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ORIGINAL ARTICLE

Graduateness and sports coaching: A preliminary study of coaches' behaviour using the revised Arizona State University Observation Instrument

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ABSTRACT

This project aimed to identify if there were differences in coaching behaviours between coaches trained and educated in less-academic, traditional, governing body of sport approaches (n = 6) and those who were educated and trained through Higher Education routes (n = 6). Data were gathered from twelve coaches by videoing and audio-recording coaching sessions. The data were analysed using the REVISED ASUOI observation tool, employing an independent-samples t-test to establish differences between the graduate coaches and non-graduate coaches across each of the behaviour categories. Differences were identified in five categories – Learning Intention, Closed Questioning, Open Questioning, Coaches' Model, and Observation. Graduateness as outlined by Coetzee (2014), was proffered as an explanation of differences. Further work is suggested using conversational analyses to provide a more subtle and nuanced examination of the coaches' vocabularies and judgements as they communicate.
Keywords: Physical education, Coach behaviour, Coach education, Graduate, Football, Higher education.

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INTRODUCTION

Sports coaching is a process that has evolved from a sport specific competitively focussed functional duty to a more holistic construct that reflects a coach's role of facilitating the development of people of all ages and abilities across a width of physical activities. This definition was encapsulated in Sport England's (2016) mission of "*improving a person's experience of sport and physical activity by providing specialised support and guidance aligned to their individual needs and aspirations*" (p7).

For some time, it has been promulgated that successful sports coaching revolves around the social interactions between the coach and her/his athlete(s) (Groom, Cushion & Nelson, 2012). These interactions provide both opportunities and constraints for athlete development. To meet the need for greater insight of the coaching, we are seeing increased prominence of investigations of coaching activities in the literature (e.g. Vinson, Brady, Moreland & Judge, 2016).

The progress or change in coach education in the last 10 years has begun to influence course structures of National Governing Bodies of Sport (NGBs). National Agencies including NGBs have revisited the structure of coaching courses, developing modular content to accommodate contemporary coaching practice (e.g. The UK coaching Certificate – UKCC). This on-going review is arguably in response to criticism of coach education courses for their failure to put holistic knowledge into practice within the natural coaching setting (Cronin & Lowes, 2016). For example, the Football Association have recently introduced two *in-situ* club visits into its assessments for the Level 2 in Coaching Football qualification. The awarding bodies' acknowledgement of the impact of enculturation in the working environment is welcomed by some coach educators, but remains an area for further research (Cushion, Griffiths & Armour, 2017).

As with coach education courses, the traditional three-year undergraduate degree coaching programmes, delivered in many of the United Kingdom's Higher Education Institutions (HEIs), are built on contemporary knowledge. Where undergraduate degrees have been criticised, it is for their contextually immaterial setting and failing to embed sufficient experiential learning opportunities to allow students to put their theoretical knowledge into practice (Morgan, Jones, Gilbourne & Llewellyn, 2013). In recent years there has been a shift toward increasing experiential learning opportunities in undergraduate degree programmes. Thus, arguably, the gap between coach education and professional practice has narrowed.

Advocates of a holistic approach to coach education distinguish between formal, non-formal and informal opportunities for education and learning (Cushion, Nelson, Armour *et al*, 2010; Mallett, Trudel, Lyle & Rynne, 2009). Formal opportunities represent institutionally structured delivery that includes higher education courses, albeit that NGB based education courses have also been considered formal coach education (Stodter & Cushion, 2019). Informal situations promote learning in a manner that is not structured, typically underpinned by the coach's autonomy. Non-formal coach education is "*organised learning opportunities outside the formal educational system*", tending to be short-term and voluntary such as attendance at conferences or workshops (Mallett, Trudel, Lyle & Rynne, 2009; p328). It can be argued that failure to engage in all three opportunities creates a gap in a coach's development.

