

Institution: Cardiff Metropolitan University		
Unit of Assessment: UOA24: Sport and Exercise Sciences, Leisure and Tourism		
Title of case study: Developing high-quality professional practice: Transforming coach education and sport science support.		
Period when the underpinning research was undertaken: 2005 - 2017		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Prof Robyn Jones	Professor of Sport and Social Theory	2005 – present
Prof Gareth Irwin	Professor of Biomechanics	1998 – present
Prof Brendan Cropley	Professor of Sports Coaching	2010 – 2017
Prof Sheldon Hanton	Professor and Pro-Vice Chancellor (Research & Innovation)	1996 – present
Dr Kevin Morgan	Principal Lecturer in Sports Coaching	2000 - present
Period when the claimed impact occurred: August 2013 – December 2020		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact (indicative maximum 100 words)		
<p>Research undertaken at the Cardiff School of Sport and Health Sciences has consistently informed the development and education of coaches, academics, sport scientists and students, both nationally and internationally. This includes organisations such as the British Association of Sport and Exercise Sciences, the <i>Fédération Internationale de Gymnastique</i>, <i>Olympiatoppen</i> (the Norwegian Olympic and Paralympic Committee), and High Performance Sport New Zealand, in addition to national governing bodies such as the Football Association, British Gymnastics, the Welsh Rugby Union, the Football Association of Wales Trust, British Canoe Union, Swim Wales, Welsh Rowing, Volleyball Wales, Hockey Wales, and the Gaelic Athletic Association. The research also underpins extensive HEI subject provision both in the UK and internationally.</p>		
2. Underpinning research (indicative maximum 500 words)		
<p>Acknowledged as being among the most influential in terms of informing coach education and professional practice worldwide, research undertaken at Cardiff Metropolitan University has resulted in an extensive body of work that collectively represents over 20 years of empirical research into sports coaching and professional practice. It has been disseminated extensively via high quality peer-reviewed journals (n~185), books (n=24), book chapters (n=52), conference presentations (n~430), and professional consultancies (n~200). During the current assessment period, the research has been part funded by or resulted in grants totalling circa £400,000 from a number of sources including, the Economic and Social Research Council-Doctoral Training Partnership (ESRC-DTP), the Football Association (FA), Sport Wales, the Union of European Football Associations (UEFA), and the Knowledge Economy Skills Scholarships scheme (KESS). The research has been focussed around three main themes.</p>		

Theme 1: The (re)positioning of sports coaching as a socio-pedagogic endeavour

Research led by **Jones** and **Morgan** (re)positioned coaching as a pedagogical, political and interpersonal activity [R1] [R2]. In contrast to much psychologically grounded study, this work initially involved a search for the core or essence of coaching. The research made the case for coaches' work, at heart, being a socio-pedagogic endeavour requiring them to sensitively adapt to many interconnecting contextual influences while simultaneously respecting planned intentions.

Subsequent research explored what constituted good coaching practice. To encourage coaches to think in creative and novel ways, coaching was portrayed as 'scaffolding', 'practical wisdom' and 'orchestration' [R3]. For example, drawing on these concepts an action research project with the Hockey Wales talent development system using the Task, Authority, Rewards, Grouping, Evaluation, and Time (TARGET) methodology, concluded that the collaborative approach employed was effective in enhancing the learning and pedagogical development of coaches [R4].

Theme 2: Augmenting the importance of reflective practice within effective coaching and sport science provision

In an extensive body of research literature, **Cropley** has advanced the benefits of reflective practice (RP) within coaching and the provision of sport science support. The research foregrounds the importance of RP, not only in terms of generating critical reflection on the effectiveness of practice, but also on the importance of the 'self' as responsible for that practice [R5]. Recognition of RP techniques being integral to high-quality sporting developmental processes has resulted in it being embedded in elite player development and performance through post-training and post-game reflection.

Theme 3: The application of biomechanical and motor skill concepts to coaching knowledge for gymnastic performance

Irwin's research examined the coaching-biomechanics interface and the biomechanical determinants that optimise skill development in gymnasts [R6]. The research drew on, and sought to combine, a coach's conceptual understanding of technique development and fine-grained biomechanical and motor skill awareness. Via this process, the research made explicit and importantly, enhanced, the role of certain sport science components in the coach's decision-making process, particularly in relation to exercise selection, physical preparation and dexterity development. This research has had considerable influence on the coach education provision of both the *Fédération Internationale de Gymnastique* and British Gymnastics.

3. References to the research (indicative maximum of six references)

The underpinning research outputs comprise a co-authored, research-based book [R1], and outputs published in high quality peer-reviewed journals [R2] [R3] [R4] [R5] [R6]. Outputs [R3] and [R4] are being returned as part of the submission to REF2021.

