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**Action research within an elite rugby union coaching group to influence change in  
coach learning and pedagogic practice**

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39 **Introduction**

40 It has been over a decade since sport coaching researchers first argued that approaches  
41 to coach education often fail to provide the professional learning required to promote and  
42 sustain enhanced coaching practice (Cushion, 2007; Evans & Light, 2007; Jones, 2006;  
43 Wright, Trudel & Culver, 2007). Indeed, the vast majority of coach education programmes  
44 continue to be taught along traditional didactic lines with any student coach involvement  
45 being restricted to isolated self-reflective exercises (Jones, Morgan & Harris, 2012;  
46 Chesterfield, Jones & Potrac, 2010). Such programmes have been criticised for being  
47 divorced from the 'knotty reality' of practice and of not developing new, progressive  
48 knowledge, thus not fulfilling their intended developmental function (Jones et al., 2012).  
49 Despite this, there has only been limited progress to date in developing interactive,  
50 situationally specific learning opportunities that can make a long-term, sustainable impact  
51 on coaching practice (Jones, Morgan & Harris, 2012; Nash, 2015; Trudel, Culver &  
52 Werthner, 2013). One approach that has attempted to address this issue is Action  
53 Research (AR), which draws upon educational research methods to offer a valuable  
54 means of promoting coach development (Ahlberg, Mallett, & Tinning, 2008; Clements &  
55 Morgan, 2015; Evans & Light, 2007). Action research aims to increase knowledge and  
56 improve practice in applied settings, by using the experiences of the participants as  
57 researchers in the field to improve their understanding of current challenges (McNiff &  
58 Whitehead, 2010). Bradbury (2015, p.1) describes AR as a 'democratic and participative  
59 orientation to knowledge creation that brings together action and reflection, theory and  
60 practice, in the pursuit of practical solutions to issues of pressing concern'. The benefits of  
61 AR are immediately evident to a practicing coach, as unlike other forms of research, AR  
62 allows the researcher to affect current practice (McNiff, 2013). Action research is reliant  
63 upon the practitioners engaging in a cyclical process of planning, data collection, analysis,  
64 reflection and change (Glanz, 1998). This process allows for a 'prolonged engagement

65 with the research question' (Clements & Morgan, 2015, p.143) that will enhance the  
66 understanding of the participants involved (Dickens & Watkins, 1999). In fact, AR forces  
67 the sport coach, in this instance, to reflect not only on the question at hand but also on  
68 their own performance and role within the task, a skill that is said to be essential to  
69 developing expert coaching practice (Wiman, Salmoni, & Hall, 2010).

70 Some action researchers position themselves as 'outsiders', standing outside the  
71 context they want to change with the justification that it is easier to achieve an  
72 independent critical perspective and interpretation (Carr & Kemmis, 1986). However, Carr  
73 and Kemmis (1986) argue that although this is an important and helpful role, it is not  
74 sufficient for 'critical action research'. Despite the 'outsider' having the knowledge and  
75 power to interpret or inform the participant's practices, his/her influence in the  
76 transformation of those same practices is clearly reduced. It is the practitioners who  
77 possess the real understanding of their social practice, making it completely logical that  
78 they become the researchers themselves (Sparkes & Smith, 2014). The 'outsider'  
79 researcher, however, can and should still fulfill an important role as a 'critical friend'  
80 helping the 'insiders' to act in the critical process of transforming their social practice' (Carr  
81 & Kemmis, 1986). Consequently, Carr and Kemmis (1986, p.162) define critical action  
82 research as 'a form of self-reflective enquiry undertaken by participants in social situations  
83 in order to improve the rationality and justice of their own practices, their understandings of  
84 these practice, and the situations in which the practices are carried out.' The implications  
85 for sport coaches are clear, that they should become the action researchers themselves,  
86 whilst still working with outsiders who have expertise in the field, to enhance their coaching  
87 practice.

88 Despite the potential benefits of AR to sport coaching, currently there is a paucity of  
89 research that has employed it (Clements & Morgan, 2015). Indeed, although AR has been

90 used in some sports coaching settings (Ahlberg et al., 2008; Clements & Morgan; Evans &  
91 Light, 2007), it is still largely underdeveloped. Ahlberg et al., used an AR framework in an  
92 attempt to change an individual's own coaching practice to improve the self-determined  
93 motivation of high performing youth rugby players. Data collected from three sources (i.e.,  
94 coach, players and a critical friend) demonstrated an increasing awareness of the coach's  
95 personal coaching behaviours, the development of an evidence-based review process to  
96 improve coach development, and facilitation of players' autonomy. However, this AR did  
97 not involve any other members of a coaching team. Further, it was technical in nature,  
98 which involves taking an existing theory and applying it to practice (Holter & Schwartz-  
99 Barcott, 1993), as opposed to practical AR which focuses on understanding practice and  
100 solving immediate problems by developing strategic interventions to create a change  
101 around these issues (Kincheloe, 1991; McKernan, 1991). Such practical AR adopts a  
102 flexible approach which empowers the practitioners (Berg, 2004).