Historically, in the UK coach education was undertaken almost solely by NGBs of sport (Coaching Review Panel, 1991). However, the last thirty years has witnessed a burgeoning of tertiary courses in coaching. For the year 2019-20, there were some 187 degree-level courses being offered across the United Kingdom with "*(sport) coaching*" in their titles (UCAS, 2019). To better themselves, students on those courses are paying for University level studies with University level fees of up to £9500 *per annum*. This study route is being

followed in an area in which there is also a "*fast-track*" cheaper route to coaching, namely through national governing body of sport (NGB) courses and awards. It could be argued that the vocationally relevant courses of the NGBs will prepare students in the same way as degree courses that follow a more academic form of delivery and assessment. If such was the case, students could become sports coaches through NGB awards for substantially less cost than the University route. However, conversely, it must be argued that degree level experiences provide substantially more than NGB courses. The additional skills, attributes, experiences and capacities have been located under an umbrella term of "*graduateness*".

Graduateness was initially viewed as the distinguishing factor between those who were not university graduates and those who were (Wheelahan, 2003). Simply put, if a person had gone to university, the knowledge, skills and attributes that they exhibited were recognised as an attestation of their graduateness. Later, Booth, McLean, and Walker (2009) voiced concerns that the intellectual growth of students, which they saw as a measure of graduateness, was being overtaken by short term focus on economic factors. This then led to an increased perception that employability was being conflated with graduateness (Steur, Jansnen & Hofman, 2012; Brunton *et al,* 2020). With mixed views of what graduateness was and how it could be measured, Coetzee (2014) developed a scale through which graduateness could be measured and which reflected multiple factors and attributes:

> *The quality of personal growth and intellectual development of the graduates produced by higher education institutions, and the relevance of the graduateness skills and attributes they bring to the workplace (Coetzee, 2014, p.888)*

Coetzee contended that graduates possess knowledge and the ability to apply it (scholarship), that they are capable of leadership while being comfortable empowering others (global and moral citizenship), and that graduates are committed to their continued professional development (lifelong learning). Further, central to a graduate's success is contextual learning experiences that narrow the gap between course content and on the job experiences. Coetzee's instrument was developed as a generic scale. Given that our literature search found no similar sports related measure, and having considered fully the scale's development, we felt that it suited the needs of this project.

This study set out to investigate whether coaching behaviours differed according to whether a coach possessed a higher education qualification or had undertaken formal coach education only in the context of a NGB coach education course. This is an important area for research, not least because it has been suggested that educational background might substantively impact on coaching practice through greater knowledge around instruction, albeit that this was with qualified teachers (Cope, Partington, Cushion and Harvey, 2014). Despite this assertion, there is little evidence that graduateness impacts positively on coaching practice due to a paucity of research in the area. A recent study by Stonebridge and Cushion (2018) has undertaken to fill what has been perceived as a gap in coach knowledge: to identify if higher/tertiary education impacts on coaching behaviour. However, their work, albeit a strong contribution to the field, has not addressed the issues of "*graduateness*" *per se* but solely some context dependant indications of whether differences could be identified and explained by a coach's educational background.

In this paper graduateness will be investigated/established as an independent variable linked to contextual coaching education. The epistemological supposition suggests that the rigour of undergraduate coaching degree expands the tool kit of coaches.

Coaching literature suggests that there are two discrete coaching contexts, namely performance coaching (developmental & elite) and, recreational /participative coaching (Trudel & Gilbert, 2006). Within both

contexts, outcomes may vary with pre-existent factors such as the architecture of the coaching body, the personality traits of the coach, and the accompanying socio-economic environment. Also worthy of consideration is the graduate coach which remains an opaque area of investigation but is nonetheless worthy of study due to the number of students who are undertaking formal tertiary-based coach education courses.

