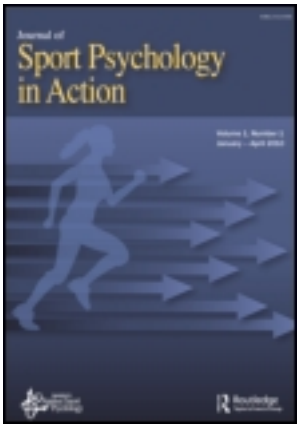

Journal of Sport Psychology in Action
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/uspa20

Applied Attention-Related Strategies for Coaches

David M. Cutton [a] & Christopher M. Hearon [a]
[a] Department of Health & Kinesiology, Texas A&M University-Kingsville, Kingsville, Texas, USA
Published online: 13 Mar 2013.

To cite this article: David M. Cutton & Christopher M. Hearon (2013) Applied Attention-Related Strategies for Coaches, Journal of Sport Psychology in Action, 4:1, 5-13, DOI: 10.1080/21520704.2012.675623

To link to this article: http://dx.doi.org/10.1080/21520704.2012.675623

Journal of Sport Psychology in Action, 4:5–13, 2013

ISSN: 2152-0704 print / 2152-0712 online
DOI: 10.1080/21520704.2012.675623

Routledge
Taylor & Francis Group

ARTICLES

Applied Attention-Related Strategies for Coaches

DAVID M. CUTTON and CHRISTOPHER M. HEARON
Department of Health & Kinesiology, Texas A&M University-Kingsville, Kingsville, Texas, USA

The concept of understanding attention and its importance to learning and performance has been established in the literature and on the playing field. The identification and application of key attention-related concepts that are useful to athletes can emphasize the following theoretical concepts: (a) attentional focus, (b) arousal, (c) self-talk, and (d) range of motion restriction. The applications of specific strategies (including how to design your own self-talk) that target the aforementioned concepts to improve performance are explained through examples of activities or scenarios appropriate for coaches. Additionally, this manuscript provides suggestions that will improve performance by enhancing an athlete's attentional skills.

KEYWORDS *arousal, range of motion, self-talk*

The importance of attention to the motor-skill learning process is well known (Kahneman, 1973; Magill, 2011; Schmidt & Lee, 2011; Whiting, 1972). Attention can negatively or positively affect our performance, depending upon if performers effectively and selectively use their attention-related resources. The successful learning and performance of motor skills may depend upon (a) selectively attending to the relevant sport-task information (Singer, DeFrancesco, & Randall, 1989), or (b) controlling the selection of the appropriate movement responses based upon sport-task demands (Gentile, 1972). Many attention-related theoretical concepts (AC) have been explored in the motor-learning and sport psychology literature. The following four AC's have

Address correspondence to David M. Cutton, MSC 198, 700 University Blvd., Department of Health & Kinesiology, Texas A&M University-Kingsville, Kingsville, TX 78363. E-mail: david.cutton@tamuk.edu

been highlighted in the attention research for many years: (a) attentional focus (Magill, 2011; Whiting, 1972), (b) arousal (Magill, 2011), (c) instructional self-talk (ST) (Hardy, 2006), and (d) range of motion restriction (RMR). This article will briefly explain each AC, then supply examples or scenarios in order to help coaches apply these concepts in their work with athletes. Following each description of an AC, a scenario or activity strategy example will be provided.

ATTENTIONAL FOCUS

Attentional capacity refers to our limited capability to use our attention resources wisely, whereby the attention required does not exceed our capability to concentrate effectively (Magill, 2011; Schmidt & Lee, 2011). Too often we use our available capacity to attend to negative thoughts, distractions, or irrelevant sources of information. For many years, we have known that learning to efficiently use our available attentional resources is paramount to our success (Kahneman, 1973). Similarly, attentional focus addresses the strategies for directing our attention to valuable internal (e.g., movements, or what is the next "play" by the athlete's team) and external (e.g., what the opposing team is doing or where the "ball" is) sources of information or stimuli (Nideffer, 1993; Whiting, 1972). There are many sources of information to which we may attend, and deciding on what to focus our attention, and when, is critical to successful performance. Thus, saving our attentional resources or capacity for important and critical sources of information is paramount. Additionally, with practice, advanced athletes are eventually able to meet the demands by automatically processing several sources of task information without apparently using attentional resources (Abernethy, 2001).

