# Reconceptualising Professional Learning through Knowing-in-Practice: A Case study of a coaches high performance centre

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In response to learning development literature that is negative regarding the formal education coaches' encounter, there has been a conceptual/practical shift towards recognising the coaching workplace as a legitimate site for professional knowledge development. Building upon contemporary studies of learning 'in situ', this paper draws upon the theory of practice architectures to provide an innovative language by which to capture the complexity of learning within this context. In doing so, the cultural-discursive, material- economic, and socio-political arrangements of practice are shown to either enable or constrain learning activities. Findings from a 10-month ethnographic study of a high-performance training centre (n= 9 coaches/support staff), highlighted the significant role the macro-structural features of sport, and the inherent 'learning culture', played in determining the learning valued within this context. This study draws attention to the challenges a transient coaching workforce, within a dynamic environment, presents to those attempting to foster learning in this context.

**Keywords:** sports coaching; practice architecture; CPD; professional development; workplace learning; knowing-in-practice

## Introduction

The last two decades has seen an increasing focus on the social conditions and characteristics of professional development (PD) that facilitate change in practitioner's practices (Stewart, 2014). Moving beyond passive and intermittent notions of learning, evidence suggests that quality PD involves active learning (Desimone, 2009), consistent learning opportunities (Little, 2012), linked to practice (Kunter, Kleickmann, Klusmann, & Richter, 2013) and supported through learning communities (Cherkowski, 2012). This in turn has led to a greater focus on the workplace as a legitimate site for professional learning (Cairns & Malloch, 2011), and specifically, the processes of knowledge construction and change as they occur in the day-to-day activities of organisational work (Gherardi, 2009; Fenwick, 2008). Contemporary approaches to PD therefore recognise learning-as-practice, bound in an embodied and contextual process (Fenwick, Nerland and Jensen, 2012). However, what is not known is the manner in which these processes are interrelated, or indeed the mechanisms that underpin these interactions (Rynne, Mallett, & Tinning, 2010). It therefore remains unclear how such collaborative and social learning processes can best occur (Billett and Choy, 2013),

and by what means such understanding can be used to inform future educational pathways. This has led to a situation where there is little secure evidence about 'what works' in CPD to change learners' behaviours and improve practice.

Sport coaching is a case in point, where research has tended to focus on the agency between the individual and specific CPD activities (Armour, 2014; Nelson et al., 2013), with less consideration of the impact of organisational structures (e.g. funding, organisation cultures, rebranding, leadership, government policy) on professional development (Jones, Edwards, & Viotto Filho, 2016; Griffiths, Armour, & Cushion, 2016). The exception has been the recent work of Rynne et al., (2010) and Mallett et al (2016) who have examined high performance centres in identifying those features that constitute effective learning in situ. Within this research, it has been identified that coach learning is best understood in terms that recognise the interests and subjectivities of individuals, within a context shaped by the physical, social and educational provisions of an organization. However, in the coaching literature questions remain about in situ learning, including how coaches' dispositions towards learning engagement develop over time (Griffiths & Armour. 2013), how cultural context influences learning (Barker-Ruchti Barker, Rynne, & Lee, 2016), or how learning affordances might be shaped over the lifecycle of the organisation?

In this paper, we argue that there is a need for a greater understanding of the wider structural factors that mediate sustained learning impact, and it is here that the paper contributes to existing knowledge on coaching CPD. Drawing on the concept of Practice Architecture (Kemmis, Wilkinson, Edwards-Groves, Hardy, Grootenboer, & Bristol, 2014) as an exploratory framework, this research reveals how the situated actions, dialogues, structures and relationships in a high performance training centre collectively constituted a 'Practice Architecture' through which workplace inquiry/learning was mediated. The value in utilising PA is that it addresses criticisms of existing situated learning theories (i.e. Communities of Practice, Activity Theory, Relational Interdependence), by not simply assuming the social world writes itself onto individual persons (Kemmis & Grootenboer, 2008) or that people are active agents writing themselves into practices (Goodyear et al., 2016). It is hoped that the insights suggested here will inform the understandings of coaches' professional development within the workplace, and offer learning providers a language by which to capture the complexity of workplace learning environments.

## Theoretical Background

The theory of 'practice architectures' (Kemmis & Grootenboer, 2008; Kemmis and Heikkinen, 2012, Kemmis et al., 2014) suggests that human behaviour, or practice, unfolds amid the arrangements of time and space within a given *'situated'* context (Hemmings Kemmis, & Reupert., 2013). Practice is not merely located within a particular setting, but continually shaped by the historical and cultural conditions of that locality at any given moment (Kemmis, 2012). Specifically, the theory suggests that practice is the result of three interdependent arrangements: cultural-discursive, material-economic, and social-political. Examining the interplay of these features has the propensity to highlight how existing practices are both enabled and constrained, and presents the opportunity to generate new 'knowing-in practice' questions, such as what kinds of social and material arrangements facilitate knowing, learning, workplace and innovation (Brown & Duguid, 1991).

The cultural–discursive arrangements are the resources that constitute the language and discourse of practice. These semantic arrangements are seen as those which capture the 'sayings' characteristic of a given practice, through the language that is used in 'describing, interpreting and justifying' behaviour (Kemmis et al., 2014, p.32). For example, Rynne and Mallett (2012) highlighted within Australian performance coaching that some individuals maintained isolated learning practices from a fear of being seen to not have all the answers (i.e. perceived as incompetent). As such, the culturally informed discourse of the coaching workplace has the capacity to restrict collaborative learning practices.

The material–economic arrangements of the physical space relate to those resources that condition the activity and work of practice. These arrangements are those that enable and constrain the 'doings' of practice, as they define 'what can be done amid the physical set-ups' of practice locations (Kemmis et al., 2014, p.32). For example, within Rynne et al., (2010) study of high performance coaches it was noted that coaches on different funding programs had access to varying levels of resources (e.g. programs designated as 'developmental' had limited access to sports science and strength and conditioning support staff). As such, the nature of the workplace might predetermine the affordance of collaborative learning interactions, thus promoting or inhibiting opportunities for engaging in generative learning experiences.