To report on coach behaviour, an observation study is a useful tool for acquiring objective data from within the field (Smith, Quested, Appleton & Duda, 2016). Observation studies allow collection of both quantitative and qualitative data pertaining to coaching behaviour. In turn, conclusions can be drawn from the data that offer explanation of both meaning and context. An observation study enables the researcher to draw conclusions from discernible behaviours rather than from a research methodology utilising, for example, a questionnaire that must draw its conclusions from reported behaviours (Rosenbaum, 2009).

Observation of coaching behaviours involves trained individuals observing and recording behaviours as they occur in the coach's natural environment. Ideally, each coaching session would be video recorded, and the footage analysed to ensure reliability of the results through an inter-rater reliability check (see Smith & McGannon, 2018; Cope *et al.,* 2017 for recommendations). When video recording is not possible, reliability can be determined by comparing the observations of two or more trained observers, who undertake the task in real time independently of one another. Their findings are then compared. This process of direct observation of coaching activity is strengthened using a systematic observation instrument against which observations can be standardised (Allan *et al*., 2016).

ASUOI CATEGORIES	DESCRIPTION	RASUOI CATEGORIES
Use of first name	Using the first name or nickname when speaking directly to a player	
Post-instruction	Correction, re-explanation, or instructional feedback given after the execution of the skill or play	
Physical assistance	Physically moving the player's body to the proper position or through the correct range of a motion of a skill	
Silence	Periods of time when the coach is not talking.	
Pre-instruction	Directional information given to player(s) preceding the desired action	Pre-instruction
Concurrent instruction	Cues, reminders, or instructions given during players' actual performance of a drill, skill or play as play develops.	Concurrent instruction
Negative modelling	A physical or enacted demonstration by the coach of the incorrect performance or technique.	Negative model
Hustle	Verbal (or non-verbal) actions or statements that are intended to intensify effort	Hustle
Management	Verbal (or non-verbal) statements or actions related to the organisation of the practice session, which do not relate to the technical details of the practice.	Management
Other	Any behaviour that does not fit into the above categories.	Uncodable
Questioning	Question to player(s) that instigates and yes, no or simple answer	Closed Questioning
	Questions that instigate a more detailed and analytical answer	Open Questioning
Positive modelling	A demonstration of the correct performance of a skill or technique.	Coach's model
	A model, whether correct or not, that is demonstrated by the player(s).	Learner's model
Praise	Non-specific verbal or non-verbal feedback given at the conclusion of the skill or exercise	Praise at skill attempt
	The coach demonstrates general satisfaction or pleasure at general practice behaviours	Praise (general)
Scold	Verbal or non-verbal behaviours demonstrating displeasure at the player's skill or practice attempts:	Scold at skill attempt
	Verbal or non-verbal behaviours demonstrating displeasure at players' social behaviours in the training session	Scold (general)
	The coach explains why he/she is doing a particular practice. The learning outcome is explained.	Learning intention
	Positive feedback given to the player(s) during the actual performance of a drill, game, or skill	Concurrent feedback
	Information or re-explanation that is given during an actual performance of skill, game, or drill, which informs the player of how the performance should be altered in order to improve	Concurrent feedforward
	Positive feedback of a specific nature given to player(s) following the execution of a specific skill or task	Post-feedback
	Information or re-explanation given after the execution of a skill or play informing player how the performance **would need** to alter to improve	Post-feedforward
	Verbal remarks and the use of humour.	Use of humour
	Periods of diagnostic observation when the coach is not talking but observing	Observation
	Speaking to individuals not directly involved in the practice	Conferring with Assistants

Figure 1. A comparison between the Arizona State University Observation Instrument (ASUOI) and the Revised Arizona State University Observation Instrument (RASUOI).

Two of the most widely used sports coaching observation instruments are the Coaching Behavioural Assessment System (CBAS: Smith, Smoll & Hunt, 1977) and the Arizona State University Observational Instrument (ASUOI: Tharp & Gallimore, 1976; Lacy & Darst, 1984). Both instruments have been used to

identify and define working behaviours of a teacher or coach in training and match day settings. Research has shown that use of both instruments has added greatly to the spectrum of knowledge and to the advances in coaching science (Partington & Harvey, 2016).