Attentional Focus for Exercise and Training

Players must be able to know what to focus their attention towards, internally and externally. Optimally, performers are able to be flexible in where to focus their attention (e.g., two or more stimuli at the same time, what to focus on next, or ignore what now is not important). For all performers, especially the novice, it is difficult to focus on too many components of a motor skill and its immediate environment. Focusing on a specific portion of the motor skill (i.e., internal stimuli)—such as focusing on weightlifting technique (Marchant, Greig, & Scott, 2008), or runners focusing on hand relaxation or arms not crossing midline—is an effective technique strategy. However, for some sports skills (i.e., targeting tasks), findings suggest that the performer should focus on the task's external stimuli, such as the ball (Wulf, McConnel, Gartner, & Schwarz, 2002). Additionally, results from Cutton and Landin (2007) have indicated that a focus on both internal and external

stimuli would help to improve the performance of beginners. Thus, the skill level of the athlete and the type of skill being performed are important considerations. An effective coach can help to simplify the task for the performer by helping him ore her to decide what is most important on which to focus at a particular time. First, the coach needs to decide what skill technique components are most important to the performance of the skill (i.e., internal) for an individual athlete, or decide what external stimuli pertaining to the skill (e.g., the ball or a teammate's location) are most critical to an effective performance. Subsequently, the coach instructs the athlete to focus on what is most important. Finally, the coach addresses the next most important aspect of the skill (internal or external) by instructing the athlete where to next focus his or her attention. This process may continue until the coach and athlete are satisfied with the performance. Additionally, a player may execute many errors at the same time, and a coach can help him or her to prioritize what is most important, thereby, helping the performer to focus on what is most important. For example, keeping one's "eye on the ball" is a priority for baseball or tennis players. Sometimes, players get distracted and focus their attention elsewhere, near or at the moment of contact. Next, two sports-specific scenario examples are presented.

Quarterback

Two examples that can consume the quarterback's attentional capacity, thus not leaving much capacity or time to focus on what may be most important are: (a) quarterbacks have many important sources of information or stimuli available to them, and they may all be present simultaneously; and (b) quarterbacks must be aware of many stimuli, such as: their teammates, opponents, and sometimes their coaches. Coaches can teach their athletes to know when and where to wisely allocate their attention towards the most critical information. This can be the difference between winning and losing. Coaches may suggest a proper progression of when and towards what players should focus their attention, thereby making effective use of their attentional capacity while watching game film. The coach can also follow up on this during live practice. For example, quarterback coaches could teach the proper "reads" to make concerning the American football safety's position on the field at the start of a play. The safety's position may be an indication of the type of defense against which he or she is playing.

Basketball point guard

The point guard, similar to the quarterback, must be aware of what to devote attention towards, and how much attention to devote to important sources of information. For example, a point guard can quickly become overwhelmed by what is happening defensively and/or offensively, and in the meantime forget that he or she has no "timeouts." Coaches can help their athletes

use their capacity wisely, in order to achieve success. Coaches are aware of the capabilities of their players, thereby, having insight into how much incoming information each of their players can manage. During practice, a coach can measure how much their player can cope with by progressively adding more details on which they must focus (internally and externally). The player must know and understand what the offensive play is going to be (internal), but also be able to quickly spot changes by the defense during the play (external). If the player is advanced (or improves by practicing their efficient search for the necessary information), they will be able to focus on the important internal and external details (i.e., relevant cues), and be able to overlook or ignore details that are not critical during a particular play (Abernethy, 2001; Magill, 2011). Coaches could specifically record, during practice and game situations, where the errors were made. For example, if internal errors are made by the athlete, perhaps simplify the play, or work on making a play easier for the player to understand. If external errors are found, possibly work more in practice on recognizing defensive changes with the scout or practice team, and then discuss their progress during physical practice and/or film study.