103 Evans and Light (2007) also adopted an individual technical, theory driven, AR  
104 approach involving a 'sport pedagogue' collaborating with a practitioner. Here, the coach  
105 was focused on improving his practice with a sport pedagogue, who was also an  
106 experienced practitioner, bringing expertise in pedagogy and its theoretical understanding.  
107 The aim of the AR was technical in nature to assist a rugby coach's attempts to introduce  
108 aspects of player-centred (Game Sense) pedagogy into his coaching. The sport  
109 pedagogue adopted the role of a 'critical friend' to assist the coach in his reflection which  
110 was considered to be an essential aspect of the AR approach. Findings revealed that the  
111 AR offered a 'useful means of self-directed coach development in which academics in  
112 coach education can make a valuable contribution toward both coach development and  
113 the grounding of research in the day-to-day practices of coaches' (Evans & Light, 2007,  
114 p.6). Similar to the study of Ahlberg et al., (2008), this intervention was theory driven and  
115 did not involve any engagement with fellow coaches in the same practical setting.

116 More recently, Clements and Morgan (2015) used AR to develop coaches' learning to  
117 enhance the learning environment they created within a national talent development  
118 system, utilising a theoretical framework based on motivational climate. Results revealed  
119 that the AR was an effective coach development tool for coaches in order to enhance their  
120 learning and the motivational climate within their sessions. In contrast to the previous AR  
121 studies in sport coaching, this study encouraged interaction between coaches through an  
122 online platform that permitted communication from a distance, which they found to be  
123 highly beneficial and time efficient. It did not however, involve collaboration between a  
124 group of coaching colleagues in the same team. Further, it was technical AR rather than  
125 practical (Holter & Schwartz-Barcott, 1993), and, therefore, was not initially driven by the  
126 coaches themselves and did not involve them in articulating their own concerns, planning  
127 for strategic action, monitoring the problems and effects of changes, and reflecting on the  
128 value and consequences of these changes (Kincheloe, 1991) as members of a coherent  
129 coaching team.

130 Collaborative action research (CAR) involves climates of inquiry in communities of  
131 practice, with the different participants functioning as co-researchers (Mitchell, Reilly, &  
132 Logue 2009). CAR by Garces and Martinez (2016) in a school teaching setting, found  
133 significant benefits in collaborative planning, studying, reflecting and researching with  
134 colleagues. As such, they strongly advocated more reflective educators capable of working  
135 in collaborative teams to find solutions to problems that arise, as a form of professional  
136 development. Collaborative action research amongst a team of sport coaches, therefore, is  
137 likely to bring new challenges and opportunities to sport coaching research, and has the  
138 potential to generate new insight into AR in the field.

139 Considering all of the aforementioned, the aim of this study, and its unique contribution  
140 to knowledge, was to investigate how a Welsh regional rugby academy head coach could

141 utilize practical AR to influence change within a coaching group. The specific objectives  
142 were to:

- 143 1. Enhance collaboration in planning and reflection amongst the coaching team;
- 144 2. Influence change in coach learning and pedagogic practice

145 In achieving the stated aim and objectives, this study will build upon and advance  
146 previous AR studies in sport coaching. The specific value to researchers and practitioners  
147 will be in developing greater insight into how a head coach can influence change within a  
148 coaching group. Further, it will offer awareness into the opportunities and challenges of CAR  
149 as a means for head coaches to manage change and support the development of their  
150 colleagues, thereby addressing a currently underexplored function of the head coach as line  
151 manager within professional sport organisations.

152

## 153 **Methods**

154 In this section, firstly, the AR approach is briefly justified and information provided on how  
155 to judge quality in AR and qualitative inquiry. The participants and the ethical issues are  
156 then considered and the data collection methods and analysis procedures are presented  
157 and justified.

### 158 ***Action research approach***

159 Action research is as a form of critical inquiry, with a goal of empowerment and emancipation  
160 that enables individuals to gain the knowledge and power to be in control of their own lives  
161 (McNiff, 2016). Critical inquiry is sympathetic to qualitative research methods that take reality  
162 to be subjectively 'constructed and sustained through the meanings and actions of  
163 individuals' (Sparkes & Smith, 2014, p.50). However, for critical researchers, focusing only  
164 on subjective meaning implies that social reality is nothing more than the way individuals  
165 perceive themselves and their situation. The danger here is that this subjective interpretive  
166 reality may be misperceived as a consequence of historical forces and the operation of

167 ideological processes (Carr & Kemmis, 1986; Sparkes & Smith, 2014). Therefore, critical  
168 forms of inquiry, such as critical AR are committed to transformational change and actively  
169 seek to involve the participants in the research process (Carr & Kemmis, 1986; McNiff, 2016;  
170 Sparkes & Smith, 2014).

171 In writing about what constitutes good quality AR, Hilary Bradbury Huang (2010,  
172 p.93) argues that 'Action research is an orientation to knowledge creation that arises in a  
173 context of practice and requires researchers to work *with* practitioners'. She goes onto to  
174 say that, unlike conventional social science, its purpose is not solely to understand social  
175 situations, but also to effect desired change by transforming practice, as a path to  
176 generating knowledge and empowering stakeholders.