The CBAS consists of 12 categories divided into two main coaching behaviours: reactive and spontaneous. Reactive behaviours relate to a coach's response to identifiable situations, whereas spontaneous behaviours focus on general actions surrounding instruction, encouragement, organisation, and communication. The original ASUOI (Tharp & Gallimore, 1976) consisted of 10 categories but is most used as a 14-category system after revisions by Lacy and Darst in 1984 (see Table 1). In 2011, Sutcliffe and Toms renewed interest in the behavioural categories of the ASUOI by validating a 22-category system (see Figure 1).

The REVISED ASUOI is based on the Arizona State University Observation Instrument (ASUOI: Lacy and Darst, 1984). It was developed in response to Brewer and Jones' (2002) criticism of the ASUOI. They questioned the validity of the instrument as a systematic observation tool in contemporary coaching. Criticisms were levied around the ASUOI's validity in the wake of the evolution of coaching science and athlete centred coaching methods. With coaching science continuing to evolve, there is a strong tenet that the pursuit of coaching excellence must remain open to contemporary approaches (Sutcliffe & Toms, 2011). The same must therefore apply to a sports coaching observation instrument where the aim is to accurately capture interaction between coaches and their athletes.

The REVISED ASUOI has several categorisation changes and additions for which both content and face validity were achieved (see Sutcliffe & Toms, 2011). "*Learning intention*" was added to represent the coach's description of why a practice was being undertaken. "*Concurrent feedback*", "*concurrent feedforward*", "*post-feedback*", and "*post feedforward*" were added to provide greater insight into a coach's input. Questioning was split into "*open*" and "*closed*" questioning catering for a more athlete centred approach. Similarly, an increase in coaches' uses of reciprocal teaching/learning methods (see Mosston & Ashworth, 2008) supported the addition of the "*learner model*" alongside the "*coaches' model*" and the "*negative model*", to illustrate when a coach may choose to have a player(s) deliver a demonstration. The original categories of "*praise*" and "*scold*" were expanded to include general use of praise and scold, in addition to positive or negative recognition of a player's skill or practice attempts. The term "*observation*" replaced "*silence*" to reflect a more facilitative period of reflection that the coach is likely to act upon. Two additional categories were added with "*use of humour*" and "*conferring with assistant*" depicting when a coach may use humour to motivate or engage his/her player(s) and/or seek the opinions of others to endorse or discard their ideas. Finally, the category of "*use of first name*" was removed as it was no longer considered by the authors to hold relevance. To the best of the authors' knowledge the REVISED ASUOI has not been used in published studies since its development and validation. For example, it did not show in Cope *et al's* (2017) review of systematic observations, yet it meets many of their recommendations for use.

The aim of this study is to use the REVISED ASUOI to determine whether the coaching behaviours of graduate coaches differ from those of non-graduate coaches.

MATERIALS AND METHODS

A mixed methods approach was employed to obtain systematic observation data of working behaviours of sports coaches during training sessions. The REVISED ASUOI's authors (Sutcliffe & Toms, 201) promoted the use of a mixed methods approach for categorising initial coach behaviours within an applied setting (see Cope *et al.,* 2017 for details of this approach).

Design

Data was collected using systematic observations (see Stodter & Cushion, 2014; Vinson *et al.*, 2016). The REVISED Arizona State University Observation Instrument (REVISED ASUOI) (Sutcliffe & Toms, 2011) was used to identify the instructional behaviours of individual coaches.

