

Institution: Liverpool John Moores University (LJMU)		
Unit of Assessment: UOA23		
Title of case study: Think Aloud: Developing a more effective coach and practitioner industry through reflective practice		
Period when the underpinning research was undertaken: 2015-present		
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:
Amy Whitehead	Reader in Sport Psychology and Coaching	2015- present
Zoe Knowles	Professor of Engagement and Learning	1998- present
Tabo Huntley	Senior Lecturer in Sport Coaching	2014 – present
Colum Cronin	Senior Lecturer in Sport Coaching	2015- present
Period when the claimed impact occurred: 2015-present		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact		
<p>Think Aloud (TA) is a novel method of verbalising personal thoughts, feelings and reflections in-action as an event (coaching session) occurs, and Dr Whitehead is the first to introduce and embed this method to the sport coaching education domain. The practical and educational applications from this research have been used and impacted 375 coaches, mentors and coach educators and adopted by the England Football Association (FA), Rugby Football League (RFL) and UK Coaching as a formal education tool. In November 2020, UK Coaching released an online Think Aloud resource, designed by Dr Amy Whitehead, which is accessed by 8,000 UK coaches. As a result of this 50% of the RFL's coach developers, 75% of Saint Helen's RFL development coaches, and 80% of the Liverpool FA mentors have changed their approach to reflection, resulting in an improvement in their communication, feedback and support they provide to coaches and improved coaching practice.</p>		
2. Underpinning research		
Think Aloud to understand athlete cognition		
<p>Since the first publication in 2016 [R1], the research underpinning this case study has demonstrated how TA can be used to understand how athletes think and reflect during performance. This research has taken a novel approach and has demonstrated how TA is a viable tool to understand athlete cognition and reflection in a range of sports, including golf [R1], cycling [R3] and Australian rules football [R6]. For example, in cycling, cyclists stated "my performance definitely improved, thinking out loud made me much more aware" [R3].</p>		
Think Aloud as a new reflective tool for coaches		
<p>As a result of the above outcomes from the athlete research, where athletes reported reflections of their own thought processes through the use of TA, further research within coaching was conducted. In 2016, this research was initially applied to coaching and coach education [R2], where TA has been used to develop reflection within this profession of coaching. This article 2016 was the first of its kind to adopt TA as a reflective practice tool within coaching and was done so in response to the criticisms within coach education, that reflection was seen as something that was often neglected or misunderstood (Cushion, 2018; Huntley et al., 2014). Approaches to reflection have also been under scrutiny, with researchers and practitioners calling for more novel and innovative approaches to reflection that emphasize participation (Dixon et al., 2013). In response to this, TA was implemented [R2] to provide an innovative approach to coach education, where coaches used TA to verbalise their thought processes and reflect in-action and throughout the live coaching process. By verbalising their own thought processes out loud during coaching (where possible), coaches were able to become more aware of their thoughts in situ. Coaches</p>		

were then asked to reflect on these thought processes as they occurred ‘in-action’, rather than depending on retrospective reflections, which are often distorted by member decay and bias (Kahneman & Riis, 2005). Within R2, Whitehead et al. (2016) created the ‘Think Aloud Programme’, which provided a framework for coaches to adopt to enhance their reflective practice and coaching ability. The programme involved a series of workshops, which support the coach through the process of TA and critical reflection, each workshop allows the coach to share their reflections of the use of TA and what they have learnt about themselves and changed in their coaching. Since 2016 [R2], TA has been developed further within coach education and evidence from this work has provided support for the use of TA as an effective method to support a coach to improve their reflection and coaching ability. This has been evidenced within further publications [R4, R5], where the use of TA and the TA programme has been found to be an effective reflection tool for coaches.

3. References to the research

The following outputs have been subject to rigorous peer review in highly-respected international journals.

[R1] Whitehead, A.E., Taylor, J.A., & Polman, R.C.J. (2016). Evidence for Skill Level Differences in the Thought Processes of Golfers During High and Low Pressure Situations. *Frontiers in Psychology*, 6.

[R2] Whitehead, A.E., Cropley, B., Huntley, T., Miles., A., Quayle, L., & Knowles, Z.R. (2016). ‘Think Aloud’: Towards a framework to facilitate reflective practice amongst rugby league coaches. *International Sport Coaching Journal*, 3 (3): 269-286.

[R3] Whitehead, A.E., Jones, H.S., Williams, E, L., Rowley, C., Quayle, L., Marchant, D., & Polman, RC. (2018). Investigating the relationship between cognitions, pacing strategies and performance in 16.1 km cycling time trials using a think aloud protocol. *Psychology of Sport and Exercise*, 34: 95-109.

