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7

8 **The 'face' of coach development: a systematic review of the role of the coach developer**

9

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10

## Abstract

11 The purpose of this paper was to systematically review the peer-reviewed literature on the role of the  
12 coach developer (CD). Three questions guided this review: (1) who is the CD, (2) what do they do,  
13 and (3) how do they do it? Using five electronic databases: SPORTDiscus, ERIC, PsycInfo, Web of  
14 Science, and Scopus, a total of 595 articles were initially found with 42 identified as appropriate for  
15 inclusion following PRISMA guidelines. A further 11 were added via the screening of reference lists  
16 and during the process of writing, to total 53 articles. Data analysis comprised of content analysis  
17 (CA) to describe and identify gaps in the research, and reflexive thematic analysis (TA) to facilitate  
18 the analysis of the findings from the included studies. CA findings show an increase in researching  
19 this role and a breadth of methodology and theoretical frameworks being employed. Utilizing  
20 reflexive TA, seven themes were generated to understand the who, what, and how of the CD. Findings  
21 suggest a diverse and contextualized appreciation of the various roles the CD undertakes as  
22 encompassed by the International Council for Coaching Excellence (ICCE) umbrella term definition.  
23 The discussion reveals the complexity of the role as CDs navigate who they are, what they do, and  
24 how they do it. Recommendations are made for future research to mediate knowledge gaps and move  
25 towards alignment and understanding of this key figure.

26 *Keywords:* coach educator, coach mentoring, coach learning, professional development, sport  
27 coaching, coach developer, coach development.

28

## Introduction

29 Coach developers (CDs) are a central figure in coach development systems (Culver,  
30 Werthner, & Trudel, 2019; Edwards, Culver, Leadbetter, Kloos, & Potwarka, 2020), playing a key  
31 function in the learning of sports coaches. The CD has recently received global attention (Callary &  
32 Gearity, 2019a) and multiple frameworks have been produced by national organizations to explain  
33 and contextually organize the role of the CD (CIMSPA, 2021; International Council for Coaching  
34 Excellence [ICCE], 2014; Sport Australia, n.d.). Typically, the ‘face’ of formal coach development  
35 (McQuade & Nash, 2015; Redgate, Potrac, Boocock, & Dalkin, 2020; Watts, Cushion, & Cale, 2021),  
36 the title ‘coach developer’ has become an ‘umbrella term’, encapsulating various roles including  
37 educator, leader, facilitator, mentor, assessor, course designer, and evaluator (ICCE, 2014). These  
38 roles are designed and deployed to “develop, support and challenge coaches to go on honing and  
39 improving their knowledge and skills to provide positive and effective sport experiences for all  
40 participants” (ICCE, 2014, p. 8). Indeed, CDs have been shown to leave a long-standing impression  
41 on coach learners’ motivation for lifelong learning (Dohme, Rankin-Wright, & Lara-Bercial, 2019).  
42 Therefore, examining what is currently known about who CDs are, what they do, and how they work  
43 will add to our understanding of the CD, identify gaps where further research is needed, and provide  
44 insights for coach development practice and policy.

45 Researchers have documented that coach learning comprises varied experiences over many  
46 years (e.g., Lara-Bercial & Mallett, 2016) and recognize the need for a range of individualized  
47 learning sources with which coaches can engage (North, 2010; Stodter & Cushion, 2017). Indeed,  
48 coaches’ preferred learning sources may change as they gain expertise and advance in their careers  
49 (Mallett, et al., 2016). In accepting that coaches will learn from any and all of these learning  
50 opportunities, it is suggested that effective coach development should consist of a blended learning  
51 package ranging in formality (Cushion & Nelson, 2013; Hussain, Trudel, Patrick, & Rossi, 2012;  
52 ICCE, 2014). Common to each source of learning, however, is the involvement, to a greater or lesser  
53 degree, of CDs, viewed as experts in, and central to, coach development (ICCE, 2014).