Ethical approval to conduct the study was granted by the University of Sunderland Ethics Committee (006587). Prior to commencement, all coach participants were informed that their coaching behaviours would be the main object of the study. The players with whom they were working were advised that they would not be specifically observed but would be in shot due to their playing and training roles. Participating coaches provided written consent which included the right to be video and audio recorded. Participating coaches whose athletes were under 18 years of age were accepted onto the study with the *proviso* that written permission from their sports club was provided allied with evidence of the club's safeguarding policy. Parental consent had previously been granted to the club for such work and this was identified in the club's safeguarding policy. In addition, the players completed informed consent forms and for those who were under the age of 18, assent forms were completed. This gives the younger players control of their participation and the option to withdraw at any point.

Participants and Procedures

Following recommendations from McKenzie & Van Der Mars (2015), four researchers were trained in how to use the REVISED ASUOI and code resultant data, before observing the two coaches who each delivered a 45-minute session. All of this was reinforced by video and audio recording of the sessions. The observers were randomly allocated into two teams of two (P1 & P2 and P3 & P4), with each observer taking responsibility for approximately half of the REVISED ASUOIs 22 behavioural categories. In addition, inter-rater reliability checks were undertaken by anonymously providing each observer with an additional three behaviour categories that appeared on their partner's observers list. The cross-over categories were: "*Hustle*", "*Closed Questioning*", "*Open Questioning*", "*Concurrent Feedback*", "*Post Feedback*", and "*Pre-Instruction*". After each observer had consulted the video footage, Cronbach's alpha coefficient was calculated on the cross-over categories resulting in an acceptable level of agreement: P1-P2: $\alpha = .82$, P3-P4: $\alpha = .79$.

The target group of coaches for the main study all coached in the North East of England and had a minimum of two years coaching across a range of four sports. All were handed a letter of invitation to participate, an information sheet, and a copy of the REVISED ASUOI (Sutcliffe & Toms, 2011) before being asked to read and sign the participant consent form. Participants were also asked to provide information on: (a) their sex and age, (b) their highest level of educational qualification, (c) the main sport in which they coached, (d) what level of coaching award they held in the aforementioned sport, (e) whether they were an employed or volunteer coach, (f) their approximate number of years coaching, (g) at what level they coached, and, (h) the profile of the bulk of the participants whom they coached (e.g. were they adults or children and males or females?).

A total of 12 coaches were recruited into the study (10 males, 2 females) aged 23-55 years M = 36.6 years, SD 9.21; one coach did not provide their age). Sampling was purposive with inclusion into the study being determined by the lead researcher, based on the coaches' responses to the demographic questioning (see Table 1).

Coaches were observed twice when dealing with the same participants within a two-week period. This is less than the recommended three observations suggested by Brewer & Jones (2002) but within the highest

frequency range reported by Cope *et al.* (2017). The fact that this current study was exploratory allows for such frequencies.

Table 1. Personal characteristics of participants (n = 12).

Coach Name (pseudonym)	Sex	Age (years)	Main Sport	Coach Level	Employed/ Voluntary	Years Coaching	Participant Level	Profile of Participants	Education
A	Male	41	Rugby Union	2	Voluntary	6	Recreational/ Club Competitive	Adults Male	GCSE
B	Male	34	Rugby Union	2	Employed Part-Time	8	Recreational/ School Based/ Club Competitive	Children Male	A-Level
C	Male	55	Football	1	Voluntary	3.5	Recreational/ Club Competitive	Children Male	GCSE
D	Male	49	Football	1	Voluntary	8	Club Competitive	Children Male	A-Level
E	Male	40	Football	1	Voluntary	5	Club Competitive	Children Male	GCSE
F	Female	29	Gymnastics	1	Voluntary	2	Recreational	Children Female	A-Level
G	Male	39	Football	3	Employed Part-Time	10	Club Competitive	Adults Male	UG Degree
H	Male	23	Rugby Union/ Rugby League	2	Employed Part-Time	7	Recreational/ School Based	Adults & Children, Males & Females	PG Degree
I	Female	26	Gymnastics/ Trampoline	1	Employed Part-Time	1	School Based	Children Female	PG Degree
J	Male	37	Gymnastics/ Trampoline	3	Employed Full-Time	15	School Based	Children Male	UG Degree
K	Male	--	Gymnastics/ Trampoline	4	Employed Full-Time	--	School Based/ National/ Club Competitive	Adults & Children, Males & Females	UG Degree
L	Male	39	Football	3	Voluntary	9	Club Competitive	Children Male	PG Degree