The social–political arrangements, located within the social space, mediate the social relationships between individuals through the medium of power and solidarity. These arrangements guide the interpretation of roles, rules and organisational function through

shared understandings and practical agreements (Kemmis et al., 2014). For example, Culver et al., (2009) demonstrated that within a Canadian youth ice hockey league, fostering cooperative learning amongst coaches was fundamentally challenging given the innately competitive nature of the sport and league. The implications for learning designers is that the construction of coaches' roles, and the rules within a given context, might impede upon attempts to employ new coaching/learning strategies.

The implications of PA for coach education designers is that the interplay between the semantic, physical, and social dimensions of the workplace enable and constrain practice through practitioners participation, where participation is inevitably the outcome of personal dispositions (Hodkinson et al., 2008) Participation therefore acts to shape and reshape the particular 'site of practice', creating practice traditions that are intersubjectively and interactionally secured with different participants over time (Kemmis et al., 2014). Thus within any site, there exists a collective memory of the practice that pre-figures and pre-defines the practices created and maintained within and by organisations, their contexts, and the individuals that populate them. The following figure (1) clarifies the nature of this interdependence, demonstrating how the dispositions of 'individuals' (left), interact with the arrangements of the 'sites' (right), to create the various dimensions of intersubjective space (middle).

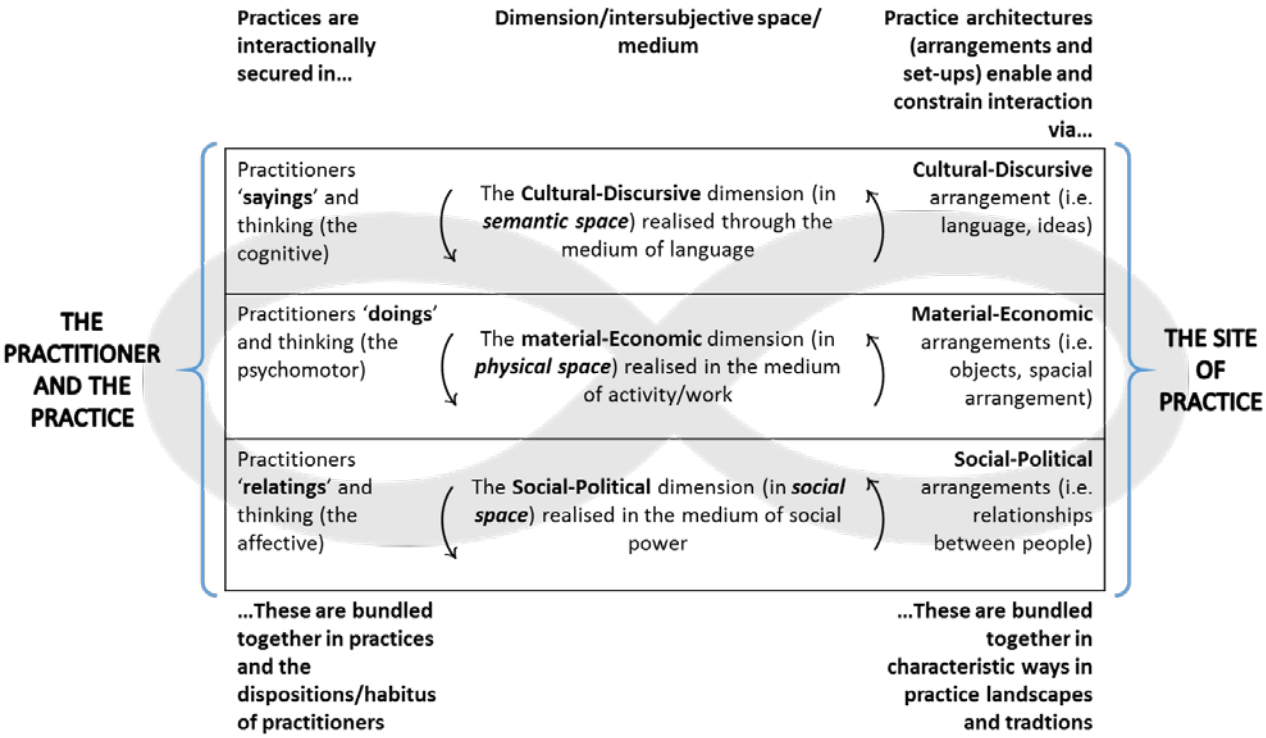


Figure 1: Illustration of practice architectures framework (Adapted from Hemmings et al., 2013)

The value of practice architectures is to emphasise that practice involve orchestration, of and between, people and objects, within settings that are spatially and temporally sensitive (Kemmis et al., 2012). In recognising this, it can be understood that practice architectures transform over time, creating (practice) traditions that encapsulate the histories of practice (Kemmis et al., 2014), that through comprehension may inform educational judgements about what pedagogical change is possible in a given scenario.

Coach learning when viewed *in situ* takes place amongst, and within, the particular facets of spatially and temporally sensitise practice arrangements. As such, in attempting to unravel the learning milieu of the coaching workplace, the theory of practice architectures provides a lens by which to examine how the affordance of, and engagement with learning opportunities, impacts upon the construction and emergence of new learning practices over time. In this study PA was used to make sense of data that was generated inductively through constant comparison and engagement with study data. In this way, practice architectures provides a framework for thinking differently about the education of professional sports coaches, moving beyond pedagogically narrow perspectives that favours either the individual or the social (e.g. Communities of Practice, Activity Systems), to consider the cultural, social and material aspects of learning behaviour, and in respect to the historical and contextual

locations of practice. The research question that guided this paper was: 'In what way does the social, cultural and material arrangement of the workplace facilitate or inhibit learning *in situ"*?