AROUSAL

Our arousal level can positively or negatively affect our attentional resources. Players may even narrow their focus of attention. Research suggests that anxious performers may be not be aware of the important information (i.e., relevant cues) available to them while performing a variety of sports (Janelle, 2002; Janelle, Singer, & Williams, 1999). An increased arousal may lead to a narrowing of focus (e.g., quarterbacks only looking where their pass will be going), thereby missing important details in the environment (e.g., where the defenders are located). However, it is very individual and unique concerning the player's perception of the situation surrounding their performance (e.g., the excitability level of the person's psychological and physiological aspects; Magill, 2011). Performers each have their own optimal level of arousal (e.g., psychological or excited, and physiological or fast heart rate) in order to function most effectively (Hagtvet & Hanin, 2007), and it is vital for the coach to help the player determine this level in order to enhance performance. A coach should also help a performer be aware of, and effectively deal with, loud and distracting noises and how they may affect performance. Typically, coaches occasionally may make practices very noisy, to simulate what may be experienced in the game situation.

Embrace the Arousal

The crowd, teammates, or opponents, are all examples of sources of noise. Being able to devote attention towards what is important may be difficult if

a performer is distracted, unnerved, or besieged. Coaches need to determine how to get their athletes to not be overwhelmed by the noise and chaos, but instead embrace the stress of the situation. It is important to recognize your athlete's own zone of optimal functioning (Hagtvet & Hanin, 2007). Some performers enjoy and embrace boisterous environments; others must be supported and reassured before they can perform optimally. Coaches or teachers can create during drills the similar noises, sounds, and stressors present during a scrimmage or game situation. For example, adding crowd noises with speakers during practice drills and scrimmages allows coaches and players to learn to be able to communicate and function effectively later in a noisy game situation. Also, taking note of how your players react during this situation is important. If the players appear more focused or if they appear to now be confused during a noisy practice, this is something that the coach can address. If the player is more focused, the coach may thus have some insight into what players he or she may want to run the team in a stressful and noisy situation. If the player is now confused, the coach may simplify (a) the signals to the players, (b) the play, or (c) parts of the play in order for the player to appropriately handle the increasingly aroused situation.

INSTRUCTIONAL SELF-TALK

Self-talk (ST) has been described as: words, phrases, or cues that represent understandable concepts to the performer, and they are typically, instructional or motivational in nature (Hardy, 2006). Research has revealed its impact on elite performers as well as beginners (Tod, Hardy, & Oliver, 2011). Performers can effectively focus their attention by using ST cues before, during, or after a performance to instruct themselves in the correct technique or stimulus (Cutton & Landin, 2007; Landin, 1994; Tod et al., 2011). Furthermore, Landin (1994) recommends that ST can also redirect an athlete's attention to what is important. Three cue activity examples follow.

Self-Talk Cue Activity #1: "Push, Point, Hit"

"Push, point, hit," is an example of a series of verbal cues that may be able to elicit the timing and execution of the appropriate movement pattern for serving a tennis ball. If the cue words are recited at the appropriate time and during the proper order and execution of movements, they may cue the performer to know what and when to perform particular movements. "Push" is designed to help the player to softly release their toss into the air. "Point" is intended to encourage the performer to point at the ball with their hand, and thereby extending their arm. This allows the player to take advantage of a full extension, and help in locating the ball toss. In order to encourage effective eye focus at the moment of contact with the ball, "Hit" is stated at

the moment of contact. A similar progression and cues could also be used for executing the jump serve in volleyball.