177 Consistent with Carr and Kemmis's (1986) criteria for critical action research, this  
178 study utiises qualitative inquiry into practitioners' interpretations and a relativist perspective  
179 where the judgement of quality is considered through a list of selected characteristics, as  
180 opposed to preordained and universal criteria (Smith & McGannon, 2017; Sparkes & Smith  
181 2009). The chosen characteristics include; the worthiness of the topic; the rigour applied in  
182 the collection and analysis of data; the credibility of the practitioner researchers; members'  
183 reflections, critical friends' perspectives, the potential contribution of the work; and its  
184 transparency (Smith & McGannon, 2017; Tracey 2010).

### 185 ***Participants***

186 Throughout this project, I took the role of lead researcher and the Head Coach of a Welsh  
187 regional rugby academy and collaborated with a team of two other professional rugby  
188 coaches and two support coaches (Table 1 lists the background of the participants), whilst  
189 preparing the players for the British & Irish Cup competition in the 2016-17 season. The  
190 competition was against Irish and English opposition comprising of both fully and semi-  
191 professional teams.

192

193 *Insert Table 1.*

194

195 ***Ethical considerations***

196 Ethical approval was sought and gained through the ethics committee of the university at  
197 which I was enrolled as a part time Masters student. This research project involved reflecting  
198 upon the interactions of five professional performance coaches (including myself as head  
199 coach and researcher). All participants directly involved in the project gave voluntary  
200 informed consent to use the data which included reflections on the discussions and session  
201 plans from coaching team meetings. To preserve confidentiality, all names and personal  
202 references have been anonymized and psuedonyms used (McNamee, Oliver, & Wainwright,  
203 2006).

204 Further to the traditional ethical considerations, the involvement of professional rugby  
205 union players also presented additional ethical challenges. Firstly, any intervention that was  
206 utilised in the AR cycles had the potential to negatively impact on player performance. Whilst  
207 it is not the aim of any coach to adversely affect the player, it can be an unwanted  
208 consequence if the player is stretched beyond their capabilities (Currie & Sumich, 2014).  
209 Therefore, before any intervention was implemented, the potential impact on player  
210 performance was carefully considered as part of the decision-making process. In addition,  
211 the power relationship between myself, as lead researcher and head coach, and my  
212 coaching team was constantly considered and balanced in relation to what was demanded  
213 of them for the AR process over and above their normal coaching duties.

214 ***Procedures***

215 In order to understand the complexities that existed within the coaching environment in this  
216 study, I utilised rich, descriptive data based on my reflections and coaching team



217 discussions in order to acquire knowledge of the existing situation (Knowles, Tyler,  
218 Gilbourne & Eubank, 2006).

219           The three cycles of AR took place over a three-month coaching programme that was  
220 divided into three distinct coaching blocks of two weeks with the players from the regional  
221 Premiership Select XV who were competing in the British and Irish Cup competition. Table  
222 2. illustrates the competition format as well as contact time and results. Alongside the  
223 coaching programme, the coaching team held a number of formal meetings to discuss the  
224 research findings and decide upon future actions. These occurred before and after each  
225 coaching block and allowed the coaches to work collaboratively to improve their functionality  
226 and coherence and ultimately, their coaching practice. As the head coach, I organised these  
227 meetings to begin the reflective process for the coaches at the end of each coaching block  
228 and then, prior to the start of each block, to ensure that we were planned and prepared  
229 leading in to the next session. Each meeting lasted approximately one hour and followed a  
230 set agenda. For the review meetings, we focused on the organisation of the reflective  
231 process, and began to ask questions around the coaches' perceptions of player  
232 performance in the previous games. For the planning meeting, we discussed the reflections  
233 that the coaching team had completed, looking to draw out any themes that we could then  
234 use in the plans and actions for the next block.

235           As already alluded to in the ethics section, this study was part of a university  
236 Masters module on AR for coaches. As such, two experienced university coach educators  
237 and another professional rugby coach acted as critical friends and a validation group  
238 (McNiff, 2016), meeting on a bi-weekly basis over the three-month period of the  
239 intervention.

240  
241 Insert Table 2.

242

243 ***Data collection***

244 In order to understand the complexities that existed within the coaching environment in this  
245 study, I collected rich, qualitative data based on reflections, group discussions and video  
246 observations of coaching sessions in order to acquire knowledge of the initial situation and  
247 the subsequent change as a consequence of the AR (Knowles, et al., 2006).