## Method

### *Design of the study*

This paper draws upon data from a larger research project that examined the role of organisational culture in shaping elite coaches professional learning. Six professional coaches and three administrative staff were purposively sampled from a high-performance training centre based within the UK, the OHPI (Olympic High-Performance Centre). This approach was taken given the accessibility of the institution to the researchers, and the richness of the case. Utilising an ethnographic approach, data were generated through participant observations and constructivist interviewing (Patton, 1990) conducted concurrently throughout a ten-month period. The goal of this ethnographic approach was to embed the first researcher within the routine and everyday activities of this particular workplace, so that an understanding of participant's activities, and the meaning tied to such activities, might be attained (Hammersley & Atkinson, 1994). Prolonged emersion within this context (4 out of every 5 working days) assisted in delving beyond surface appearances to make apparent the complex patterning of social practice (Geertz, 1973).

### *Participants*

The participants within this study were all employed at a multi-sport (n=5) high performance centre within the UK (6 coaching staff and 3 administrative staff). Of the 9 participants, 7 were male and 2 were female (1 coach and the Centre Manager). The age range for all participants was between 37 to 62 years of age (mean age for men: 48, mean age for women: 40). All coaches had some form of tertiary education (e.g. undergraduate qualifications) and held at least a level 3 coaching qualification within their respective disciplines. All coaching staff (n=6) worked with between 5 to 10 international level athletes, and subject to the funding status of those athletes, had access to varying levels of specialist support personnel (i.e. strength and conditioning coaches, physiotherapists and nutritionists). Further to this, all coaches were high achieving athletes themselves prior to their engagement with coaching (five at international level and 1 at national level). Of the 6 coaches, the average experience within the field was 14 years, with a range of 5-26 years.

The involvement of a range of administrative staff was also sought for this study (*the Centre Manager, the Performance Director and the Head Coach)*. The administrative participants were all involved in the coaches' everyday practice, guiding the structure of the coaching workplace and defining the measures of success within this context. For these reasons, it was felt that the administrative staff represented significant actors in learning experienced by coaches within this specific workplace context, whose perspectives could not be overlooked. In line with the University's approved ethics procedure, all participants gave informed consent to participate in the interviews in line with the institution's research ethics policy.

***Data Collection***

Within this study data was collected via interviews and participant observations conducted throughout the entirety of the 10-month investigation period. This approach provided detailed insight into the evolving dynamic between coaches and the OHPI as a workplace. A total of eighteen interviews were conducted (two per participant), 9 within the first month of the study (to attain an initial, broad understanding) and 9 during the final month of the study (exit interviews to supplement/support observations), with a duration range between 26-58 minutes. Interviews were conducted at a private location off site, and guided by a semi-structured protocol derived from the observation data. The question format utilised was 'open-ended', characterising an interview process that was 'active' in capturing coaches meaning making of their professional development/learning (Hoffmann, 2007). In achieving a greater emersion within the lived realities of coaches learning, 'probes' supplemented the initial questions in order to capture a greater sense of the whole (Bryman, 2015). Thus, in focusing on the 'how', 'what' and 'why' of participants' experiences, a socially and textually negotiated narrative of workplace learning within this context was created. For example, questions such as *'How does upskilling or professional learning fit into the ethos of the organisation?'* were followed up with probes including, '*How were these aims communicated to you?' and; 'Who's responsibility is a coach's professional development?'* Participant observations were conducted over four days of a five-day working week, and generally lasted between 3 to 7 hours depending on a coaches' schedule. Over the course of the study, 44 weeks of participant observation were conducted (176 days of observation). Throughout this period, the researcher acted as part of the coaching staff, assisting in the delivery and running of coaching sessions and attended organisational meetings (i.e. sport science support briefings). Data was recorded at the time of completion using field-notes (notebooks), and

expanded upon in the evenings to add greater context to routine descriptions of events (this included early interpretations and discussion of the social processes observed).

***Data Analysis***

Data analysis processes drew from a constructivist approach to the grounded theory methodology (CGTM). The utility of this method was that it provided a 'flexible' and 'adaptive' approach to generating and making use of data (Bryant & Charmaz, 2007), structuring the research process in a manner that *"looks beyond the obvious and [provides] a path to reach imaginative interpretations"* (Charmaz, 2006, p. 181). Importantly, this constructivist revision of traditional GTM recognises the researcher as an active participant in the research process. As such, within this framework meaning is viewed as a co-constructed interpretation of events, mediated by the interrelationship of researcher and participant (Mills et al., 2006). Hence CGTN acknowledges the researcher's active involvement in understanding phenomena, and offers an interpretive portrayal of the social world that cannot be achieved via the purportedly objective and unbiased stance of traditional grounded theory (Charmaz, 2008). It should also be noted that in this study the primary researcher was a former high level performer within the sport concerned. As such, the researcher held a degree of social status that afforded the identity of 'affiliated member' (Corbin Dwyer and Buckle, 2009). Whilst arguments can be made that outsiders can more readily identify societies unconscious grammars (i.e. insiders to overlook familiar or routine behaviours) (O'Rielly, 2012), we would argue that the shared identity in this instance afforded the researcher a cultural perspective not readily accessible to other researchers (Douglas & Carless, 2012).

The interview transcripts and field-notes were reviewed and the social processes implicit within the texts labelled or coded. The coding process was iterative in nature as the researchers engaged in a constant comparison of data and emergent themes across three distinct levels of coding (open, focused and theoretical) (Charmaz, 2006). Firstly, a close reading and interrogation of the data line-by-line was conducted, where gerunds (nouns ending in 'ing') were used to capture meaning/action within the data via open codes. Where possible, in vivo codes' were chosen so that the emergent concepts were those that best *"fit the data"* (Strauss 1987, p.28), and not guided by the preconceptions of the researchers. Examples of codes included; attaining ownership of space, being comfortable in personalised sites, controlling locations and access, and being free from observation/judgement (Table 1). Building upon the initial coding phase a more focused approach was adopted, reassembling

the initially deconstructed data into more substantive characterisations of events. This was achieved by considering frequency of codes and those that made the most analytical sense in capturing the meaning within the data. The final coding phase then sought to consider possible relationships between these focused codes in order to weave the fractured story back together. From here, thematic codes were produced in order to construct a coherent and theoretically driven story of professional coaches' workplace learning experiences. This process informed the final analytical phase of the study as the features of these thematic codes were considered in relation to the cultural-discursive, social-political, and material-economic arrangements of the Institute's practice architecture.