[R4] Stephenson J, Cronin C, Whitehead A. (2020). ‘Suspended above, and in action’: Think Aloud as a reflective practice tool. *International Sport Coaching Journal*, 7 (1); 11-21.

[R5] Whitehead, A., & Richards, C. (2019). The Think Aloud Programme. Developing reflection in coaches: from practice to theory. In, Cope, E., & Partington M. A guide to coaching practice. Taylor & Francis.

[R6] Elliot S, Whitehead A, Magias T. (2020). Thought processes during set shot goalkicking in Australian Rules football: An analysis of youth and semi-professional footballers using Think Aloud. *Psychology of Sport and Exercise*, 48, 101650.

4. Details of the impact

Improving coach education CPD

Through initial exposure to this research (R2), two major Sporting National Governing Bodies (UK Coaching, Football Association) in the UK, commissioned Dr Amy Whitehead to implement and deliver a series of educational workshops, which include an introduction to Think Aloud and how the previous research can be used to inform coaches of the benefits of Think Aloud and the practicalities of using it. As a result, these organisations have now adopted TA as a reflection tool within their practice. Specifically, within Coach Developer education and practice, TA is now a key part of the coach developer’s practice within UK Coaching (SC9 & SC10), specially during the Covid pandemic from April 2020 onwards Dr Amy Whitehead ran two online workshops for the

four (100%) UK Coaching Coach Developers and 17 (70%) high performance coaches on the UK Coaching Performance Foundation Programme. The Coach Developers have then used TA as a tool to support their coaches remotely. Lead Coach Developer, Jenny Coady commented, *“during the Covid pandemic, we have used TA as a vehicle to support our coaches. Coaches have used TA within their practice and then shared their audio file with us (Coach Developers), this has allowed us to have remote reflective conversations and it’s also really help us build rapport with our coaches. Specifically, during a time when we are unable to see our coaches face to face. I can definitely see improvement in our coach’s confidence in a variety of different areas.”* In November 2020, UK Coaching, in collaboration with Dr Amy Whitehead released three online modules, of an ‘Introduction to Think Aloud’, ‘Reflecting on your Think Aloud’ and ‘Think Aloud Case Studies’. These online modules are available to the 8,000 subscribed members of the UK Coaching website resource (SC6).

Improving coach and mentor reflection and practice

As a result of the multiple education workshops which were developed from the previous research, over 375 coaches, teachers and mentors in the UK have adopted TA as a reflection tool within their education and practice. For example, as a results of R2, in June 2017 Graham Williams (SC5), who is the athletic development coach for Millfield School (one of the leading independent schools in the UK) adopted the use of TA following the exposure to previous research (R2), within the whole athletic development department, which include 4 Strength and Conditioning Coaches, 4 physiotherapists and 6 tennis coaches. Graham and his colleagues have continued to use TA, *“We are still active in our use of TA. Since 2017 we have continued to use TA within our strength and conditioning team”, “It has challenged our interpretation of effective reflective practice and it has created a common language around in action reflections. It has empowered practitioners to engage in and throughout coaching sessions on reflections and the necessary changes required to enhance coaching outcomes, such as improved communication with our athletes.”*

In January 2018, Dr Amy Whitehead delivered a TA programme (as evidenced in R2) with 10 FA Coach mentors from Liverpool County FA (SC3). This 3-month programme involved educating mentors on the use of TA within their mentoring practice to improve their ability to communicate with their coaches (mentee’s) and become more effective coach mentors. Steve Smithies (SC7), who is the FA Regional Mentor Manager stated, *“The TA programme has helped the mentors realise the benefit of reflection, it has given them another tool in the tool box for reflection and perhaps more importantly, it has actually improved their understanding of reflection because it’s about the why. Why do I reflect? So they can actually make some adjustments or challenge their thinking or actions and it helps the mentor go on and help the coach or the person they’re working with. The impact of this research is that it has improved the mentor-coach relationship, the mentors communicate more effectively with their mentee coaches which in turn has improved the coach’s we work with.”*

Since this programme Dr Amy Whitehead has disseminated the findings from this work at the FA Grassroots Development Conference in December 2018, where 80 national FA coaches and coach mentors were present (SC8). Mark Haining (SC8) is a coach mentor who attended the Coach mentor Conference, following his exposure to the use of TA, Mark explained *“I’ve used TA to develop and reflect on my feedback as a mentor, and through using it I’ve been able to change and improve this. So my feedback is more of a dialogue now than a report.”* Furthermore, a TA workshop was delivered in March 2019 at the FA mentor conference at Saint Georges Park, where over 200 FA mentors attended and 100 attended the TA seminar.