54 Thus far, attempts to identify the qualities and ‘tasks’ of an effective CD (e.g., Abraham,  
55 2016) have been met with criticism for their disconnection from, “practice, context and subsequent

56 coaches' learning" (Stodter & Cushion, 2019, p. 307). Indeed, Downham and Cushion (2020) state  
57 that, despite these attempts, "[CDs'] practice and influence have been taken for granted, assumed, or  
58 simply rendered invisible" (p. 3). Furthermore, a lack of understanding and conceptualization of the  
59 role may be the cause of superficial understandings and coach education issues that are beyond the  
60 CD's role or control (Watts et al., 2021). Coach education research has instead focused on coaches'  
61 perspectives on their development experiences and the features that are valued and desired by coach  
62 learners (e.g., Ciampolini, Milistetd, Rynne, Brasil, & Nascimento, 2019; Ji, Xu, Cheng, Sun, &  
63 Zhang, 2021; Lewis, Roberts, & Andrews, 2018; Nash & Sproule, 2012) including multiple reviews  
64 of coach development programmes (CDPs; Evans, McGuckin, Gainforth, Bruner, & Côté, 2015;  
65 Lefebvre, Evans, Turnnidge, Gainforth, & Côté, 2016; Silva, Evans, Lefebvre, Allan, Côté, &  
66 Palmeira, 2020). Despite research in the CD field expanding in the last few years (e.g., Callary &  
67 Gearity, 2019a), and authors identifying a paucity of empirical research exploring CDs' practices,  
68 processes, and perspectives (Allanson, Potrac, & Nelson, 2021; Callary & Gearity, 2019a;  
69 Ciampolini, Tozetto, Milan, Camiré, & Milistetd, 2020; Watts et al., 2021), a systematic review of  
70 this key role has yet to be completed. Indeed, improving our understanding of the CD could impact  
71 practice, policy, and research in coach development. Therefore, the purposes of this review were to:  
72 (a) offer an overview and evaluation of methodological and theoretical approaches underpinning  
73 research in this area; (b) systematically evaluate relevant empirical literature for trends and themes of  
74 research with the CD(s) as a, or the, focus of analysis; and (c) elucidate potential knowledge gaps and  
75 recommendations for future investigation. Such a review may aid in identifying current limitations,  
76 influencing research directions, as well as coach developer practice, and coach education. Indeed, it is  
77 anticipated that examining existing knowledge and ways of knowing will provide a starting point to  
78 advance researchers' and practitioners' critical exploration of this key role in coach development. To  
79 achieve this, the review is guided by three central questions; (1) who is the CD; (2) what do they do;  
80 and (3) how do they do it?

## 81 **Method**

82 This review was informed by systematic review methodology that is suited to the integration  
83 of a diverse body of work (Mays, Pope, and Popay, 2005; Bennie et. al., 2017). Thus, a systematic

84 search protocol in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses  
85 (PRISMA) statement (Page et al., 2021) was utilized as a “road map to help authors best describe  
86 what was done, [and] what was found” (Sarkis-Onofre, Catalá-López, Aromataris, & Lockwood,  
87 2021, p. 1). Following identification and screening, included studies were analyzed in a deliberate  
88 methodological ‘mash-up’ (Braun & Clarke, 2021, p. 336) of content analysis (CA; Mikkonen, &  
89 Kääriäinen, 2020) and reflexive thematic analysis (TA) protocols (Braun & Clarke, 2019). The  
90 combination of approaches enabled the quantitative description of study characteristics and drawing  
91 together an amorphous body of literature with diverse findings into a thematic description of  
92 evidence-based knowledge regarding the CD (Aromataris & Pearson, 2014).

### 93 **Search Strategy**

94 In keeping with PRISMA guidelines the search strategy identified key search terms, search  
95 fields, and relevant databases. Search terms were derived from methodologies presented by Popay et  
96 al., (2006) and the adoption of the CD ‘umbrella term’ (ICCE, 2014). In seeking to answer the central  
97 questions of the review, the population searched for is limited to the group of roles described by the  
98 ICCE above and those known by researchers to have relevance (e.g., Personal learning coach (PLC);  
99 Rodrigue, Trudel, & Boyd, 2019). An electronic search in the following five databases: (i)  
100 SPORTDiscus; (ii) ERIC; (iii) PsycInfo; (iv) Web of Science; and (v) Scopus was conducted on 28th  
101 March, 2021. A further search was conducted on 10th August, 2021 to determine if any recently  
102 published studies should be included in the review. Boolean logic in the following combinations was  
103 used to search for articles: "Coach Developer\*" OR "Coach Educator\*" OR "Coach Mentor\*" OR  
104 "Personal Learning Coach\*" OR "Coach Facilitator\*" OR "Coach Programme Designer\*" OR "Coach  
105 Assessor\*" OR "Coach Evaluator\*". This search ensured that articles identified focused on the range  
106 of CD roles and perspectives. Electronic database searches returned a total of 595 records which were  
107 imported into EndNote (version X9, 2020). Screening reduced the included papers to 42 with a further  
108 eight studies added via reference chaining and an additional three after the second literature search.  
109 This resulted in 53 studies included in the review.

