

Skill Acquisition Theme Visiting Researcher Seminar

**Research and Practice Design in Elite and Development Team Games Programmes**

**June 1<sup>st</sup>, 2017, 1-4pm: Room H1.48, Collegiate Crescent Campus**

**Presentation 1 (1-1.50pm):**

**Informational constraints and dynamics of interpersonal coordination in Rugby Union**

*Vanda Correia, School of Education and Communication, University of the Algarve and CIPER, Faculty of Human Movement Science, University of Lisboa, Portugal.*

This communication will embrace a collection of four studies developed within the framework of ecological dynamics investigating the constraints acting on decision making behaviours in the team sport of Rugby Union. In the first study we started by investigating the dynamics of interactions of players during performance. We identified in competitive games a variable that captures the collective actions of groups of players functioning as a social unit in gaining territory on field. Next we sought to understand the nature of the information sources used by players to guide performance in these matches. In more focused research we found out how time remaining until contact with a defender regulated the passing actions of ball-carriers. Considering that interpersonal coordination is highly dependent on local informational constraints, we then manipulated, *in situ*, task constraints. We observed that action paths undertaken by players involved a dynamic process guided by changes in information defined by the relative positioning between attackers and defenders. Finally, in collaboration with colleagues at the University of Belfast, we conducted a study using virtual reality technology that provided evidence that even participants without any experience of rugby could pick up and act upon information specifying action that unfolds from the opening of a defensive gap. Overall, this body of research contributed to understanding of key informational constraints and dynamics of interpersonal coordination in competitive rugby union.

**Presentation 2 (2-2.50pm):**

**The Environment Design Framework – Bridging the gap between theoretical understanding and practical application of a constraints-led approach**

*Danny Newcombe, Oxford Brookes University, Welsh Hockey Association and Southgate H.C.*

There is a need for more research examining the efficacy of constraints based interventions in sport training and practice. However, future research on the effectiveness of constraints-led pedagogies needs to include more robust practice environments that better represent the underpinning theories of ecological dynamics. Emphasising the need for guiding frameworks

to bridge the gap between the theoretical understanding and its practical application. These frameworks should act as guidance tools for practitioners and researchers to ensure they are designing environments consistent with the underpinning principles of ED. As CLA is based on an ecological dynamics theoretical rationale, the methodologies of the reviewed studies need to be assessed as embedded within that specific framework. This presentation will bring to life two guiding frameworks. Both the environment design framework (EDF) and the human movement framework (HMF) are designed to act as the bridge that enables the provision of effective learning environments. Facilitating the generation of practice environments that produce a positive, permanent change in human movement. A development that is most importantly transferable to the performance environment. The philosophical ideas of *forms of life, fields of affordances* (Rietveld and Kiverstein, 2014) and *optimal grip* (Bruineberg and Rietveld, 2014) underpin an affordance-driven approach. These will provide the theoretical lens through which the international field hockey case studies will be analysed and presented.

**Presentation 3 (3-3.50pm):**

**As many as possible, as long as possible in the best environment possible.**

*Mark O'Sullivan, AIK Football Club Stockholm, Coach & Coach Educator Sweden.*

This presentation addresses the challenge of presenting a Nonlinear Pedagogy and Constraints Led Approach in coach education or workshop form. The developmental environment of sport is ever changing. Our coaching methods, our curriculum and learning environment (The Learning Space) need to not only be adapted for the development of the individual over time but in some way, must respond to the ever-accelerating changes in our world, social structures and immediate environment. The questions examined in this presentation concerns how insights into the complex culture of child-youth sports in the 21<sup>st</sup> century can inform us as to how we create an environment at child youth level, which is central to developing an effective learning environment for: (i) As many as possible, as long as possible, and (ii), future high performance. Often it can be parent coaches or NGBs or very experienced coaches that are taking part in these workshops or coach education courses. Explaining the science requires skillful navigation around the key theoretical concepts, without confusing practitioners, for if we want to change a culture we need to change the language. But this cannot mean that we bombard coaches with terminology. We must present it in a way that is meaningful to them while at the same time preserving the integrity of the science. It can be argued that this is an important step in how to provide further insights to advancing the practical application of theoretical understanding and pedagogical guidelines for designing learning environments in children's football, while also acknowledging the value of integrating coaches' experiential knowledge with empirical knowledge.