Further impact within rugby league has been evidenced through the development of a second TA Programme, which was run with 8 (75%) of the Saint Helen's RFL development/academy coaches from October- December 2018 (SC1). Craig Richards the Coach Education Manager stated *"The TA process first increased knowledge of reflective practice. Over a number of weeks following the TA program, it became possible to have short informal interventions during practice where coaches would be more comfortable reflecting in action. Previous to the TA program the challenges that were evident were linked to getting coaches to reflect on the positives of their delivery. I found coaches more open to talk about what they did wrong and became fearful of other coaches doubting their ability", "As a result of the TA programme we have observed these coaches interacting more effectively with the players, which is key to player development"*.

Following the delivery of this TA programme with Saint Helen's, Dr Whitehead was invited to share this programme with the Rugby Football League's England Talent Pathway Coaches, and in January 2019, presented this work at the England Talent Pathway Conference, where 25 (100%) national coaches were present (SC2). Adam Prentis, RFL Coach Developer stated the impact of this work *"This (think aloud) helped me in a number of situations, namely to stay focused on the present and not let my attention wander, to articulate what exactly I was; feeling, observing, and aiming to achieve. Combine those factors with being able to consolidate what it was I wanted to express and help me think how may I communicate this with others whether it be other members of the coaching staff, coach education or directly to the performer."*

Since 2018, a number of TA workshops have been delivered by Dr Amy Whitehead across different UK Coaching events. UK Coaching represents over 30,000 coaches across the UK, from elite to grass root sports across a wide range of sports. Chris Chapman (SC9) from UK Coaching (Learning experience Manager and Previous Head Coach for Great Britain Women's Rugby League) said *"The work of Amy Whitehead, specifically TA has had a significant impact in a number of areas; at a personal, coach development and support and the wider coaching system. TA has been applied and used considerably within our coach development, support, programmes and applied practice. Amy has influenced through the approach in my own practice as a coach and coach developer; creating an approach and reflection tool that I have been able to adapt and use within my own mental models. Whilst the National Head Coach, I used TA and adapted versions of this with players within a team sport. Very often key decision makers and those new to and/or changing playing position. The approach you shared challenged mine and the coaching teams thinking on how players make decisions, communicate these to their team mates and even influenced team meetings. As you know we adjusted the approach to be peer on peer with injured and 'senior' players sharing with other peers. Your work within UK Coaching has featured constantly whether as an approach within the Coach Developers tool kit, providing in situ support for coaches and the sharing and cascading of the principles and approaches of TA at regional and national events. The impact on individuals, their participants and their coach support network has been significant."*

Adoption of the TA programme by coaches in the Blackburn Rovers FC academy led to development of self-awareness, effective communication skills, identifying personal biases, and informed the development of a reflective practice programme for all the club coaches (N=16). The TA programme was introduced to the club in March 2020 by Dr Amy Whitehead, through the club's Sport Psychologist (Laura Swettenham). The positive changes and influence on the coaching staff are reflected in the testimonial statement by the club's Sport Psychologist, Laura Swettenham (see SC4) that highlights the positive feedback received and the benefits after introducing the TA programme, *"Great feedback from the coaching staff after the TA workshop. All coaches see the benefits of using TA and moving past other forms of reflection to create a more in-depth and*

sustainable way of reflecting. Main impacts include the development of self-awareness, effective communication skills, and identifying personal biases. Some of the coaches also mentioned its potential impact with their coach mentor, allowing their mentor to get a better understanding of their decision making processes in-action rather than just having video data to go off. I'm working with our head coach at the moment to develop a reflective practice programme across the academy with TA being an integral component!"

5. Sources to corroborate the impact

SC1: Testimonial from Craig Richards, Saint Helens RL Coaching Development and Education Manager

SC2: Testimonial from Adam Prentis, RFL Coach Developer, The Rugby Football League & York City Knights

SC3: Corroborating source: Wayne Wardle, Player & Coach Development Officer, Liverpool County Football Association

SC4: Testimonial from Laura Swettenham, Academy Psychologist, Blackburn Rovers Football and Athletic Ltd.

SC5: Testimonial from Graham Williams, Athletic Development Coach, Millfield School, Somerset, UK.

SC6: UK Coaching 2021, Introduction to Think Aloud

SC7: Corroborating source: Steve Smithies, North West Regional Coach Mentor

SC8: Corroborating source: Mark Haining, County Coach Developer Oxfordshire FA & Royal Air Force FA, The FA Group

SC9: Testimonial from Chris Chapman, Learning Experience Manager, UK Coaching

SC10: Testimonial from Jenny Coady, Coach Developer Talent, UK Coaching