[R1] Cassidy, T., Jones, R.L., & Potrac, P. (2016) (3rd ed.) *Understanding sports coaching: The social, cultural and pedagogical foundations of coaching practice*. London: Routledge.
DOI: <https://doi.org/10.4324/9780203797952>

[R2] Cushion, C., & Jones, R.L. (2014). A Bourdieusian analysis of cultural reproduction: Socialisation and the hidden curriculum in professional football. *Sport, Education and Society*, 19(3), 276-298.
DOI: <https://doi.org/10.1080/13573322.2012.666966>

[R3] Jones, R.L. & Ronglan, L.T. (2017). What do coaches orchestrate? Unravelling the 'quiddity' of practice. *Sport, Education and Society* 23, 905-915
DOI: <http://dx.doi.org/10.1080/13573322.2017.1282451>.

[R4] Clements, D., & Morgan, K. (2016). Coach development through collaborative action research: Enhancing the learning environment within a national talent development system. *Sports Coaching Review*, 4 (2), 139–161.
DOI: <http://dx.doi.org/10.1080/21640629.2016.1159453>.

[R5] Huntley, E., Cropley, B., Gilbourne, D., Knowles, Z., & Sparkes, A. (2014). Reflecting back and forwards: The ebb and flow of reflective practice peer-reviewed research in sport. *Reflective Practice*, 15, 863-876.
DOI: <http://dx.doi.org/10.1080/14623943.2014.969695>

[R6] Irwin, G., Hanton, S. & Kerwin, D.G. (2005). The conceptual process of skill progression development in artistic gymnastics. *Journal of Sports Sciences*, 23(10), 1089-1099.
DOI: <http://dx.doi.org/10.1080/02640410500130763>

4. Details of the impact (indicative maximum 750 words)

Since 2000, researchers at Cardiff Metropolitan University have worked closely with a large number of sporting bodies nationally and internationally in relation to coach development and professional practice [E1, E2, E3, E4, E5, E6, E7, E8, E9]. The underpinning research has therefore impacted sporting organisations worldwide. Indeed, over the assessment period, the total number of coaches impacted by our research is estimated to be over **67,000**, with a further **500** coach educators being similarly influenced. The importance of the research to the field is further illustrated by the **53** keynote/invited conference presentations given globally since 2014 (27 by Irwin, 16 by Jones, and 10 by Cropley).

Internationally, our research has underpinned a crucial part of New Zealand's elite 'Coach Accelerator Programme' [R1, R3, E8], whilst also comprising considerable elements of the coach education pathways of Olympiatoppen [the Norwegian Olympic and Paralympic Committee], the Fédération Internationale de Gymnastique [FIG] [R6, E5], and the Gaelic Athletic Association [GAA] [R1, E1]. The number of coaches per year impacted by these coaching programmes alone is more than **9,000**.

Nationally, work by Jones and colleagues has also informed the top-level coach development provision of several national sporting governing bodies, including the Welsh Rugby Union (WRU) [R1, E3] and the British Canoe Union's (BCU) Level 4 Coach Certification programmes [E4], and the Football Association (FA) [E9] and the WRU's coach mentoring systems [E3]. The research has also been incorporated into the coach education content of Welsh Volleyball, British Gymnastics [R6, E5], and the British Canoe Union (Level 2) [E4], and helped develop a more culturally sensitive talent-development programme within Welsh Hockey [R4, E6].

Similarly, research by Cropley has been used extensively by the Football Association of Wales Trust to develop its national policy syllabus, titled 'The Welsh Way' [E2]. For example, Cropley's work on reflective practice has been integrated into all levels of the Association's coach education provision from national certification (e.g., Level 1 Football Leader's Award and Level 2 'C' Certificate) to European accredited UEFA qualifications (e.g., UEFA 'B' Licence [Level 3]; UEFA 'A' Licence [Level 4], and the UEFA Pro Licence [Level 5]). Since 2015, over 3,300 coaches have been exposed to, and had their coaching practice informed by, this body of work [R5, E2].

Meanwhile, research by Irwin and colleagues [E5] has considerably influenced the sport specific components of both the *Fédération Internationale de Gymnastique* and British Gymnastics' coach education programmes [R6, E5]. Specifically, the work has involved translating biomechanical and motor control concepts crucial for successful gymnastics performance into

meaningful provision for coaches [R6]. Such knowledge has been embedded into various national and international coach education courses covering numerous gymnastic-related disciplines (including Men's and Women's Artistic, Trampoline, DMT, and Sports Acrobatics). Over the past 10 years, over 3,000 coaches have directly benefited from the content [E5].

