

The Measurement of the Visual Search Behavior in Sport. Can It Be a New Avenue into Talent Identification and Development?

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ABSTRACT

Competitive sports like cricket, football, and tennis require the players to catch, intercept or return a fast moving ball. The key to such a successful action is to meet the ball precisely at the right place at the right time. This type of successful coordinated performance requires *skill in perception* as well as the efficient and accurate execution of movement patterns. Therefore, the contribution of visual information is equally important as the motor skill. In other words, skill in perception in conjunction with an efficient execution of movement patterns is paramount. In the last decade, several researchers examined the skill of perception extensively. Common method in such experiments is to ask participants to predict the end result of video clips showing more or less predictive information from the opponent's body or the ball's flight path. Their findings show that experts have superior anticipatory skills compared to novices (e.g. Savelsbergh et al., 2002). In fact, research shows that an important difference between experts and novices appears to be the capability to pick up advance information from some visual sources (Abernethy & Russell, 1987; Savelsbergh et al., 2002, 2005). For instance,

with respect to football, players have developed an extensive football-specific knowledge base that enables them to recognize meaningful associations between the positions and movements of players in game situations (Savelsbergh et al., 2006; Williams et al., 1994). In other words, not so much the visual search strategy itself, but how the expert athlete can make use of this information is essential (Savelsbergh et al., 2006). In the presentation the registration of gaze behaviour (visual information) and movement behaviour in several different sports on the court or field will be used to illustrate that experts are superior to novices because they much better in "reading the game". Since experts and novices do differ in visual search strategies they employ, it has been assumed that experts have developed an ability to recognize advanced visual cues to 'buy' time, i.e. they are better anticipating future events. The important question is: can we use visual search strategies as an indicator for talent? In addition, ideas about visual attention training, that is, special practice to speed up the visual earning process of talented players will be discussed.

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