248 Baseline data was collected in block one and was used to inform the initial planning  
249 for blocks two and three. Kolb (2014) suggested that learning can be enhanced through  
250 revisiting the thoughts and feelings experienced within a specific context. Similarly,  
251 Anderson, Knowles and Gilbourne (2004) suggested that engaging in a formal process of  
252 reflection can enhance a practitioner's understanding of their practice and therefore enable  
253 him/her to make positive changes to subsequent practice. Following guidelines presented  
254 by Shenton (2004), the data collection methods used in this study were informed by similar  
255 AR studies (Ahlberg et al., 2008; Clements & Morgan; Evans & Light, 2007). I kept a  
256 reflective log (Appendix 1) to collect data throughout the study. This was supported by a  
257 more structured reflective framework that I created to guide the other coaches towards more  
258 insightful reflections (Appendix 3). Each coach was asked to reflect on the first two coaching  
259 weeks to develop baseline data (McNiff & Whitehead, 2010) of existing training principles  
260 and practices. This practice was enhanced by the availability of video for each coaching  
261 session, allowing the coaching team to link their reflections to real-time coaching  
262 performances. These reflective logs were then shared between the coaching team and the  
263 emergent themes utilized to guide the initial planning phase of the next coaching block and  
264 AR cycle. At the end of each coaching block, the coaches met to discuss their reflections  
265 and the outcomes of these critical discussions were recorded on a whiteboard. This  
266 information then formed the basis of the pedagogical areas to focus on for improvement in  
267 the next coaching block, therefore making it an evolving AR process (McNiff, 2016).

268 ***Data analysis and evidence***

269 To generate evidence of achieving the study's aim and objectives, a set of procedures  
270 were followed to allow a systematic data analysis (McNiff, 2016). The first step consisted of  
271 organising and reducing the mass of data collected, to enable it to be coded and analysed.  
272 This was an ongoing process during the data collection phase. The second step consisted  
273 of getting familiar with the entire data set by reading it several times with the research aim  
274 and objectives in mind and attempting to let the data speak for themselves (Mcniff, 2016).  
275 During this process, ideas and patterns began to emerge from the data and commonalities  
276 were sought between the reflections, video observations and coaching group discussions.  
277 These ideas and patterns were then coded as first and higher order themes and related to  
278 the aim and objectives of the study. McNiff (2016) refers to this as the 'golden thread' that  
279 should be visible throughout the research process. Finally, evidence was sought and found  
280 in the data and relevant themes selected (McNiff, 2016) to corroborate the research claim  
281 of influencing change in collaboration, learning and pedagogic practice amongst the  
282 coaching group.

283

## 284 **Results and Discussion**

285 In this section, the findings will be presented under the higher and first order themes that  
286 were generated by the data analysis, in line with the aim and objectives of the study.

### 287 ***Enhancing collaboration amongst the coaches***

288 ***Joint planning:*** At the start of this study, the lead researcher set up an online  
289 planning tool to aide in the collaborative process through Google Docs<sup>1</sup>. The aim here was  
290 to develop a process of establishing session outlines, so that coaches would engage with  
291 the planning process as a team rather than the more traditional isolated planning that most  
292 rugby coaches experience (Hall, Gray, & Sproule, 2016):

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<sup>1</sup> Google Docs refers to Google Sheets, an online, collaborative desktop publishing software that the coaches use to plan sessions. An example can be found in Appendix 2.

293

294 *I set up the Google Docs to allow the coaches to plan in advance what they wanted*  
295 *to achieve, and also, as the coaches were based in different locations, allow them*  
296 *to chat to each other about various parts of the session before going out on field.*  
297 *(Reflective log, 10/10/16).*

298

299 Despite these efforts, there was a lack of engagement from the other coaches, not only in  
300 the planning process, but also in their collaboration and sharing of practice, as evidenced  
301 by the following reflective log entry:

302

303 *After the first block, I am frustrated at the lack of group planning that has happened.*  
304 *Each time I search for more thought on their planning around our group aims, I am*  
305 *often met with a bemused look followed by a 'tell me what you want me to do' type*  
306 *comment. (Reflective log, 24/10/16).*

307

308 Developing collaborative coaching groups is seen as a major tool in developing and, more  
309 importantly, accelerating expert coach development (Clements & Morgan, 2015; Callary, et  
310 al., 2014). Through collaboration, coaches can develop a greater understanding of their  
311 craft, and learn from the knowledge and experiences of others (Callary et al., 2014).  
312 However, this overlooks the challenges in achieving collaboration amongst a group of  
313 coaches. The obvious frustration that I experienced is common amongst coaching groups  
314 as a true collaborative approach takes time to develop (Callary et al, 2014). Following further  
315 personal research into the topic of collaboration and developing stronger coaching  
316 communities, I recognised the importance of time and proximity in forming coach  
317 relationships and enhancing collaborative learning (Occhino, Mallet, & Rynne, 2013). Linked  
318 to this there was also an issue around the motivation of the coaches to fully engage in the

319 process (Bleicher, 2014). The AR was my initiative as head coach and as part of a Master's  
320 degree I was studying for at the time, so it was understandable that the other coaches were  
321 not as enthusiastic or motivated by the prospect of it as I was. There was also an accepted  
322 power dynamic within the group with me as their head coach and line manager, so the other  
323 coaches were obliged to participate. My challenge was to enthuse them to do so and in  
324 order to achieve this I turned to the reading of Bleicher's (2014) work on collaborative  
325 reflection.