## Context of the OHPI

The OHPI represents the central training facility for a large internationally active Olympic sports organisation in the UK. The organisation has large and varied coaching workforce (working at performance, participation and voluntary levels), and is responsible for the management and delivery of coach development for both its voluntary and professional coaching staff. In doing so, they provide a considerable variety of CPD pathways including; traditional level based qualifications, structured mentoring schemes, and supplementary coaching awards (i.e. Disability sports coaching and Injury prevents awards). At the time of data collection, the organisation was in a state of organisational change following the commencement of a new Olympic funding cycle. With this, came a number of significant structural changes including; the appointment of new organisational leads (i.e. Head coach, Performance Director), a reduction in government funding, the enforced redundancy of over half the employed coaching staff, and later the employment of two International consultant coaches. Interesting, in concert with these changes, and stemming from an awareness of a body of work that characterises effective learning as a communal/collaborative activity (Fenwick et al., 2012; Cairns, 2011), the sporting organisation was acting to instil a new organisational message.

> "It's about us [the institute] ultimately collectively winning more medals. The performance measurement here isn't whether you have coached an athlete to winning a medal or improved a performance, or whether you have been the therapist or the physiologist to the athlete who wins the medals, it's about the whole [the organisation]. It's about athletes getting better, and us effectively supporting athletes getting better through our coaches getting better through collaboration and collective thought." (Performance Director)

The marked difference to traditional methods was the proposition that coaching success was to be judged not solely on the results of athlete performances alone, but on the coaches'

engagement with the ideals and aims of the institute (collaborative learning). As such, the case represented a unique opportunity to assess the implications of organisational transitions, new organisational structures, and funding cycles on the learning experiences of professional coaches. In order to examine how the changing nature of these arrangements 'conditioned' the learning experiences of the coaches within the Institute each one will now be considered in more detail.

### *Trustworthiness: Judging qualitative research*

Whilst traditionally the quality of qualitative research has been judged on the measurement of a works adherence to the criteriological measures of trustworthiness and validity (Lincoln and Guba, 1985), this position has been challenged by the argument that interpretive research stands alone from (post)positivistic investigations by the very nature of their ontological and epistemological assumptions (Smith et al., 2014). In recognising these critiques, we accept Smith and Sparkes (2013) invitation to 'let go of validity', and engage in the generation of more research-specific criteria. As such, within this study we drew upon the characterising traits of rich rigour, sincerity, credibility and transparency to inform our inquiry (Smith et al. 2014). In practical terms, this meant peer debriefing was adopted to not only compare interpretations, but challenge biases and meanings derived from interpretation of data. This was achieved through conversations with key organisational leaders and embedded conversations with significant stakeholders allowing for constructed ideas to be discussed. As such, we would argue that the research presented is credible in that significant time has been spent not to 'test' trustworthiness, but to critique, collaborate and reflect upon interpretations. Finally, in providing transparency thick descriptions of findings are provided to capture an in-depth picture of the coaching workplace, and a code map included to demonstrate how data were interpreted (Table 1).

297 Table 1: Example of constructed conceptual categories

| **Core Category** | **Negotiating personal engagement** | | | | |
|---|---|---|---|---|---|
| **Focused Codes** | **Expectations and identification of role boundaries** | **Negotiating social engagement with colleagues** | **Assessing value** | **Constructed identity** | **Personal/historical dispositions** |
| **Open Codes** | View of the coaching process, redefining expectations of organisations goals, the influencing culture of the sport, making it 'what they wanted', lacking guidance from leadership, working towards personal goals | Recognising personality conflicts/alignments, interpersonal skills, engaging in opportunities to interact with knowledgeable others, guiding behaviour, resisting forced and incompatible relationships, selective engagement, presenting of self to attain response from others, | Making value judgements, cost benefit exchange, considering career progression, considering job security, defining status as a coach, motivation to collaborate, perceiving organisational targets, defining practical knowledge, identifying relevancy, engaging in meaningful activity, viewing competition as a barrier to engagement, Justifying behaviour based on existing practice | Defining self through experience, personal biography and history, being a former an athlete, views on the role of the coach, defining career, considering impression of others, understanding role, defining quality practitioners, redefining title/identity, constructed belief systems | Aligning personal values, longevity in the role, time in a certain context, reciprocity to certain opportunities, intention to be 'collaborative', engaging in routine behaviour, maintaining traditions, 'doing it my way', identifying specific learner needs, considering career transitions, resisting forced and incompatible relationships |

## Findings and Discussion

In the following section, data are reported within themes to demonstrate the processes through which coaches' workplace learning experiences were mediated. Participant quotes and field-note excerpts from each thematic database are provided and have been selected to offer clear illustrations of the key points.

### *Negotiating personal engagement*

Within this study, data highlighted the impact perceived roles and shared expectations (of rules and organisational function) played in the mediation of coaches' behaviour. The interplay of these socio-political features constituted practical agreements, negotiated by coaches regarding the appropriateness of particular practices (Kemmis et al., 2014), thus informing their 'Negotiated personal engagement' within the social space of the OHPI. From an organisational standpoint, the perceived definition of coaching roles was clear, characterised by language and employment contracts that articulated the 'support of athletes by working together', and 'coaches developing through collaboration and collective thought'. However, in following the working realities of coaches it became apparent that this message was not consistent throughout the organisation, having been reinterpreted and translated in relation to the discourse, identity, and cultural history of both individuals, and the sport itself. To this end, coaches re-characterised their roles with a disregard for the collaborative ambitions of the sporting organisation, in favour of performative self-interest:

> "It's up to everyone employed in the institution to kind of find out and make it [their role] what they want it to be. In my head I know that [specific discipline] in this country is underperforming, so I'm here to apply strategic thinking and try and right it." (Stewart, Interview)

> "My role? My role is to be part of a collaborative, organic, and creative process. It [the institute] was going to be a place where people work together, between medical staff, and coaches and athletes, but it hasn't worked out quite like that... so really I'm just here to look after my myself and athletes." (Frank, Interview)