Each observation lasted between 45-60 minutes and involved video recording the coach in action. Similar to a study of handball coaching (Guzmán & Calpe-Gómez, 2012), the observed coach was required to wear a wireless microphone to ensure that all verbal communications were captured. Two researchers independently used the video and audio footage to undertake a systematic categorisation of the coach's behaviour against the REVISED ASUOI behaviour categories. Each observer took responsibility for approximately half of the 22 REVISED ASUOI behavioural categories and were given responsibility for observing the same coaches. In addition, inter-rater reliability checks were undertaken, anonymously, providing each observer with an additional three behaviour categories that appeared on their partner's observers list. The cross-over categories remained the same as in the pilot study. Cronbach's alpha coefficient was calculated on the cross-over categories resulting in high levels of agreement: P1-P2: $\alpha = .81$, P3-P4: $\alpha = .84$. Subsequently, the average of both observers recorded observations was taken for the cross-over categories.

Measures

The REVISED Arizona State University Observation Instrument (Sutcliffe & Toms, 2011) was employed for data collection.

A pilot study was first carried out to check for suitability of the data collection procedure with two coaches of an equivalent level and background to those intended for the main study. Following this process, in accordance with the views of Brewer and Jones (2002) and Sutcliffe & Toms (2011) two steps were taken to ensure maximum consistency in the application of the REVISED ASUOI. First, the 22 behavioural categories were broken down into two sections with a single observer being responsible for each section, with a cross-over of three categories. Secondly, the researchers were trained in the use of the REVISED ASUOI prior to engaging in the pilot study that was used to assure the reliability of observations.

Data analysis

Data produced by the REVISED ASUOI coding process was collated into a total number of coaching behaviours for each of the instrument's categories. An independent-samples t-test was then conducted to establish differences between graduate coaches and non-graduate coaches across each of the behaviour categories. The term "*graduate coach*" is used to differentiate sports coaches who possessed an undergraduate and/or postgraduate coaching degree from those who did not. Finally, Levene's test was used to assess the assumption of homogeneity of variance and appropriate corrections applied where this was not the case. In addition, due to the small sample size and its effect on the assumption of normal distribution of data, a Mann Whitney U test was run in parallel with the t-test to assess for any similarities or differences.

RESULTS

An independent-samples t-test was conducted to compare the mean scores of each of the REVISED ASUOI's categories between graduate and non-graduate coaches across two observations. Participants were divided into two groups according to whether they did or did not possess an undergraduate degree qualification or higher (Group 1: Graduate coaches, *N* = 6; Group 2: non-graduate coaches, *N* = 6).

Table 2. Categories in which significant differences in coaching behaviours were found between graduate and non-graduate coaches using an independent-samples t-test.

	Combined observation			**Observation 1**			**Observation 2**		
Category Heading	Mean	SD	Sig (two-tailed)	Mean	SD	Sig (two-tailed)	Mean	SD	Sig (two-tailed)
Learning Intention									
Graduate Coaches	12.16	3.09	.001	13.83	5.23	.004	10.50	2.07	.000
Non-Graduate Coaches	4.25	2.27		4.33	3.44		4.16	2.04	
Closed Questioning									
Graduate Coaches	13.33	4.14	.000	16	5.93	.000	10.66	3.55	.000
Non-Graduate Coaches	1.83	2.11		2.16	2.63		1.50	1.64	
Open Questioning									
Graduate Coaches	15.16	3.23	.000	15	3.03	.000	15.33	5.35	.000
Non-Graduate Coaches	1.25	1.66		1.50	2.07		1.00	2.00	
Coaches' Model									
Graduate Coaches	16.16	4.64	.002	14.66	3.66	.000	17.66	5.88	.000
Non-Graduate Coaches	5.25	0.52		5.16	0.75		5.33	0.81	
Observation									
Graduate Coaches	13.83	2.92	.002	15.16	3.92	.002	12.50	2.81	.005
Non-Graduate Coaches	7.16	2.46		7.33	2.42		7	2.52	