Self-Talk Cue Activity #2: "Sweep the Dishes off the Table"

"Sweep the dishes off the table," is an example of a cue phrase that may help a performer to get the sense of how the tennis forehand movement should be performed. Even for a beginner, they are usually aware of what it may be like to sweep a set of dishes off a table, thereby, being able to more quickly understand how a tennis forehand should be effectively executed. This may also encourage the player to keep their wrist firm during the stroke.

Self-Talk Cue Activity #3: Cue Design

Designing a series of cues should be the objective for most coaches. The first step is to examine the components of the activity that are to be performed (e.g., ready position, wind-up or backswing, contact, and follow-through). Secondly, simplify each component so that it is condensed down to one or two words, as discussed previously (i.e., words that also have meaning to the player). Advanced performers may use cues that are also one, two, or three words, but each word or words may encompass more than one technique component of the activity. For example, the cue word "recover" may encourage a player to move back to a desired location on the tennis or racquetball court, while also getting into the appropriate ready position. Additionally, the cue word "ball" may indicate to the batter when and where it is appropriate to try to focus on the ball and the type of pitch, during a pitcher's release and throw. The number of components or cue words used, and where to focus attention, depends upon the needs of the athlete.

RANGE-OF-MOTION RESTRICTION

Finally, range-of-motion restriction (RMR) pertains to a strategy that allows us to limit the range of motion of particular components of a motor skill or activity, so that we may devote more attention to other components. Many beginners will limit their range of motion involuntarily (Magill, 2011). However, many performers can benefit from voluntarily controlling or freezing portions of their actions until they are eventually able to optimally perform all of the movements required by a task (Anderson & Sidaway, 1994; Southard & Higgins, 1987). Athletes may be able to eventually, by unfreezing their joints, now increase their previous movement velocity from what it was before the RMR strategy was employed. First, decide which skill components can be practiced separately. Second, determine which of these components are most critical to the performance of the skill. Finally, after working on each separate component allow time for the athlete to integrate all of the

components together. It is not uncommon for the performer to possibly still need more drilling and practice on separate components, even after they have learned how to integrate all of the components of the activity. Two activity examples follow.

Range-of-Motion Restriction Activity #1: Swimming

Floats used during swimming drills are an effective example of applying RMR theory. They allow the performer to focus on portions of the skill, while other parts of the skill are immobilized or "frozen" temporarily. For example, using a kickboard allows performers to focus their attention on their kick, while at the same time their upper body is supported and floating in the water. Additionally, a pull buoy may be used so that the swimmer can focus more on the upper body portion of their stroke.

Range-of-Motion Restriction Activity #2: Throwing and Diving

Throwing from the knees is another use of RMR theory; this allows the player to be able to focus attention on how the movement pattern should be executed while only using, and focusing on, the upper body. And, like other open skills where the environment is ever changing, the athlete will eventually be able to effectively, for example, execute this throw while on the move against a defense. Similarly, a diver using a harness to eliminate having to "finish" and so on, so that they can focus on the other parts of their dive or routine is very helpful. Being able to start and stop during different parts of a movement while in the harness will also improve their performance. Furthermore, a diver repeatedly only working on the finish into the water while on the harness will remove the need to perform the remainder of the dive leading up to this point. Examples from the coach based upon the needs of his or her performers are the goal. Using these strategies will effectively allow performers to start out by voluntarily restricting some of their range of motion in order to improve technique on a portion of a skill that needs to be learned. As a result, they will then eventually be encouraged and able to efficiently perform the entire movement together in the performance environment, once all of the parts of the skill are mastered.

CONCLUSION

The suggestions for coaches are as follows. First, examine each of these AC strategies and their particular activity examples. Then examine how they may apply to your situation (e.g., your athletes' developmental level and skill level), by affecting your players' use of attentional resources. The coach first needs to determine the age and skill-developmental level of the performer.