326 ***Developing reflection:*** In order to further enhance the collaboration between the  
327 coaches, I encouraged them to reflect on their coaching between sessions and to discuss  
328 these reflections as a group during regular coaching meetings (Bleicher, 2014). Reflection  
329 is the lynchpin to sustainable change in practice (Bleicher, 2014). Recognising this, I decided  
330 to capture the coach reflections through a structured reflective framework (Appendix 3) to  
331 aid the coaches in developing their reflective skills (Knowles et al., 2006) so that they would  
332 be able to draw on richer reflections when planning the next phase of training (West, 2011).  
333 These reflections focused on perceptions of player learning, coach learning and further  
334 thoughts and questions that the coaches may have had. For example, Appendix 3 shows  
335 that this coach wanted to give the players more responsibility at the end of training block  
336 one, so that they could become more accountable for their actions. He also wanted to  
337 randomize training more so that the players were forced to organize themselves under game  
338 pressure.

339 Throughout training block two, it was evident after viewing the video footage of  
340 training sessions that the coaches made a specific effort to collaborate more to enhance  
341 their coaching sessions and the different game aspects. For example, during the Tuesday  
342 session on both weeks, there was a greater collective emphasis placed on previously  
343 identified facets of the game and on developing innovative game strategies. To achieve this,  
344 coaches became far more involved in the joint planning of the sessions and both '*Alan and*

345 *Ben worked together to plan game-realistic scenarios to challenge the players'* (Reflective  
346 log, 6/12/16). The process of planning to a sophisticated detail is one that is valued at a high  
347 level of performance and is considered fundamental to the success of the athletes (Arnold,  
348 Hewton & Fletcher, 2015).

349 When reflecting on block two, even though the coaches had made improvements, I  
350 still wanted them to *'take more responsibility for their planning going into block three'*  
351 (Reflective log, 22/12/16). Continuing the collaborative process to design further coaching  
352 interventions following block two, the coaching team met again to reflect and to plan for the  
353 next block. Figure 1 is an example of Ben's feedback notes from the meeting and shows the  
354 planned changes to his own practice, as a result of the meeting, demonstrating greater  
355 responsibility and ownership of his own sessions.

356

357 *Insert Figure 1*

358

359 In my reflections at the end of the third block, I was aware that the project had at times been  
360 slow and difficult. Getting the coaches to think independently about their roles so they could  
361 contribute to greater collaboration and actually improve their coaching practice had  
362 consumed far more time than I initially thought. However, by the end of the third block, I was  
363 able to reflect on some successes throughout the programme:

364

365 *To consider what we have achieved in six weeks is amazing. It was difficult starting*  
366 *out, and a slow process overall, but Alan has made significant leaps in his*  
367 *coaching. He's gone from being drill-based in team sessions to introducing chaos*  
368 *which not only develops decision-making, but also increases the tempo of his*  
369 *sessions and makes the intensity closer to that of the game.* (Reflective log,  
370 24/01/17).

371

372 Consistent with the recommendations of Occhino, Mallett, and Rynne (2013), this  
373 change in coaching behavior can be linked to their increased sharing of knowledge and  
374 experiences and greater levels of collaboration. Through reflective practice and both formal  
375 and informal meetings throughout the process, the coaches shared information and  
376 problems and devised solutions to enhance their own practice. Such strategies are also  
377 congruent with the work of Irwin, Hanton and Kerwin (2004) which focused on the origins of  
378 elite coaching knowledge. However, the process of engaging my fellow coaches in detailed  
379 collaborative planning was an arduous one. Different coaches attach value to different skills  
380 that they perceive to be important based on their own values, experiences and philosophy,  
381 which are often deep rooted and difficult to change (Stoszkowski & Collins, 2014). To move  
382 the coaches towards a common pedagogic approach was, therefore, an essential challenge  
383 that I grappled with throughout the AR cycles, to develop consistent coaching methods and  
384 thereby avoid confusion and mixed messages from the coaching team. The following section  
385 reveals the action taken in trying to achieve this.

386 ***Coaches' learning and pedagogic practice***

387 At the end of block 1, the coaching team met to discuss their reflections and consider the  
388 agreed changes to make moving into block two. During this meeting, I presented them with  
389 the main issues that were identified from the first round of reflections. One major area for  
390 development emerged from the meeting: To change the coaching approach in training to  
391 improve player understanding and decision-making. In addition to this area for development,  
392 and in order to focus the coaching team's actions for the next training block, specific aspects  
393 of the game were also identified for development in block two. These can be seen in Figure  
394 2 below.

395

396 *Insert Figure 2*

397

398 In the above figure, you can see that the coaching team identified four key aspects of the  
399 game for progression moving in to block 2: 1) C-zone management; 2) Driving lineout game;  
400 3) Collision game and; 4) 10s touches of the ball (See Appendix 4 for explanation of game  
401 aspects). As part of the reflective discussion process, the coaches considered how they  
402 were going to improve their delivery of these aspects of the game. However, some tension  
403 and a lack of initiative was evident within the coaching team when we discussed how we  
404 were going to improve these aspects through a change in coaching approaches. This  
405 caused me to feel a sense of frustration but, upon further reflection, I realised that I needed  
406 *'to help educate the coaches on the different coaching strategies available to them'*  
407 (Reflective log, 24/10/16), thereby improving their pedagogic knowledge (Bleicher 2014).