Of the 22 ASUOI categories recorded across both observations, there was a significant difference ($p < .005$) in graduate and non-graduate coaches' scores for five of the categories – Learning Intention, Closed

Questioning, Open Questioning, Coaches' Model and Observation. Similarly, there was a significant difference for the same five categories when looking at observations one and two in isolation (see Table 2). A Mann Whitney U test confirmed similar findings with only Observation revealing a non-significant difference (p > .005) between Graduates and non-graduates when considered across both observations p = .008 and on taking the results in isolation, Observation 1, p = .006 and Observation 2, p = .015. The remaining four categories – Learning Intention, Closed Questioning, Open Questioning and Coaches' Model – remained significantly different in all cases (see Table 3).

Table 3. Categories in which significant differences in coaching behaviours were found between graduate and non-graduate coaches using a Mann Whitney U.

	Combined observation				Observation 1				Observation 2			
Category Heading	Median	U	z	Sig (two-tailed)	Median	U	z	Sig (two-tailed)	Median	U	z	Sig (two-tailed)
Learning Intention												
Graduate Coaches	12.5	.500	-2.812	.005	14.5	2.5	-2.491	.005	10.5	.500	-2.832	.005
Non-Graduate Coaches	3.5				3				4			
Closed Questioning												
Graduate Coaches	15	.000	-2.898	.004	18	.500	-2.822	.005	11.5	.000	-2.898	.004
Non-Graduate Coaches	1				1				1			
Open Questioning												
Graduate Coaches	16	.000	-2.908	.004	14.5	.000	-2.903	.004	13.5	.000	-2.939	.003
Non-Graduate Coaches	0.5				.5				.0			
Coaches' Model												
Graduate Coaches	15.5	.000	-2.892	.004	13.5	.000	-2.913	.004	16	.000	-2.989	.003
Non-Graduate Coaches	5.3				5				5			
Observation												
Graduate Coaches	14.5	1.50	-2.651	.008	15.5	1.00	-2.746	.006	13	3.00	-2.436	.015
Non-Graduate Coaches	6.5				7				6			

DISCUSSION

This study provided insight into the coaching behaviour of graduate and non-graduate coaches. Overall, despite similarities in the behaviours observed, graduate coaches were found to engage in five of the 22 REVISED ASUOI categories significantly more so than non-graduate coaches. We suggest that possession of an undergraduate degree or higher qualification, resulted in greater engagement in the following coaching behaviours: Learning Intention, Closed Questioning, Open Questioning, Coaches' Model and Observation, which are considered important in contemporary coaching practice.

Graduateness is a term that incorporates both skills and attributes that contribute to personal and intellectual development. Coetzee's (2014) three holistic domains of graduateness provided an explanation for the findings of this study. Four of the five coaching behaviours ("*Learning Intention*", "*Coaches' Model*", "*Closed Questioning*" and "*Open Questioning*") in which graduate coaches engaged more so than non-graduate coaches, demonstrated evidence of Coetzee's *scholarship* and *global and moral citizenship* domains. All four behaviours were evident in the scholarship domain involving the ability of the coach to communicate their knowledge confidently and effectively. Within the *global and moral citizenship* domain, "*Learning Intention*",

"*Coaches Model*" and "*Closed Questioning*" show graduate coaches to utilise their own leadership skills, providing direction to others, while also being comfortable empowering others to make decision for themselves ("*Open Questioning*"). The formal education opportunities afforded to these students have arguably resulted in an increase in the coaching behaviours observed.

