Coaching Critical Problem Solving: Developing the Full Athletic Potential

Dail (2014) defined metacognition as "the act of thinking about our own thinking" (p. 49), and Magill (2011) described metacognition as "what we know about what we know" (p. 380). Both refer to metacognition as that special quality of cognitive awareness in learning.

Dail (2014) noted that although metacognition is currently under-utilized as a teaching technique in physical education and coaching, there are ways to incorporate elements of metacognition to develop a well-rounded athlete that not only possesses skills but is also a critical thinker and problem-solver regarding their own athletic performance.

Incorporating metacognition into coaching does require a certain maturity and awareness within the athlete and thus, may not be suitable for very young children. Dail (2014) outlined three major phases (with multiple steps in each phase) of metacognition: forward planning, monitoring movement, and evaluation of performance.

In forward planning, the athlete contemplates the task and considers how best to accomplish it (Dail, 2014). The athlete may use a form of visualization to mentally work out task scenarios and answer questions like "If I did X, then Y would happen" (Dail, 2014). In this stage, Dail (2014) suggested that coaches can help athletes by mentally engaging the athlete in asking them what they think or know about the skill prior to formally presenting information (or demonstrating a technique). To follow up after a new skill is presented, it would be helpful for the coach to ask the athletes if they can make any connections with a previous skill they have already mastered (Dail, 2014). The analogy is constantly challenging the athletes to pay attention to the trees in the forest, but also be able to see the whole forest at the same time. Furthermore, asking the athletes how they think a skill should be correctly performed before feeding them the information also challenges them to actively mentally participate in the solution (Dail, 2014). Encouraging questions and answers is always helpful as well.

In the monitoring movement phase (second phase), the coach can give the information and/or demonstration and have the athletes practice. In order to incorporate the metacognitive element, the coach should ask the athlete to relate the practice back (Dail, 2014) to the first phase of forward planning and ask the athlete to evaluate and monitor their self-analysis or thinking prior to and during this phase for a comparison (compare their "hunches" before and after). Dail (2014) noted that the goal is to encourage the athlete to develop critical thinking and problem-solving abilities as well as skill acquisition. It is important for the athlete during the span of their career to be able to assess their performance and correct their own mistakes. Dail (2014) described this as "self-regulated learning" (p. 50).

The third phase, performance evaluation, involves coaching the athlete to be able to evaluate his/her performance (Dail, 2014). The amount of athlete involvement and engagement might be relative to the athlete's experience, but it would be valuable to encourage the athlete's participation in the process. Dail (2014) noted that this may not necessarily be a one-on-one experience. The coach could analyze the game and ask the team "why" questions as to why a play worked or why a defense did not work, etc.

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Metacognition seems to have value and whether in sports or life, critical thinking skills are always needed. While some individuals may naturally have more capacity for metacognition (some people are naturally more introspective), I believe using the coaching techniques outlined by Dail (2014), that everyone can always develop more thinking skills.

References

Dail, T. K. (2014). Metacognition and coaching: How to develop a thinking athlete. *JOPERD: The Journal Of Physical Education, Recreation & Dance*, *85*(5), 49-51.

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