408 ***Initial lack of pedagogical knowledge:*** After the meeting, I noted: *'It will be*  
409 *interesting to see what changes, if any, the coaches' make to their own practice as a result*  
410 *of today's meeting.'* (Reflective log, 24/10/16). As already identified, this reflection revealed  
411 a perceived lack of motivation and knowledge from the other members of the coaching team  
412 to change their coaching approaches at this point. Perhaps they lacked awareness of the  
413 need to change their practice but maybe, and perhaps more accurately, *'they lacked the*  
414 *pedagogical knowledge and confidence required to be able to change'* (Reflective log,  
415 1/12/16). An increase in knowledge, and a corresponding increase in self efficacy, can lead  
416 to new teaching strategies (Bleicher, 2014), which is what was required at this stage of the  
417 process. On more than one occasion, in my reflective log, I made reference to a lack of  
418 understanding amongst the coaching group (often cited as *'do they understand?'*),  
419 particularly with regards to developing their coaching pedagogy. However, once past these  
420 initial feelings of frustration, I soon became aware that it was my responsibility to help  
421 develop their knowledge, where there was a knowledge gap. It is unrealistic to expect a  
422 person to change their coaching practice simply because someone else says they should,



423 they must want to change, i.e. have the motivation, and also know where to gain the  
424 knowledge to instigate action and change (Bleicher, 2014).

425 As already identified, the opportunity to reflect more, as a group of coaches, was  
426 seen as instrumental in improving pedagogical knowledge (Bleicher, 2014). Through these  
427 reflective group meetings, I was able to 'drip feed' new pedagogical ideas and practices to  
428 promote learning and enhance the professional development of the other coaches. In  
429 essence, I adopted more of a mentoring role in these group meetings and acted as a 'more  
430 knowledgeable other' (Vygotsky, 1978) in relation to the pedagogic aspects of the coaching  
431 sessions.

432 ***Improved pedagogic awareness:*** The majority of my interventions with the other  
433 coaches sought to understand how to increase their pedagogic awareness and knowledge.  
434 A critical discussion point in relation to this came from a coaching team review meeting, thus  
435 demonstrating the value of reflection in the cycles of change (Bleicher, 2014). During this  
436 meeting, Carl presented a statistical analysis of training and games from the previous block  
437 (Appendix 1) to inform the other coaches of trends that currently existed in the games. When  
438 I questioned them on what they interpreted from the information, I found that they were more  
439 articulate about their own coaching practice than they had been previously, thereby  
440 demonstrating a shift in their learning:

441  
442 *The coaches were really open to discussion on coaching performance. They looked*  
443 *critically not only at the players but at themselves, which they had not spoken about*  
444 *in their written feedback. Alan's' reflection that he didn't really understand how to*  
445 *get a player to learn by themselves was a revelation for me. I knew at that point, it*  
446 *was my job to help him develop his understanding. (Reflective log, 1/12/16).*

447

448 This level of self-reflection and honesty was essential to achieving a plan of action  
449 and was seen as the fuel for motivation and participation in the learning cycles (Bleicher,  
450 2014). As the research progressed, it became more and more evident that it was important  
451 to assist the coaches in the expansion of their knowledge of pedagogy to improve their  
452 self-efficacy which was inextricably linked to their willingness to undertake new action  
453 (Bleicher, 2014). Such 'new action' included the adoption of more 'player centred'  
454 approaches to their coaching.

455 ***Player centred learning:*** The coaching team were working with a developing  
456 group of elite and future elite players and as a result, they recognised the need to enhance  
457 their own learning and practice in order to have a wider social impact on player learning  
458 (McNiff, 2013). As Alan reflected:

459  
460 *There's a tendency to want to play an attacking brand of rugby which is difficult at*  
461 *times, the players have to recognise when to play a territory game. How can I put*  
462 *players in those positions more often helping them to recognise differing situations?*

463  
464 The context for the above reflection was directly linked to a focus on available time  
465 and accelerating learning:

466  
467 *It was a concern of mine that we only had a week with the players and we had to*  
468 *introduce our structures, starters and lineouts as well as calls and*  
469 *phase play shapes. (Ben's end of Block 1 reflection).*

470  
471 Recent research has suggested that coaches view time as a resource that cannot  
472 be wasted, often resulting in a more direct form of coaching and feedback (mainly  
473 instruction and concurrent/leading questions) (Partington et al., 2014). However, as this

474 group of coaches were working with young elite players, they wanted to help the players to  
475 understand and perform their role better by involving them in their own learning, which is  
476 consistent with recent research (Martindale, Collins & Abraham, 2007). For the coaching  
477 group, the difficulty with developing player understanding was being able to change their  
478 own coaching practice in order to become more effective practitioners. As I commented:

479

480 *It is great that the coaches want to involve the players. However, I am not sure they*  
481 *understand the extent to which they need to change...I am worried that this will be a*  
482 *'token' change in practice, just asking some open questions before and during*  
483 *training. What I need to get them to understand is how to design training so that*  
484 *they can get the player to not only understand WHAT they must do, but WHY and,*  
485 *probably more importantly, WHEN! (Reflective log, 1/12/16).*

486

487 However, it is interesting to note that the coaches, rather than becoming more  
488 prescriptive in the information disseminated to players, sought to be more empowering and  
489 to allow the player to participate more in their own planning and learning. They were able  
490 to bring more questioning into their coaching and began to involve the players more in the  
491 off-field planning of the game strategies (see Appendix 5). For example, a recurring theme  
492 of the coaching group was that greater autonomy was handed over to the players as the  
493 week progressed, allowing them to make their own decisions and shape their own learning  
494 (Reflective Log, 10/12/16 & 16/12/16). This led onto the need for more innovative coaching  
495 approaches that involved the players more in the decision-making processes.