### 110 **Criteria for Inclusion**

111 Inclusion criteria were established before the sifting of records to ensure the relevance of  
112 papers to the review. For inclusion, studies had to: a) be published in English; (b) be published in a  
113 peer-reviewed journal; (c) be available in full-text; (d) have the CD actively recruited as a  
114 participant(s); and (e) be published between 2010-2021 (due to recent research interest and the term in  
115 empirical literature first appearing in North's 2010 paper - drawing on a previous publication  
116 regarding 'coach development officers' (Roberts, 2004)). This allows for analysis of changing and/or  
117 corroborating understanding of the CD research landscape over time.

### 118 **Sifting of Retrieved Records**

119 Informed by PRISMA guidelines (Page et al., 2021), the process of searching, sifting, and  
120 organizing articles was completed in three steps after extracting the duplicate articles (n = 178)  
121 contained in the searches. The authors independently reviewed the studies found by title, by abstract,  
122 and finally by full-text, systematically applying inclusion criteria. Records that did not satisfy the  
123 criteria were excluded (see Figure 1). Any disagreements regarding eligibility were resolved via  
124 discussion.

### 125 **Quality Assessment**

126 Attending to PRISMA regarding methodological quality, the Mixed-Methods Appraisal Tool  
127 (MMAT; Hong et al., 2019) was used to assess the quality of the final sample of studies. This tool  
128 considers the appropriateness of research designs and the adequate interpretation of results and  
129 contains two screening questions to establish if studies are empirical, and five categorizations of study  
130 designs which are completed on a 3-point scale of ('Yes', 'No', or 'Can't tell'; Hong et al., 2018). The  
131 first author completed the assessments producing summary scores by a percentage of 'Yes' responses  
132 and excluding any 'N/A' responses (Table 1). To assess for the trustworthiness of these assessments, a  
133 random sample of studies (n = 5) were also assessed independently by the second author who found  
134 no discrepancies.

135 The majority of studies were assessed to answer 'Yes' to all questions with the remaining  
136 studies resulting in lower quality assessment due to a lack of specific methods of data collection and  
137 analysis (e.g., Martin, Moorcroft, & Johnson, 2019; Milistetd, Peniza, Trudel, & Paquette, 2018) and  
138 poor or no evidence of appropriate interpretation of that data via a specific means (e.g., Crisp, 2018;

139 Culver, Werthner, & Trudel, 2019). It is worth noting that many of these studies are presented as  
140 descriptive, narrative, reflective, or action research publications, often from the perspective of the  
141 authors (e.g., Cronin & Lowes, 2016; Dray & Howells, 2019). Additionally, sample size affects the  
142 quality assessment with multiple studies presenting findings (and acknowledging the limitation) from  
143 the research of a single CD. Although these results may provide useful elucidation of current  
144 methodological rigor, and considering a lack of empirical evidence supporting the efficacy of scales  
145 and checklists for assessing quality and risk of bias (Moher et al., 1995), quality assessment was not  
146 utilized for the purposes of sifting or excluding studies. Instead, the relevance of the research was  
147 carefully considered and included provided that the study offered evidence that would benefit the  
148 review. This allowed for the addition of pertinent detail from the included studies despite any  
149 technical deficiencies (Pawson, 2006).

#### 150 **Data Extraction and Synthesis**

151 To enable CA of the key characteristics of the studies the first author extracted: (1) author  
152 details; (2) year of publication; (3) country or location of study; (4) participant information; (5) sport  
153 context; (6) instruments for the collection of data; and (7) theoretical framework (Table 1). Focusing  
154 on these features follows procedures in similar reviews (e.g., Langan, Blake, & Lonsdale, 2013;  
155 Walker, Thomas, & Driska, 2018) and recommendations from Pope, Mays, and Popay (2007) in  
156 enabling researchers to describe characteristics and identify gaps in the research. Insights from this  
157 analysis can be used in the development of future research questions and to inform the methods  
158 employed to examine them. A random sample of studies was reviewed by the second author (n = 5) to  
159 confirm the extracted information was accurate and relevant. In any paper whereby authors did not  
160 report or make detail clear, this has been reported as 'ø'.

