

1 **Reconceptualising Professional Learning through Knowing-in-Practice: A**

2 **Case study of a coaches high performance centre**

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

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

26 **Introduction**

27 The last two decades has seen an increasing focus on the social conditions and characteristics
28 of professional development (PD) that facilitate change in practitioner's practices (Stewart,
29 2014). Moving beyond passive and intermittent notions of learning, evidence suggests that
30 quality PD involves active learning (Desimone, 2009), consistent learning opportunities
31 (Little, 2012), linked to practice (Kunter, Kleickmann, Klusmann, & Richter, 2013) and
32 supported through learning communities (Cherkowski, 2012). This in turn has led to a greater
33 focus on the workplace as a legitimate site for professional learning (Cairns & Malloch,
34 2011), and specifically, the processes of knowledge construction and change as they occur in
35 the day-to-day activities of organisational work (Gherardi, 2009; Fenwick, 2008).
36 Contemporary approaches to PD therefore recognise learning-as-practice, bound in an
37 embodied and contextual process (Fenwick, Nerland and Jensen, 2012). However, what is not
38 known is the manner in which these processes are interrelated, or indeed the mechanisms that
39 underpin these interactions (Rynne, Mallett, & Tinning, 2010). It therefore remains unclear
40 how such collaborative and social learning processes can best occur (Billett and Choy, 2013),

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

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

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

72 **Theoretical Background**

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

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

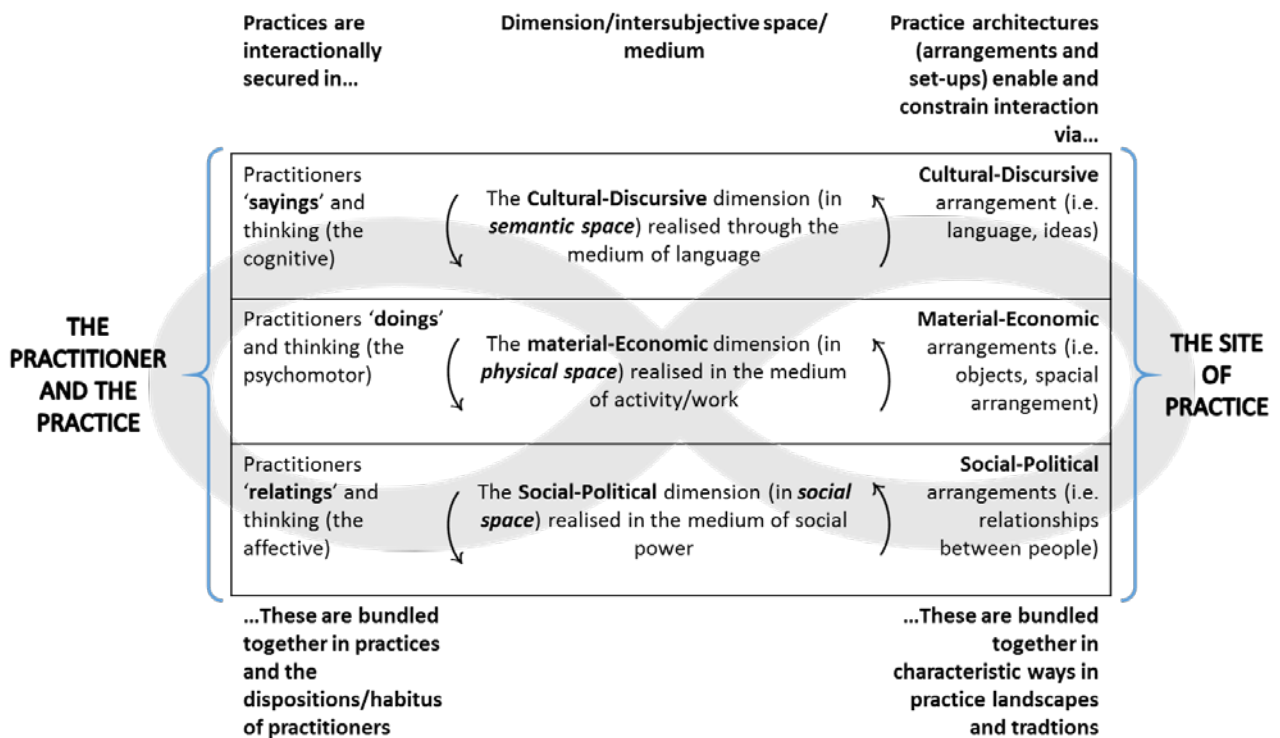
92 The material–economic arrangements of the physical space relate to those resources that
93 condition the activity and work of practice. These arrangements are those that enable and
94 constrain the ‘doings’ of practice, as they define ‘what can be done amid the physical set-ups’
95 of practice locations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

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

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

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

123



124

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

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

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

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

146 **Method**

147 *Design of the study*

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

161 *Participants*

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

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

182 ***Data Collection***

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

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

208 ***Data Analysis***

209 Data analysis processes drew from a constructivist approach to the grounded theory
210 methodology (CGTM). The utility of this method was that it provided a ‘flexible’ and
211 ‘adaptive’ approach to generating and making use of data (Bryant & Charmaz, 2007),
212 structuring the research process in a manner that “*looks beyond the obvious and [provides] a*
213 *path to reach imaginative interpretations*” (Charmaz, 2006, p. 181). Importantly, this
214 constructivist revision of traditional GTM recognises the researcher as an active participant in
215 the research process. As such, within this framework meaning is viewed as a co-constructed
216 interpretation of events, mediated by the interrelationship of researcher and participant (Mills
217 et al., 2006). Hence CGTM acknowledges the researcher’s active involvement in
218 understanding phenomena, and offers an interpretive portrayal of the social world that cannot
219 be achieved via the purportedly objective and unbiased stance of traditional grounded theory
220 (Charmaz, 2008). It should also be noted that in this study the primary researcher was a
221 former high level performer within the sport concerned. As such, the researcher held a degree
222 of social status that afforded the identity of ‘affiliated member’ (Corbin Dwyer and Buckle,
223 2009). Whilst arguments can be made that outsiders can more readily identify societies
224 unconscious grammars (i.e. insiders to overlook familiar or routine behaviours) (O’Rielly,
225 2012), we would argue that the shared identity in this instance afforded the researcher a
226 cultural perspective not readily accessible to other researchers (Douglas & Carless, 2012).