496 **Innovative coaching approaches:** From the discussion held at the end of block  
497 one, the coaches all made reference to the need to better help players understand how to  
498 manage the game; such an example came from Alan during his reflections from block 1,  
499 *'Can I put the players in game situations more often, helping them to recognise different*

500 *situations...Give players more responsibility?* However, what the collaborative meeting  
501 held between the coaching blocks one and two highlighted, was the lack of understanding  
502 of how to do this. Therefore, it was my role as Head Coach to find a coaching pedagogy to  
503 help with this problem. I settled on using a Problem Based Learning (PBL) approach, that I  
504 had previously been exposed to and applied to my practice as part of my Masters course,  
505 to assist the coaches in developing the players' game understanding. To introduce this  
506 approach, I provided the coaches with an academic paper (Jones & Turner, 2006) to read  
507 focusing on PBL deployed in a sport coaching context. PBL refers to a method of  
508 teaching/coaching whereby the coach allows the student to develop more critical forms of  
509 analysis and therefore acquire new knowledge to then apply in a practical environment  
510 (Jones & Turner, 2006). Prior to the start of the next coaching block, we met as a group to  
511 discuss the paper and I introduced practical coaching ideas on how to utilise a PBL  
512 approach in coaching sessions, based on my previous experience of using the approach.  
513 The coaches initially seemed a little skeptical and uncertain, but were also excited about  
514 trying this new form of coaching and together we jointly planned some interventions to  
515 implement with the team. By applying this method, it was hoped that it would significantly  
516 increase the players' understanding of their role within the tactical side of the game (Jones  
517 & Turner, 2006). To facilitate this process, we jointly designed an off-field task to ascertain  
518 a level of understanding in the players (as seen in Figure 3.). Ben then met with the  
519 respective players, to ascertain their knowledge through a series of questions and further  
520 discussions over video clips selected by the players.

521

522 *Insert Figure 3*

523

524 In line with PBL, the players were challenged by Ben to develop knowledge not only about  
525 their performance, but also understand the overall objective of possession in this area and

526 therefore acquire potentially new knowledge (Hubball & Robertson, 2004). Ben presented  
527 this information back to me and the other coaches in the next group meeting and the other  
528 coaches then implemented similar ideas into their own practice. The coaches were all  
529 experienced ex-players themselves and found the PBL approach relatively straight forward  
530 to understand and implement, due to their prior game knowledge and experience.

531 The introduction of PBL as a solution to enhancing player learning had a positive  
532 effect on the coaching team and playing performance. Whilst it is difficult to accurately  
533 measure player improvement (Vaeyens, Lenoir, & Williams, 2008), the majority of coaches  
534 felt that there was progress in player performance, particularly in this area of the game. For  
535 example, in the words of Alan:

536

537 *Aiding and imparting knowledge onto players while allowing those players the*  
538 *opportunity to discover for themselves how we can improve individually and*  
539 *collectively in our C zone management / kicking game was really effective.*

540

541 This was supported by Ben, who commented:

542

543 *The big thing leading into this block of games was managing the C zone and matching*  
544 *training to the game intensity. I felt we definitely improved on our C zone*  
545 *management.*

546

547 Carl also reflected positively on the process by which the coaches had fostered a PBL  
548 learning environment for the players:

549

550 *We focused on how we could to be more effective in controlling this C zone area and*  
551 *came up with clear ways of doing this. Then we got it over to players about the*  
552 *importance of this area.*

553

554 After the second block, the coaching team continued to use multiple PBL  
555 interventions with players when introducing new themes or opposition analysis as my  
556 reflective log shows:

557

558 *The players seem to be more engaged when challenged to develop their own*  
559 *understanding. I think this is obvious as aspiring players want to develop their craft*  
560 *and become better players. What is really interesting is how the coaches moved*  
561 *from a lack of understanding to developing new challenges for players on a weekly*  
562 *basis to put them at the centre of the game planning process. (Reflective log,*  
563 *12/1/17).*

564

565 This was a big transformation in the coaching pedagogy. In line with Bleicher's (2014)  
566 principals of CAR, the coaching team went through a process of ongoing reflection,  
567 enhanced their pedagogic knowledge, and improved their levels of motivation over the  
568 duration of the three blocks, thereby becoming more engaged in the coaching programme.  
569 The 'action' involved the introduction of PBL to the coaching team as a new pedagogical  
570 tool and new knowledge (Bleicher, 2014), which became an effective method of developing  
571 player understanding. Alan was particularly prominent in developing his on-field practice to  
572 become more 'problem-setting' than 'solution-presenting'. In my reflection towards the end  
573 of block 2, I noted '*seeing a real progression in Alan and the development of his*  
574 *scenarios..... much more chaos and seems more confident'* (Reflective log, 20/12/16).