The data above, demonstrates the manner through which coaches' (re)interpreted the social relationships within the OHPI. Indeed, whilst early data suggested some coaches' understandings resonated with the organisations collaborative goals, as the study progressed most were found to adhere to the mantra of 'making it what they want it to be' (Stewart). Through discussions with administrative staff, it was evident that this sentiment was compounded by a lack of definitive leadership from administrative staff, reinforcing a

reversion towards more traditional and habitual practices of the past (Partington & Cushion, 2013). As was observed:

> There is certainly some confusion between the roles of Head Coach (Paul) and Performance Director (Stephen) in terms of who is running the OHPI and who is supposed to be relaying the organisational message onto the coaches themselves. When you ask either Stephen or Paul, they will cite it as being in the wheel house of the other, whilst freely agreeing that 'confusions between roles and his have led to inefficiencies in the running of this place' (Stephen). To this end, coaches have cited that they were operating within 'leadership vacuum, left to figure out the new philosophy on our own' (Frank, interview).

> Conversation with Stewart: 'Let's not forget what Stephen's job is here, and why the previous Performance Director is no longer around, medals…not achieving the goal that was set for him in the last [funding] cycle... What does that mean for us [the coaches']? Ultimately we have to perform too… we are going to be measured in the results of our athletes... the way we always have'. (Field-note, July)

Interestingly, these sentiments also highlighted the notion that coaches negotiated their learning engagement in light of their personal dispositions; inclinations to behave in a particular fashion rooted in a person's life and membership in communities both inside and outside of a particular social setting (i.e. the workplace) (Hodkinson and Hodkinson, 2004). When discussing his preference for seeking learning opportunities away from the OHPI, Andrew illustrated,

> For me it's been good [the nature of institute], I've liked the freedom to be able to do my own thing and do the things that have come naturally… making use of support [learning] processes I've used since before we had a [OHPI]" (Interview).

Within this section, the data discussed captures how coaches re-constructed their understandings of 'roles' in respect to their personal dispositions (i.e. Stewart), the historical legacies of the context (the particular sporting organisation), and engagement in wider/past communities (i.e. International coaches in foreign sporting systems). This not only acted to shape perceptions and intentionality towards collaborative learning opportunities, but sought to inform the culture of practice within the institute, notably that of 'looking out for number one' and 'being measured in medals'. In so much as culture shapes how we think, act, and interact, this shared understanding informed the patterns of relationships between people, and between people and objects (Kemmis & Heikkinen, 2012). As Richard stated:

> "I know Stephen wants me and Stewart to be doing more together… but as far as I'm concerned I already have what I need, to figure out the things I need to figure out... I've worked with [external support network] for years, and really I'm just going to keep doing that because it is what works for me… why change what works?" (Interview).

***Impacting (Learning) Cultures***

According to Kemmis and Heikkinen (2012) in order to comprehend the nature of practice, we must consider how it exists in the semantic space of ideas that appear in and through the discourses of activity. Within this theme, data illustrates how the language of coaches and administrative staff informed the 'learning culture' present within the institute, a condition that represented the interplay of multiple cultural messages entrenched within the workplace context, coaches' histories, and the sport itself. This interplay of ideologies informed the language utilised to define and justify behaviour, shaping individual's perceptions of, and intentionality towards learning engagement.

From interviews and observations, it was clear that upon entering the workplace coaches brought with them an individualised culture bound within their dispositions, identities, and experiences within broader fields/communities of activity (Griffiths & Armour, 2012; Hodkinson et al., 2004). For some, these engagements meant they were more naturally aligned to the organisations collaborative aspirations, using phraseology such as; 'shared understandings', 'for the team', 'becoming a community of coaches', and 'working with others', to define their role. Yet for others, the International coaches in particular, this feature had the propensity to impinge upon their inclinations towards collaborative engagement. As was observed:

> Within the International (performance) system coaches are far more autonomous, dictating their coaching behaviours, relationships, and goals without the need for accountability to a national governing body. As Terrance stated, "I think we [Richard and himself] are more used to deciding what we do and do not do, within our programmes, within our development… not having to justify decisions to people like Stephen (Performance Director) or other coaches. It can be a bit grating… I feel like we just don't speak the same language... it's been uncomfortable trying to fit into some else's way of doing things. Hopefully once it settles down and we can get back to our own routines (Field-note, April).

The result of this disparity, as the Head Coad referred to it, was a 'divided workforce, where British and International coaches clashed in the ways they expected to work' (Paul, Interview). Interestingly, findings indicated that this sentiment was compounded by a deep rooted sense of anti-Americanism embedded within the cultural history of the sporting organisation. Regarded as a 'hangover from previous regimes' (Paul Head, Coach), the administrative staff often discussed the historical challenge associated with the employment of coaches that weren't British. As one coach commented:

> The fear has been that the organisation does not value British coaches in the same way they might a foreigner, they seem more exciting… so there can be hesitancy in working with them… people can feel challenged and that doesn't bode well for this new idea [collaborative institutional goals] … (Julie, Interview).

In terms of workplace learning, this acted to limit the learning opportunities afforded staff within the OHPI as some coaches were hesitant to engage collaboratively with colleagues. For example:

> In attempting to reconcile concerns regarding his coaching practice, Frank has repeatedly attempted to seek Richards's [International Coach] advice on reviewing his season. Despite being the most suitable candidate for this task given his background, Richard has continually found other more 'important' tasks to occupy himself. As Frank explained: 'I've tried to embrace the sentiments of this new look institute, but Richard doesn't care... why? because thinking like an International coach and he thinks I've got to look after my team, my interests… I won't be trying that again' (Field-note, June).