161 Following this, data analysis of the findings of each paper was conducted following a  
162 reflexive TA approach (Braun & Clarke, 2019). Reflexive TA is completed via a six-phase recursive  
163 process, 'with themes developed from codes, and conceptualized as patterns of shared meaning'  
164 (Braun & Clarke, 2021, p. 39). Reflexive TA offers a method that employs researcher subjectivity as a  
165 tool enabling us as authors to engage with the data critically and creatively. Indeed, our analysis  
166 sought to combine deductive and inductive elements (Braun, Clarke, & Weate, 2016). Analysis began

167 with the first author familiarizing himself by reading and re-reading all included papers, completing a  
168 detailed inspection. The study's questions of Who, What, and How (Abraham, Collins, Morgan, &  
169 Muir, 2009) were then used as overarching themes to deductively organize codes into 'buckets'  
170 (Braun & Clarke, 2019, p. 594). From these 'buckets', recurring themes were inductively constructed  
171 around three overarching themes representing distinct features or statements across the 53 studies  
172 (Braun et al., 2018). These themes were discussed by the authors to ensure fit with the central  
173 questions of the review before being named and defined into seven themes and 16 sub-themes (Table  
174 2).

## 175 **Results and Discussion**

176 53 studies were included and examined to elucidate the current position of research investigating the  
177 role of the CD. The presentation and discussion of the findings are organized into two sections: (a)  
178 study characteristics (i.e., methodological and sample characteristics, and philosophical, conceptual,  
179 and theoretical frameworks), and (b) findings from studies (i.e., overarching themes regarding the  
180 who, what, and how of the CD).

### 181 **Study Characteristics**

182 This section is informed by content analysis where we sought to describe key characteristics  
183 of the studies included in the review and identify gaps in the literature so as to indicate how research  
184 has been framed and conducted on this topic thus far.

#### 185 *Methodological Characteristics*

186 The majority of studies took a qualitative, case study approach (n = 50, 94.34%) with three  
187 adopting a mixed-methods design. The most commonly reported method of data collection was  
188 interview (n = 39, 73.58%), which was most frequently analyzed using various forms of thematic  
189 analysis (n = 27, 50.94%). Many of the studies employed multiple qualitative methods (n = 28,  
190 52.83%). All but one of these studies combined interviews with other methods such as document  
191 analysis (n = 10, 18.87%) and field notes (n = 11, 20.75%). Employing multiple qualitative methods,  
192 alongside greater interest in the CD as a research topic, was evident from 2018 onwards (see Figure  
193 2).

#### 194 *Sample Characteristics*



195 Due to the varying levels of detail provided on the sampled participants, accurate figures.  
196 could not be generated regarding their characteristics. The available data shows that 397 CDs (range  
197 sampled 1 to 26) participated across the 53 included studies. Age was reported in only 18 studies  
198 (33.96%). Where reported, the average age ranged from 24 to 50.5 years. Across studies that reported  
199 the gender of CDs (29, 55%), the split was 66.06% male to 33.94% female. Moreover, removing the  
200 two studies that specifically targeted female CDs shifts the percentages to 73.37% and 26.63%  
201 respectively.

202 The majority of research conducted was with National Sport Organizations (NSOs; n = 37,  
203 69.81%) and Higher Education Institutions (HEIs; n = 12, 22.64%). The geographical location of the  
204 research, though conducted across a total of ten countries, is dominated by the United Kingdom (n =  
205 24, 45.28%), followed by Canada (n = 10, 18.87%) and Brazil (n = 6, 11.32%). One study (Van Hoye  
206 et al., 2015) involved two countries (Norway and France) and sought to establish cross-cultural  
207 transferability of a CDP. Consistent with other areas of sport coaching research (e.g., Cope,  
208 Partington, & Harvey, 2017) the most prevalent sporting context reported was soccer (n = 9, 16.98%).

209 Other sports examined included rugby (n = 4, 7.55%) and golf (n = 2, 3.77%) with a number  
210 of sports appearing once in the review. Several studies (n = 15, 28.30%) either sampled CDs  
211 functioning in, or commenting on CDPs that were for, a variety of sports (denoted in Table 1, as  
212 ‘mix’). Furthermore, despite ICCE (2014) suggesting CDs should have “significant and successful  
213 coaching experience in one or more contexts” (p. 27), many studies in this review provided  
214 insufficient information to determine participating CDs’ experience (n = 23, 43.40%). To better  
215 contextualize research and its findings, future research should seek to consistently provide detailed  
216 descriptions of sample characteristics and selection criteria employed.