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

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

247 **Context of the OHPI**

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

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

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

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

279 *Trustworthiness: Judging qualitative research*

280 Whilst traditionally the quality of qualitative research has been judged on the measurement of
281 a works adherence to the criteriological measures of trustworthiness and validity (Lincoln and
282 Guba, 1985), this position has been challenged by the argument that interpretive research
283 stands alone from (post)positivistic investigations by the very nature of their ontological and
284 epistemological assumptions (Smith et al., 2014). In recognising these critiques, we accept
285 Smith and Sparkes (2013) invitation to ‘let go of validity’, and engage in the generation of
286 more research-specific criteria. As such, within this study we drew upon the characterising
287 traits of rich rigour, sincerity, credibility and transparency to inform our inquiry (Smith et al.
288 2014). In practical terms, this meant peer debriefing was adopted to not only compare
289 interpretations, but challenge biases and meanings derived from interpretation of data. This
290 was achieved through conversations with key organisational leaders and embedded
291 conversations with significant stakeholders allowing for constructed ideas to be discussed. As
292 such, we would argue that the research presented is credible in that significant time has been
293 spent not to ‘test’ trustworthiness, but to critique, collaborate and reflect upon interpretations.
294 Finally, in providing transparency thick descriptions of findings are provided to capture an in-
295 depth picture of the coaching workplace, and a code map included to demonstrate how data
296 were interpreted (Table 1).

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

298 **Findings and Discussion**

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

303 *Negotiating personal engagement*

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

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

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

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

331 reversion towards more traditional and habitual practices of the past (Partington & Cushion,
332 2013). As was observed:

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

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

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

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

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

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

368 ***Impacting (Learning) Cultures***

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

451 *Changing organisational structures*

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

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

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

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

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

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

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

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

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

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

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

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

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

519 *Discussion*

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

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

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

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

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

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

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

582 Within this paper, we have examined the practice architecture present within a UK based
583 Olympic training centre, and illustrated how the conditions of this ecological space acted to
584 impede a sporting organisations attempts to instigate pedagogical innovation. The key
585 message to be taken from this work, and the contribution to existing knowledge of coaching
586 CPD, is that PA offers a new perspective from which education designers and sports
587 organisations can consider the provision and support of workplace learning initiatives.
588 Moreover, PA represents an innovative approach to the study of workplace learning, moving
589 beyond a dualistic focus of agency versus (learning) activity (Armour, 2014; Nelson et al.,
590 2013), to account for the substantive role organisational structures (e.g. funding, organisation
591 cultures, rebranding, leadership, government policy) play in mediating the learning
592 experiences of professional sports coaches. To this end, the approach provides an avenue
593 through which a greater understanding of ‘what works’ in CPD to change learners’
594 behaviours might be pursued.

595 **Final considerations**

596 In this study, we have provided a unique opportunity to examine the instigation of a new
597 organisational culture, and through this uncover the features of collaborative practice that
598 facilitated or inhibited learning. Grounding the theoretical stance of this work within the
599 concept of ‘knowing-in-practice’ (Gherardi, 2014), we have attempted to broaden the
600 evaluative lens through which research examines the CPD of professional sports coaches, by
601 drawing upon Kemmis et al’s (2014) conception of practice architectures. In doing so, the
602 embodied array of activities held within shared understandings that represent workplace
603 practices, have been located within the contexts of time and space, to recognise that people
604 are not sovereign individuals, but understand one another in terms acquired over a lifetime of
605 participation in the social world. The strength of PA is that it addresses criticisms of existing
606 situated learning theories (i.e. Communities of Practice, Activity Theory, Relational
607 Interdependence), by not simply assuming the social world writes itself onto individual
608 persons (Kemmis & Grootenboer, 2008) or that people are active agents writing themselves
609 into practices (Goodyear et al., 2016). This approach has been valuable in characterising the
610 contextual, and conditioned nature of learning ‘*in situ*’, where practice is composed amongst
611 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
<p>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.</p> <p>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</p>	<p>The structure of this section has been simplified in line with the reviewers' comments to reflect a more streamlined characterisation of the study.</p> <p>The comments referring to the data analysis issues discussed on lines 150-151 are no longer present within this iteration of the draft.</p> <p>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.</p>

<p>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.</p>	
<p>Methodology: The subheading Overview is very general- I suggest to replacing it with Study Design.</p>	<p>This has been addressed previously and reads as ‘Study Design’</p>
<p>Data collection should be presented after describing the Participants.</p>	<p>This has been amended.</p>
<p>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.</p>	<p>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.</p>
<p>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.</p>	<p>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.</p>
<p>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.</p>	<p>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.</p>
<p>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</p>	<p>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</p>

sought to mitigate against any such problems.	may have been misconstrued.
<p>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.</p>	<p>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.</p>
<p>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.</p> <p>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.</p>	<p>The authors believe that previous revisions have addressed the concerns addressed as the results and discussion have been 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</p>
<p>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).</p>	<p>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.</p>