To this end, some coaches were forced to look beyond the confines of the OHPI in order to fulfil their learning needs given the lack of opportunities to engage with colleagues. Indeed, when questioned on this very notion, two coaches reported:

> What I've had to do is find a peer group away from here to discuss my ideas and where I need to develop what I have done this year... if that's the way it has to be, fine. (Frank, Interview)

> This animosity between English and International has left a bad taste in people mouths… it has gotten to a point where most people are going back to looking elsewhere for help. (Julie, Interview)

A final dimension, through which culture served to mediate coach learning, was in regard to the sporting culture itself. Indeed, despite early data illustrating a use of language that was in line with the organisations desire to foster collaborative practice, such discourse was filtered and reinterpreted through the cultural medium of the sport. As such, our experience gained from emersion within the working realities of staff, was that the nature of this particular sport subversively favoured behaviour that belied a culture of competitive isolation. To this extent, staff and coaches acknowledged:

> So we for example, thought that the performance coaches would all sit down together and talk about their training plans and experiences and what is useful for them, but the nature of the world is that the athletes are rivals, although all together we are one team, so there is a troubling juxtaposition there between what we have tried to achieve. (Centre Manager, Interview)

> For me [this sport] isn't right for this type of thing, working together in this… they [coaches] have very bespoke ways of doing things, they like to be competitive, which I think is then hard to integrate. (Stewart, Interview)

> Look I'm not paid to mollycoddle anyone. When it gets down to it, I'm not going to be measured in terms of how well I work with Tom, Dick, or Harry… I'll get measured in medals. (Richard, Interview).

Such a finding is consistent with a body of work that recognises the results-driven and contested nature of professional sport as a deterrent in the development of learning

relationships amongst coaches (Mallett et al., 2016; Occhino et al., 2013). Certainly, whilst there was the propensity for generative interactions between coaches within the institute, the dominant discourse was that of competitive and isolated learning practices. To this end, the semantic arrangements as informed by sayings' characteristic of practice, were significant in determining coaches' intentionality towards collaborative engagement within their workplace.

### *Changing organisational structures*

For Kemmis et al., (2014) the material-economic arrangements of a given practice architecture refer to the resources that make possible the practical 'doings' of activity. Within this study, the theme of changing organisational structures captures this notion, where the interplay of territoriality, and government funding, contextualised the learning possible within the OHPI. For coaches, these features were inextricably linked to the cultural-discursive and socio-political arrangements addressed above, in terms of how physical spaces were re-contextualised, appropriated, and made use of. While coaches could not change the physical spaces (i.e. the construction a new sports hall, or the development of new equipment) to facilitate their practice/learning, they were able to reconstruct how these physical spaces were used. For example, indicative of the culture of competitive isolation, coaches displayed (entrenched) territorial behaviour in how they made use of physical space within the training centre. Through the territorial personalisation and marking of areas, they created self-expressive micro-geographies, where `unusual norms', identities, and private realities could be enacted (Parr, 2000).

> Frank utilised his area to store personal training equipment, Stewart leaves his massage bed in an area that makes it difficult for other groups to use that space, and Terrance makes a point to court with his athletes on the outside field, almost ensuring that different groups never cross paths. (Fieldnote, May).

> If we were a real co-operative he (Richard) would say don't worry Frank I'll do my session in the afternoon, or work in with me, or I'll just move the twenty meters… but he doesn't because he doesn't care and doesn't want put himself out by sharing his space (Frank, Interview).

> everyone has their spot… so like down by the matts is where Richard lives and I guess everyone knows that, so people don't go and use that area… for some people there will be unwritten rules about where you can and cannot base yourself because you will be on someone turf… (Julie, Interview).

Data indicated that these constructed boundaries had the propensity to impede knowledge sharing activities amongst coaches as they were often utilised to seek isolation, and at times regulate social relations between colleagues (Altman, 1975). For one coach in particular, the

safeguarding of a personalised space represented their perception of becoming an expert coach, thus defining their perceptions towards the learning opportunities offered by the institute.

> Sometimes the most successful coaches are the ones that manage to isolate themselves from distractions… the institute can have distraction around it, having your own space is important to manage those... sometimes just having people around you, questioning you, challenging you, it can get in the way… (Stewart, Interview).

Beyond that, it was interesting to note that with the funding induced reshuffle of organisational structures and staff, coaches were required to renegotiate existing territorial boundaries as new staff entered the workplace. This created the potential for defensive responses to boundaries violations (Brown et al., 2005) as discussed above, whilst making it challenging for others to find a place within the institute. Indeed, when specifically questioned on this transition into a workplace containing already established practitioners one coach stated:

> It's tricky, you are aware that you don't necessarily have a base, and I don't mean the desk you have in office, it's more than that, it's the [training space]. You float around the centre, working in an around people until you can establish yourself… but that can take a while. (Julie, Interview)

Of particular interest, was the clear link between the macro-structural feature of organisational funding and the structure of learning experiences afforded coaches (Griffiths et al., 2016). Within this study, the instigation of staff redundancies following the reduction in governmental funding, acted to dismantle pre-existing resources that the remaining coaches had come to rely on (i.e. social support networks). For two of the coaches, colleagues regarded as valuable informal learning resources were lost to the organisation, leaving them to 'start again' (Andrew) and 'figure out a new way of doing things' (Frank). What is more, the reduction in employed coaches further shrank the opportunities to engage with colleagues, and the breadth of knowledge present within the institute. As Allison suggested,

> There is only six coaches, that is actually a really small number, especially compared to the fourteen we had. So there's not much to choose from and I suppose that if two people don't necessarily see eye-to-eye, then it blows the whole idea, and as we have seen, makes it uncomfortable for the rest" (Centre Manager, Interview).

Interestingly data suggested that the workplace was far from a benign entity, as goals, beliefs, and traditions had the potential to mediate the way in which coaches made use of physical space, a feature that within this study was seen to shape learning behaviour. As such, this fluid environment provided a context that dependant on the nature of the social, cultural, and material arrangements, had the propensity enable and constrain the 'doings' of practice,

thereby shaping how certain learning opportunities were valued and engaged with by the participants.