### 217 *Philosophical, Conceptual, and Theoretical Frameworks*

218 Notwithstanding the conceptualization of the CD itself, extracted data suggested there is  
219 considerable diversity in the underpinnings of the included studies. Thirteen studies (24.53%) did not  
220 state a specific framework for the research. Whilst those that did, reported philosophical  
221 underpinnings such as interactionist and dramaturgical (e.g., Allanson et al., 2021), interpretative  
222 (e.g., Corsby, Lane, & Spencer, 2020), realist (e.g., Redgate et al., 2020), critical realist (e.g., Garner,

223 Turnnidge, Roberts, & Côté, 2020) and social constructionist (e.g., Leeder & Cushion, 2020).  
224 Additionally, multiple conceptual and theoretical underpinnings were used to either inform the  
225 research design, analysis, or both. These related fundamentally to the aspect of the CD being  
226 researched such as their positioning in a system (e.g., Organizational culture; Schein, 2004), pedagogy  
227 (Bernstein, 2000), pedagogical practice (e.g., Learner-centered teaching framework; Blumberg, 2008;  
228 Weimer, 2002), specific practice in context (e.g., Mentoring at work; Kram, 1988), their lifelong  
229 journey and learning (e.g., Comprehensive theory of human learning; Jarvis, 2006), and use of theory  
230 in practice (Argyris & Schon, 1974). The diversity in frameworks offers a range of detail that seeks to  
231 problematize, elucidate, and illuminate the role of the CD.

232           Several of the studies in the review failed to identify their underpinning frameworks (e.g.,  
233 Koh, Ho & Koh, 2017) or explicitly how frameworks were utilized to analyze data (e.g., Martin,  
234 Moorcroft & Johnson, 2019). Kivunja (2018) highlighted the distinction between conceptual  
235 framework, which encompasses all aspects of research and therefore is impractical to unpack, and  
236 theoretical framework which is drawn from review of literature on the topic and therefore enables  
237 researchers to connect their work with existing research and demonstrate how it advances knowledge  
238 in the area. Furthermore, Kivunja argues that adopting and articulating a theoretical framework for  
239 research is critical as it “provides a structure for what to look for in the data, for how you think of how  
240 what you see in the data fits together, and helps you to discuss your findings more clearly, in light of  
241 what existing theories say.” (p. 47). Therefore, explicit identification and discussion of philosophical,  
242 conceptual, and theoretical assumptions would support deeper analysis, interpretation of results and  
243 discussion of findings by other researchers, encourage interdisciplinarity, and increase the opportunity  
244 for generalizations and understanding.

## 245 **Findings from Studies**

246           In this review, the three domains of who, what, and how were appropriated from an  
247 adaptation of the coach development decision-making model (Abraham, Collins, Morgan, & Muir,  
248 2009) intended “to summarise the core tasks and decisions that define a professional role” (p. 57).  
249 They provided the overarching themes focused on the CD themselves rather than just the tasks they  
250 complete and the decisions they make. This satisfied our desire to remain CD-centric and reflect

251 current knowledge on the CD whilst employing a reflexive TA procedure. It is worth noting that  
252 themes frequently represent aspects that overlap (Braun & Clarke, 2019) and as such the identified  
253 themes and sub-themes (Table 2), though appearing separate, may coincide and interact.

#### 254 *Who is the CD?*

255 Three major themes were developed relating to who the CD is: (In)Congruences with  
256 conceptualizations and role clarity of the CD; Limited understanding of and inconsistencies in CDs'  
257 opportunities and pathways; and Training of the CD appears inadequate.