575 Consistent with Bleicher's (2014) framework, the outcomes of the AR required the  
576 players to gain new knowledge, but to achieve this the coaches had to modify and think  
577 about the structure of the learning environment and connecting their off-field tasks to their  
578 on-field coaching, which was then implemented in games. This provided the coaches with  
579 a real sense of purpose and belief that their actions were having a direct impact on player  
580 learning and performance. In turn, this led to an increase in perceived competence, self-  
581 efficacy and motivation for coaches to further change and enhance their pedagogic  
582 practice (Bleicher, 2014; Messiou, 2018).

583

## 584 **Conclusions**

585 The aim of this project was to investigate how I, a Welsh regional rugby academy head  
586 coach, could utilize AR to influence change within a coaching group in relation to our  
587 collaborative planning, reflection, learning and pedagogic practice. Using AR as a  
588 methodology had a number of strengths within this context. For me, it provided opportunities  
589 to take stock of the current situation, discuss it with others and then create a more suitable  
590 joint solution to any challenges ahead (Kemmis & McTaggart, 2005). Further, it provided  
591 opportunities for the coaching team to develop their motivation, pedagogic knowledge,  
592 coaching practice and reflective abilities (Bleicher, 2014). The structure of the competition  
593 and AR design was a strength, as it allowed three structured intervention cycles to take  
594 place and, at each opportunity, moved the practice forward in a deliberate and informed  
595 manner (Cohen, Manion & Morisson, 2007). The term AR itself indicates that there is an  
596 interdependency between cycles of action and research (Cohen et al, 2007). Here the  
597 research involved not just a reflective element but also an injection of new knowledge into  
598 the practice (e.g., PBL/critical discussions/planning) allowing the practice of the coaching  
599 team to move forward (Kemmis & McTaggart, 2005). Throughout the AR cycles, the  
600 coaching team evolved their practice by first reflecting on existing knowledge gaps in their

601 own practice (Bleicher, 2014), enhancing their pedagogic knowledge and then enacting new  
602 strategies to link off and on-field player learning.

603         The dual role I adopted as both researcher and head coach became difficult to  
604 manage as the process developed. Not only was I reflecting on my own practice, but also  
605 reflecting on the practice of the other coaches whilst developing interventions. This was in  
606 addition to performing the other duties associated with my wider employment, thus placing  
607 myself under a great deal of pressure from a time perspective. Such pressures are not to  
608 be ignored in the real world of sport coaching and can often limit the potential of this type of  
609 AR by practitioners. Another consideration and potential limitation was my dual role within  
610 the organisation. Whilst in the context of this study, I was head of the coaching team, outside  
611 of the British & Irish Cup campaign, I also line-managed the other coaches, and had a say  
612 in the renewal of their contracts. Given this, it is important to consider the level of openness  
613 that any coach would actively engage with, where there is such a clear power relationship  
614 in place (Potrac & Jones, 2009).

615         The very nature of action research, is that it is not simply a process to find a solution,  
616 but a process to identify challenges and then develop interventions, and as a result, move  
617 practice forward (McNiff, 2013). As a consequence of these AR cycles, I will continue to plan  
618 and collaborate with my coaching team but rather than focus on the immediacy of results, I  
619 will focus on developing a greater shared understanding of vision and purpose across the  
620 coaching team, whilst developing their collective skill set to be able to deliver at the highest  
621 level. In fact, it could be argued that AR in this format is heavily based in the beliefs and  
622 values of the action-researcher (Holter & Schwartz-Barcott, 1993), which can lead to  
623 complications and conflicts within a coaching team. However, AR is an effective way of  
624 developing expert knowledge and is, therefore, a continual process that coaches should  
625 seriously consider in looking to develop their practice (Evans & Light, 2007; Wiman, Salmoni  
626 & Hall, 2010).



627 In summary, the reality of implementing an AR intervention has both its benefits and  
628 drawbacks. This study demonstrates that it is possible, through an AR approach, to change  
629 coaches' pedagogic practice but that this change can be arduous and time consuming.  
630 Linked to Bleicher's (2014) components of AR, for anyone starting out on this journey, they  
631 need to consider all participants' motivation for change, motivation for collaboration and  
632 motivation to develop new knowledge. Without the existence of motivation, it is difficult to  
633 progress and affect change in a group of individuals. However, once motivation is present,  
634 collaboration can occur, but in the embryonic stages of the formation of coaching teams, it  
635 needs to be through a structured level of interventions, reflections and the injection of new  
636 knowledge to bring the process to life.

637 This study has generated new insight into AR approaches in sport coaching by  
638 investigating a head coach conducting CAR with colleagues in a professional rugby  
639 academy to influence pedagogic change. In doing so, it has addressed a previously under  
640 explored function of a head coach in professional sport. Future CAR of this nature should  
641 build on this original study and explore the potential benefits for the professional  
642 development of sport coaches and the broader social impact on the athletes.

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