## *Discussion*

The findings above outline the three themes constructed to capture coaches' workplace learning, in terms of their alignment with the arrangements of human behaviour proposed by Kemmis and colleagues. However, though presented as discrete categories, it is important to recognise that the associated practices (the sayings, doings, and relatings) illustrated across the three spatial domains, are in fact interconnected and interrelated in nature. For example, coaches were seen to construct and reconstruct shared understandings of the organisations roles and rules (informed by the dispositions of the individuals and the history of the sport), thus informing how they made use of material and economic resources of the OHPI (i.e. the creation and maintenance of personal territories). The interplay of these conditions then reinforced and facilitated a culture and language (the cultural-discursive arrangements) of professional isolation, where *'looking out for number one'* became the modus operandi within the OHPI.

Significantly, the findings of this study illustrate how the macro-structural features of sport (and the associated organisations) can influence the sayings, doings, and relatings of coaches, in ways which can undermine attempts to shape learning cultures (Mallet et al., 2016). The practices described above, illustrate that PAs take form through the relational interactions of coaches, their colleagues, organisations, and the facilities in which they are located. As such, actions and interactions are often informed by the patterns, routines, and traditions enacted across the relational structures of sports, sporting organisations, and the institutions they create. These relational conditions prefigure and predetermine the 'scope of action' (Groves et al., 2010, p. 51) available, in this instance restricting the capacity for coaches to engage in collaborative workplace learning activities. Put another way, coaching practice can be seen to take place within a 'web of connectedness' (Smith et al., 2010, p.7) where the here and now takes place amongst (and is shaped by) the traditions of what has gone before.

Therefore, in order to truly instigate change in the context of learning:

> "Requires more than changing participants *knowledge* about practice; it also requires changing the *conditions* that support their practices – the *practice architectures* that enable and constrain their practices." (Kemmis et al., 2014, p.55, original emphasis)

In consideration of this, we argue that engagement with the theory of PA provides coach education designers (coaches, coach educators, sporting organisation and policy makers) with a framework of assessment and review that might better facilitate pedagogical change than has previously been employed. To this end, both practitioners and organisational leaders alike might look to review the dominant beliefs and discourses surrounding their current practices (culturally-discursive arrangements), the rules, routines, and patterns of behaviour that exist within these particular context(s) (socio-political arrangements), and the materials, spaces, and resources utilised in enacting these practices (material-economic arrangements). Through this, an individual coach looking to develop their professional knowledge, or an organisation looking to instigate substantive pedagogic change, could critically examine the nature of current practices, identifying how and why certain forms of behaviour remain (practice traditions). This would in turn provide a foundation upon which to evaluate the suitability or sustainability of any change initiative embarked upon, illustrating where the reconstruction of practice might be required to meet desired goals.

It is important to recognise that PAs are themselves a fluid concept, subject to transformation and adjustment, as practices are preserved and reconstructed over time by practitioners, and the institutions that diffuse knowledge of their use (Reid, 2011). Indeed, in suggesting that PAs are the product of negotiations between cultural, social and material conditions (Kemmis et al., 2014), it is possible to argue that understandings of practice will logically differ between different sites, communities, and contexts (Goodyear et al., 2016). The findings of this study align with this thinking, as coaches' workplace learning was found not to take place within closed communities (Evans et al., 2006), but in fact operate within a multi-dimensional environment, where individuals held multiple community memberships. As each community was itself the product of socio-cultural conditions (Griffiths & Armour, 2012), coaches' interpretations of the learning affordances of the OHPI were in part a legacy of their engagement in practices constructed (and understood) within broader sites of practice. As such, coaches' engagement with the OHPIs new coach learning strategy varied between groups and individuals, as was evident in the disparity of expected working behaviours held by International and British coaches. It should also be noted, that whilst not explicitly identified as a contributing factor within this case, the broad range of coaching experience encountered (5-26 years) is likely to have played a role in informing community engagement. The implication for education designers and sporting organisations is a need to be familiar

with the facets of multiple community participation and individuals associated dispositions, so that the congruencies required for learning engagement can be supported.

Within this paper, we have examined the practice architecture present within a UK based Olympic training centre, and illustrated how the conditions of this ecological space acted to impede a sporting organisations attempts to instigate pedagogical innovation. The key message to be taken from this work, and the contribution to existing knowledge of coaching CPD, is that PA offers a new perspective from which education designers and sports organisations can consider the provision and support of workplace learning initiatives. Moreover, PA represents an innovative approach to the study of workplace learning, moving beyond a dualistic focus of agency versus (learning) activity (Armour, 2014; Nelson et al., 2013), to account for the substantive role organisational structures (e.g. funding, organisation cultures, rebranding, leadership, government policy) play in mediating the learning experiences of professional sports coaches. To this end, the approach provides an avenue through which a greater understanding of 'what works' in CPD to change learners' behaviours might be pursued.

## Final considerations

In this study, we have provided a unique opportunity to examine the instigation of a new organisational culture, and through this uncover the features of collaborative practice that facilitated or inhibited learning. Grounding the theoretical stance of this work within the concept of 'knowing-in-practice' (Gherardi, 2014), we have attempted to broaden the evaluative lens through which research examines the CPD of professional sports coaches, by drawing upon Kemmis et al's (2014) conception of practice architectures. In doing so, the embodied array of activities held within shared understandings that represent workplace practices, have been located within the contexts of time and space, to recognise that people are not sovereign individuals, but understand one another in terms acquired over a lifetime of participation in the social world. The strength of PA is that it addresses criticisms of existing situated learning theories (i.e. Communities of Practice, Activity Theory, Relational Interdependence), by not simply assuming the social world writes itself onto individual persons (Kemmis & Grootenboer, 2008) or that people are active agents writing themselves into practices (Goodyear et al., 2016). This approach has been valuable in characterising the contextual, and conditioned nature of learning *'in situ'*, where practice is composed amongst the structures, discourses, activities and relationships of everyday working. To this end, the

612 actions of coaches' captured within this study have been characterised as mutually-
613 intelligible (Schatski, 2002), as they employed characteristic and patterned ways of saying,
614 doing and relating throughout. Coaches were therefore seen to be active agents, entering the
615 OHPI and behaving in ways that were reflective of a legacy of engagements amongst wider
616 communities and practice traditions (i.e. the international coaches reinterpreting their roles in
617 light of past engagements). To this end, these features condition the intersubjective space
618 within which coaches' practice, mediating the learning and CPD afforded coaches.