In addition, Cropley's research has been integral to the redevelopment of the British Association of Sport and Exercise Sciences' reflective practice workshop; a core component of the organisation's 'supervised experience' programme [E7]. It is estimated that over **180** sport science practitioners have attended the workshop since 2014, with their subsequent professional practice benefitting from the content.

Finally, reflecting its world leading nature and status, our body of knowledge has been integrated into a considerable number of HEIs coaching-related teaching provision in the UK and abroad. Examples include Loughborough University [R2, E10], University of Birmingham [R1, E10] Manchester Metropolitan University [R1, E10], Cardiff Metropolitan University [R1, E10], University of St Mark and St John [R1, E10], Robert Gordon University [R1, E10], Northumbria University [E10], University of South Wales [R1, E10], University of Worcester, Edge Hill University [R1, E10], Hull University [R1, E10], Edinburgh Napier University and Loughborough College [R1, E10] in the UK; and the University of Ostrava (Czech Republic) [R6, E10], University of Osaka (Japan) [R6, E10], Seoul National University (South Korea) [E10], Ohio University [E10], Denver University [E10], University of Georgia (USA) [E10], University of Ottawa [E10], University of Alberta (Canada) [E1, E10], University of South East Norway, Norwegian School of Sport Sciences (Norway) [E10], and University College Dublin (Ireland) [R1, R3, E10].

5. Sources to corroborate the impact (indicative maximum of 10 references)

Letters and testimonials (and relevant addenda)

- [E1] GAA Coach Education Officer, on the impact of Jones's research on coach education in general within the GAA.
Addendum; 'Introduction to Gaelic Games Coaching Syllabus'.
- [E2] Technical Director for the Welsh Football Trust, regarding the impact of Cropley's reflective practice research on the development of FAW coach education programmes – including into (a) the 'A' Youth Licence programme; and (b) into life skills modules as part of the UEFA 'B' and 'C' Licences.
Addendum; 'The Welsh Way'; First Kick to National Team. FAW Trust national syllabus policy document.
- [E3] WRU Performance Coach Manager, on the impact of work by Jones and colleagues on the WRU High Performance Coach Development Programme.
Addendum; High Performing Coach Programme, Level 4 award.
- [E4] Head of Coaching and Qualifications (British Canoe Union) in relation to the impact of Jones's work on the BCU's Level 2 and Level 4 certifications.
Addendum; British Canoe Union Coach Award Guide 2017; British Canoe Coaching Diploma Handbook 2017-18.
- [E5] Coach Education Development Manager, British Gymnastics, and from the former president of the FIG (the *Fédération Internationale de Gymnastique*) and current author of FIG's Coach Education Foundation Course, regarding the impact of Irwin's work in clarifying, directing and integrating biomechanical content to gymnastic coach education provision.
Addendum; 'Biomechanics in the British Gymnastics Coach Education Framework: Expert statement'

- [E6] Hockey Wales Coach Developer on the impact of work carried out by Clements and Morgan on Hockey Wales' coach development pathway(s) and national age grade athletes' development.
- [E7] BASES Professional Development and Partnerships Manager; and from Sport Education Solutions Inc. in relation to Copley's reflective practice work on the BASES Supervised Experience Programme; Addendum; The BASES Expert Statement on Reflective Practice: The Key to Experimental Learning.
https://www.bases.org.uk/spage-resources-bases_expert_statements.html
- [E8] Director of New Zealand's High Performance Coach Accelerator Programme (CAP) in relation to Jones's work in directing elite coach education provision in Aotearoa New Zealand.

Reports

- [E9] (i) 'Candidates experience of the UEFA Pro Licence – Tracking the journey'. Final report for the FA on the suitability of the Pro Licence (July, 2014);
(ii) 'Tracking the journey of the UEFA Pro Licence – The tutor experience: mentoring in action': Final report for the FA on the suitability of the Pro Licence (July, 2014).

HEI module outlines

- [E10] Academic modules citing related work from;
- Loughborough University
 - University of Birmingham
 - Manchester Metropolitan University
 - University of Hull
 - Northumbria University
 - Edge Hill University
 - The University of St Mark and St John's
 - Robert Gordon University
 - Cardiff Metropolitan University
 - Loughborough College
 - The University of South Wales
 - Ohio University
 - Denver University
 - The University of Georgia
 - The University of Ottawa
 - The University of Alberta
 - Seoul National University
 - The Norwegian School of Sport Sciences
 - The University of Ostrava
 - The University of Osaka
 - University College Dublin