, or playing defense against an opponent
- Make sure athletes go at game speed
- Have athletes journal on their experience

October 21st Sunday

Practice (15 minutes)

- Athletes may choose which type of imagery they will use for their practice session
- Athletes may visualize an advanced skill such as shooting a three pointer, shooting a free throw, or playing defense against an opponent
- Make sure athletes go at game speed
- Have athletes journal on their experience

October 22nd (10 days until 1st day of season) Monday

Classroom Instruction and Practice (30 minutes)

Working on Internal Imagery

- Athletes will visualize themselves running a set play with their teammates
- They should feel themselves moving and cutting
- They should see their teammates moving and cutting
- They should be able to feel all senses and hear everything while imaging
- Have athletes journal on their experience

October 23rd (9 days until 1st day of season) Tuesday

Classroom Instruction and Practice (30 minutes)

Working on External Imagery

- Athletes will visualize themselves running a set play with their teammates
- They will see themselves moving and cutting
- They will see their teammates moving and cutting
- They should be able to hear everything while the play is being executed
- Have athletes journal on their experience

October 24th (8 days until 1st day of season) Wednesday

Provide Tips on Imagery Rehabilitation Programs (1 hour)

Inform students to have an understanding of the place of injury (tendons, ligaments, bones, muscles, etc.)

Athletes should then have an understanding of the rehabilitation process

Athletes should then start to visualize the injury starting to heal and see themselves slowly getting back into their sport

October 25th (7 days until 1st day of season) Thursday

Classroom Meeting (1 hour)

Have all athletes meet in a classroom and collect journals

Discuss and questions or concern athletes may have

Have athletes answer Individual Imagery Program Questionnaire

Individual Imagery Program **(Williams, 1998)**

1. Education about imagery. Teaching the athletes to know more about it and have them understand and know how to use it.

2. Evaluating the athlete's ability to use imagery using the evaluation below:

Answer items a – f:

1 = no image present
2 = not clear or vivid, but can recognize an image
3 = moderately clear image
4 = clear and vivid image
5 = extremely clear image

Answer item g:

1 = no control of image
2 = hard to control image
3 = had some control of image
4 = good control of image
5 = complete control of the image

a. How vivid did you see or visualize the image.
b. How clear did you hear the sounds.
c. How vivid did you feel your body move during your session.
d. How clear were your emotions of your situation.
e. Could you see the image from inside your body.
f. Could you see the image from outside your body.
g. How much control did you have of your image.

3. Basic Training for the remainder of the first week.
   This should include practicing all phases of imagery and working on all weaknesses.

4. Imagery sessions for the second week.
   a. Relaxation imagery
   b. Imagine simple sport skills that they can perform perfectly
   c. Imagine advanced sport skills
   d. Imagine strategies for the individual
   e. Re – create a successful shoot – around
   f. Goal programming for future success

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