619 While the results of the present case study are not universally generalizable (Yin, 2009), they
620 do raise several considerations for the provision of coaching CPD. Crucially, this study
621 identifies the need to recognise the coaching workforce as transient in nature, where
622 particularly within performance and professional settings, coaches' can be seen to transition
623 from organisation to organisation globally (where organisations are themselves also in cycles
624 of transition). As such, there is a need for sporting organisations to consider the individual
625 subjectivities of coaches as they enter new environments, questioning how features such as
626 biography, history, or experience might influence responses to new environments and
627 cultures. To conclude, this study raises fundamental questions that need to be addressed in
628 recognising coaches as professionals that negotiate contested and dynamic workplace
629 environments, particularly within a landscape where the workforce are becoming increasing
630 more transitory.

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755 **Response to reviews comments**

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| **Reviewers' comments:** | **Amendments** |
|---|---|
| ***Introduction:*** The introduction does not progress in a way that gives clarity or fluency to the rationale of this work. For instance, after the theoretical background is presented it is important to clearly describe the significance of this work. Just a brief and general text related to coach learning is presented after the theoretical background. I also advise the removal from this part the issues related to data analysis (lines 150 - 151). It should be presented in methods section.<br><br>On page 2, line 56 it is written: "in this paper we report findings from a 9-month ethnographic study of an Olympic performance centre in UK". Firstly, I think this should not be displayed in the Introduction of this work; at least it was a case study, and here it is more important to understand | The structure of this section has been simplified in line with the reviewers' comments to reflect a more streamlined characterisation of the study.<br><br>The comments referring to the data analysis issues discussed on lines 150-151 are no longer present within this iteration of the draft.<br><br>The concerns raised regarding the confusion over the 9/10 month time scale also not evident within this iteration of the draft as this has been revised previously. Additionally, the characterisation of the study as ethnographic in nature has also been removed from this section. |

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| the research problem. Secondly, here the study is said to be 9 months, while in the method / data collection, line 174, it is said to be 10 months. | |
| ***Methodology:*** The subheading Overview is very general- I suggest to replacing it with Study Design. | This has been addressed previously and reads as 'Study Design' |
| Data collection should be presented after describing the Participants. | This has been amended. |
| The total number of the interviews made is displayed. However, the number by participant is missing. The same should be considered for participant observation. The periodicity of collecting interviews should also be mentioned. I recommend displaying separately all information for each data source. | This concern was addressed in previous amendments made in line with reviewers' comments and with attention paid to the observation length/duration, and interview chronology. Following this, a clearer picture of the data collection process is provided. |
| In my opinion Table 1 is not necessary. Presenting an example of a field excerpt is not representative of all excerpts and not appropriate in an interpretative research approach. I would also encourage you to more clearly articulate the specific methods that you used and why you chose them over others. In addition, perhaps try to be more specific in terms of your description of those procedures relating to the implementation of each of these methods. | This table was removed previously and is no longer present within the draft. The authors believe that the comments made concerning methods have been addressed within the revisions discussed above. |
| The Participants section could be more complete. The criterion exposed for selecting coaches and administrative staff is very general. The experience of coaches is very different (range of 5-26 years). It was stated that they had undergraduate qualifications and at least a level 3 coaching qualification. More specific information (what sport did they coach? They had anticipatory socialization as athletes? What kind of undergraduate qualifications did they have? Are they related with the sport?...) is needed to understand possible differences that can appear between them as practice architectures. Is not expected that a coach with 5 years coaching experience has the same concerns and use some tools than a coach with 25 years coaching experience. | As per pervious recommendations more detail was provided for clarify regarding both the participants and the context of the particular organisation (outlining nation and international activities, workplace engagements, and coach education responsibilities and provisions). That said, there has been a need to withhold key identifying features so that the identity of the organisation remains anonymous. |
| This paper investigates the practices of coaches and administrative staff who were employed at the same institution as the author. While I appreciate that other published studies have adopted a similar approach, you might want to discuss some of the potential ethical and methodological issues associated with such a design, along with how you | There appears to be some confusion here as whilst the institution was easily accessible to the researchers, the authors were not employed by the same institution as the coaches observed within this study. It is difficult to see within the current iteration of the draft where this point |

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| sought to mitigate against any such problems. | may have been misconstrued. |
| ***Data analysis:*** Grounded theory was used in this work for data analysis. However, this study used a well-defined theoretical background. So, even if such apparent paradox is possible I recommend the authors better explain this issue. | As is outlined within the draft, the authors have adopted within this paper a 'constructivist revision of traditional GTM [which] recognises the researcher as an active participant in the research process'. Such a perspective, acknowledges the researcher's active involvement in understanding phenomena and recognises the role of an informed approach to meaning making. To this end, the authors believe that the approach has been outlined. |
| ***Results and discussion:*** This section must be improved as already mentioned. I suggest removing some discussion that is done in this section. I recommend returning to the aim and discussing the main results. The discussion is more about the tenants of the PA´s Theory than the results of this paper. Just a brief and general commentary about the main results related with the PA's Theory is given.<br>The ideas related to the results reinforcing the ways (and means) coaches and administrative staff were, and improved (or not) as, practice architectures should be emphasized in the discussion. | The authors believe that previous revisions have addressed the concerns addressed as the results and discussion have be edited to more explicitly examine the central themes identified within the data analysis (negotiated personal engagement, changing organisation structures, and impacting cultures) from the perspective of practice architectures and the associated conditions (cultural-discursive, material-economic and social-political). As such, the linkages between the data and the theoretical background have been strengthened to provide greater relevance to the results |
| ***Conclusions:*** In my opinion the subject of this section concerns the value of PA´s theory in general, and is not related with this work. The implications of the study's findings for coaching process and research should be clarified here. I suggest replacing conclusions for final thoughts or considerations (more aligned with the study approach and design). | In line with the amendments made previously to the findings (discussed above), the argument for the need to better understand coaches' personal dispositions and engagements in wider communities has already been strengthened. This was achieved through the incorporation of additional data and the explicit discussion of previously obscure interpretation. |

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