The remaining category, "*Observation*" demonstrated the coach's ability to reflect on their work and that of the participants' progress. Coetzee (2014) argued that reflection is evidence of having developed a higher-level set of critical thinking skills that coaches use to better themselves and their participants as part of the *lifelong learning* domain. A coach's ability to reflect is central to the coaching process, and within Further and Higher Education Institutions, reflection is becoming an increasingly important assessment method to aid students' understanding, informing their future practice (Gregson *et al*, 2015). Dowson and Robinson (2009) and Kuklick, Gearity and Thompson (2015) emphasised the role of higher education in coaching education proclaiming that, at its heart, a focus on personal development is underpinned by critical reflection through conversation. The authors argue that the formal education received by graduate coaches developed their ability to be reflective practitioners and this in turn may have led to the increase in some of the graduate coaches' behaviours. Within this cohort, it was identified through informal discussion (anecdotal evidence), that graduates were exposed to models of reflection and were therefore prone to repetition of the same material so that learning became embedded. Thus, reflection becomes not just second nature but evolves to be instinctively hardwired in the graduate.

Additionally, the staff in the participants' institution follow the models of Gibbs (1988) and Rolfe (1993) which champion the use of five repetitions of the same material, thus critical reflection is ingrained, not only in a theoretical context, but also as a matter of sound practice. A HEI's curriculum and course design seems central to the way that formal learning opportunities contribute to a coach's behaviour.

CONCLUSION

Several reports have shown that higher education programmes lack contextual relevance and holistic learning opportunities for their students, compared with coaches from an informal or non-formal coach education background (see Morgan, Jones, Gilbourne and Llewellyn, 2013). However, the findings of the current study challenge the stance that coaches in possession of an undergraduate or higher degree, fail to embed theoretical knowledge in their practices. In particular, the rise of experiential learning opportunities embedded within HEI courses could be a significant factor in the observed increase of aspects of coaching behaviour witnessed in this study. Thus, we can argue that coaches having undertaken a formal education in HE are increasingly offered opportunities for hands on experience. The narrowing of this gap, coupled with institutionally structured delivery, may be responsible for coaches with HE coach education experiences engaging more in some coaching behaviours.

In the past, HEI's failure to award significant time to helping students gain hands on experience, left a gap in their skill set. However, formal education is increasingly offering experiential opportunities where graduate coaches are awarded the opportunity to put theoretical content into practice (Cronin & Lowes, 2016). This process is arguably an important factor in producing knowledgeable and confident coaches who through their HE degree have learned to value lifelong learning, valuing the role of continued learning in their future practice. This work suggests that skills and attributes of graduates develop beyond specific knowledge as they seem to employ softer skills as well as more holistic skills. This sits well with Stodter & Cushion's (2019) assertion that the impact of formal education and the consequent adoption of deeper learning through reflective practice are stimulated by the educational process.

While this work uses a more recent approach to identify coaches' behaviours, there is much to do. Despite the rigorous way in which the instrument was developed and validated, there is much sitting "*below the surface*" that needs to be considered also. One possible avenue for future work would be to attempt, not only to look at behaviour and type of language involved, but to also conduct conversational analyses as outlined by Faulkner & Finlay (2002) and Evan (2017). This would provide a more subtle and nuanced observation of how communication takes place in a coaching field. Further enhancement could be offered if theory was considered, such as in the work of Groom, Cushion and Nelson (2012).

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Conceptualisation: Dr Steven Anderson & Ms Marina Georgakopoulou. Collecting and analysing of pilot data: Ms Marina Georgakopoulou. Collecting and analysing data: Dr Steven Anderson & Mr Ivor Harkin. Writing of the paper: Dr Steven Anderson & Dr Ian Whyte. All authors editing of the paper.

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