Sport Science

Coaching through the lens of predictive processing.

Abstract

The neuroscience-based predictive processing framework, which aims to explain how people function and navigate in dynamic environments, has become an increasingly popular account for understanding many aspects of human functioning (e.g., learning, emotion, and decision making). Correspondingly, interest among researchers and practitioners in what the framework might offer for explaining and enhancing sport performance has been steadily increasing over recent years. However, coming to grips with the predictive processing framework and how to apply the principles to develop sporting skills turns out to be a rather complicated and challenging endeavour. In this presentation, Andrew intends to help researchers and practitioners (i) come to grips with the predictive processing framework and (ii) understand how to apply predictive processing principles to develop sporting skills. In support of these objectives, the presentation begins with a brief introduction to the predictive processing framework, outlining the common research approaches, underpinning principles, and potential downsides of the predictive brain. Next,

the presentation extends the predictive processing framework to outline an applied model for integrating predictive processing principles into one’s coaching practice.

Andrew Kennedy

Biography

Andrew Kennedy is a performance psychologist and researcher with The Centre for Predictive Processing in Sports. Since completing his PhD in sports coaching at The University of Queensland in 2024, Andrew's academic interests have broadly focused on understanding how athletes and coaches function to optimise outcomes in dynamic sporting environments. This interest has led Andrew to his current research, which aims to translate predictive processing theory and evidence for use in sporting contexts, with a particular focus on developing an applied sports coaching model.