Younger performers, or athletes that are still acquiring the ability to perform fundamental skills, will need more time to digest the wealth of information available to them, and probably will need to perfect the fundamental skills before moving on to different combinations or specialized skills. Decide which concepts may be useful to you in your situation as a coach and teacher of your sport. Share your ideas for cues, drills, and the like that may best be implemented in cooperation with players, thus making the drills and attentional cues more meaningful to them. Discuss what needs they have that need to be met to improve their attention. Then, try to work with your athletes on terminology, techniques, and strategies to make best use of their attentional resources. Periodically, professionals can forget how overwhelmed performers can become during our practices or competitions. Helping learners to focus their attention wisely, and at the appropriate time, is key to enhancing their chances of being more successful, and having more fun.

REFERENCES

Abernethy, B. (2001). Attention. In R. N. Singer, H. A. Hausenblas, & C. M. Janelle (Eds.), *Handbook of sport psychology* (2nd ed., pp. 53–85). New York, NY: Wiley.

Anderson, D. I., & Sidaway, B. (1994). Coordination changes associated with practice of a soccer kick. *Research Quarterly for Exercise and Sport*, *65*, 93–99.

Cutton, D., & Landin, D. (2007). The effects of self-talk and augmented feedback on learning the tennis forehand. *Journal of Applied Sport Psychology*, *19*(3), 288–303.

Gentile, A. M. (1972). A working model of skill acquisition with application to teaching. *Quest*, *17*, 3–23.

Hagtvet, K. A. & Hanin, Y. L. (2007). Consistency of performance-related emotions in elite athletes: Generalizability theory applied to the IZOF model. *Psychology of Sport and Exercise*, *8*, 47–72.

Hardy, J. (2006). Speaking clearly: A critical review of the self-talk literature. *Psychology of Sport and Exercise*, *7*, 81–97.

Janelle, C. M. (2002). Anxiety, arousal and visual attention: A mechanistic account of performance variability. *Journal of Sports Sciences*, *20*, 237–251.

Janelle, C. M., Singer, R. N., & Williams, A. M. (1999). External distraction and attentional narrowing: Visual search evidence. *Journal of Sport & Exercise Psychology*, *21*(1), 70–91.

Kahneman, D. (1973). *Attention and effort*. Englewood Cliffs, NJ: Prentice-Hall.

Landin, D. (1994). The role of verbal cues in skill learning. *Quest*, *46*, 299–313.

Magill, R. A. (2011). *Motor learning and control: Concepts and applications* (9th ed.). New York, NY: McGraw-Hill.

Marchant, D., Greig, M., & Scott, C. (2008). Attentional focusing strategies influence muscle activity during isokinetic biceps curls. *Athletic Insight: The Online Journal of Sport Psychology*, *10*(2). Retrieved from http://www.athleticinsight.com/Vol10Iss2/MuscularActivity.htm

Nideffer, R. M. (1993). Attention control training. In R. N. Singer, M. Murphey, & L. K. Tennant (Eds.), *Handbook of research on sport psychology* (pp. 542–556). New York, NY: Macmillan.

Schmidt, R. A., & Lee, T. D. (2011). *Motor control and learning: A behavioral emphasis* (5th ed.). Champaign, IL: Human Kinetics.

Singer, R. N., DeFrancesco, C., & Randall, L. E. (1989). Effectiveness of a global learning strategy practiced in different contexts on primary and transfer self-paced motor tasks. *Journal of Sport & Exercise Psychology*, *11*, 290–303.

Southard, D., & Higgins, T. (1987). Changing movement patterns: Effects of demonstration and practice. *Research Quarterly for Exercise and Sport*, *58*, 77–80.

Tod, D., Hardy, J., & Oliver, E. (2011). Effects of self-talk: A systematic review. *Journal of Sport & Exercise Psychology*, *33*, 666–687.

Whiting, H. T. A. (1972). Overview of the skill learning process. *The Research Quarterly*, *43*(3), 266–294.

Wulf, G., McConnel, N., Gartner, M., & Schwarz, A. (2002). Enhancing the learning of sport skills through external-focus feedback. *Journal of Motor Behavior*, *34*, 171–182.