258 **(In)Congruences with conceptualizations and role clarity of the CD.** Despite increased  
259 research interest in the CD, there is confusion and disagreement about the 'label' that should be given  
260 to those working to develop coaches (Culver et al., 2019, p.297). The ICCE (2014) framework,  
261 referred to by many of the studies included in this review (e.g., Brasil, Ramos, Milistetd, Culver, &  
262 Nascimento, 2018; Ciampolini et al., 2020) suggests the CD is an 'umbrella' term that comprises  
263 multiple functional roles, including "coach educators, assessors, learning facilitators, presenters, and  
264 mentors" (ICCE, 2014, p. 8). However, additional terms were also evident (see 'Other' in Figure 3)  
265 including, tutors, trainers, coach development administrators, and personal learning coach (McQuade  
266 & Nash, 2015; Milistetd et al., 2018; Trudel, Culver, & Werthner, 2013). Despite the term 'CD'  
267 appearing earlier in the extant literature (e.g., North, 2010), research involving the CD as a unit of  
268 analysis began in 2012 and accelerated from 2018, with 81.13% of studies conducted in the last four  
269 years.

270 Although Figure 3 indicates the use of singular descriptors, multiple studies utilized the term  
271 CD and coach educator somewhat interchangeably (e.g., Brasil et al., 2018; Dempsey, Cope,  
272 Richardson, Littlewood, & Cronin, 2021; Edwards, Culver, Leadbetter, Kloos, & Potwarka, 2020;  
273 Norman, 2019) indicating an understanding (though not made explicit) of the coach educator as a  
274 form of CD. Others (e.g., the included coach mentoring research) did not use the term at all. Instead,  
275 there may be alignment with conceptualizations from other organizations such as the Chartered  
276 Institute for the Management of Sport and Physical Activity (CIMPSA) who suggest that CDs are  
277 separate from but related to tutors, assessors, mentors and executive coaches (CIMPSA, 2021).

278 For studies that use the term CD, there are two distinct conceptualizations of the role; 1) the  
279 ICCE umbrella term (10 studies: 18.87%); and 2) PLC research (2 studies: 3.77%). Those using the  
280 PLC conceptualization understand the CD as only involved in direct teaching (formal coach  
281 education) of the earlier parts of coaches' careers whereas the PLC is deployed later in a coach's  
282 career, typically with coaches working in high performance (Milistetd et al., 2018; Rodrigue et al.,  
283 2019). The somewhat narrower framing of the PLC as someone who is "a learning companion, who  
284 can help coaches to take the time to reflect on their practice in a safe place whilst encouraging them to  
285 act" (Rodrigue et al., 2019, p. 293), resembles recent descriptions of CDs from Sport Australia (n.d.),  
286 emphasizing provision of 'on the job' support.

287 (In)Congruences with conceptualizations across sports and geographical locations aside, in  
288 multiple studies the participant CDs reported a lack of perceived role clarity (e.g., Callary & Gearity,  
289 2019b; Crisp, 2018). Furthermore, having clear roles is critical to ensure fidelity and effectiveness in  
290 CD practice (Bailey et al., 2019). Our review found issues of clarity may be due to the CD being just  
291 one part of complex coach development systems (Culver et al., 2019; Edwards et al., 2020) which is  
292 exacerbated with increasing complexity and size of systems (Edwards et al., 2020; Griffiths, Armour,  
293 & Cushion, 2018) and the creation of top-down layers for communication to pass through (Stodter &  
294 Cushion, 2019). Additionally, there is confusion following dissemination of policy and its  
295 recontextualization in the delivery of CDPs (Dempsey et al., 2021; Griffiths et al., 2018). Role clarity,  
296 therefore, appears to be an issue for CDs in practice and in research (Watts et al., 2021) with role  
297 frames yet to be adequately explored.

#### 298 **Limited understanding of and inconsistencies in CDs' opportunities and pathways.**

299 Similar to recognition of the need for a long-term development pathway for coaches (Van Mullem &  
300 Gano-Overway, 2021), the ICCE (2014) proposed a long-term CD pathway. However, the studies  
301 included in the review offer little detail that would indicate this idealized pathway. Instead, CDs  
302 appear to be drawn from those individuals with experiences as athletes and coaches, and/or in higher  
303 education (e.g., Cushion, Griffiths, & Armour, 2019; Galatti, dos Santos, & Korsakas, 2019). Athletic  
304 and coaching experience and qualifications were reported inconsistently and only in 26 studies  
305 (49.06%). The detail of any requisite (perceived or actual) professional qualifications and experience

306 (as an athlete and/or coach) is sparse and often linked to the requirements of being a coach in that  
307 sport (e.g., Brasil et al., 2018; Galatti et al., 2019). Indeed, though qualifications may increase the  
308 external and internal credibility of some CDs (e.g., Redgate et al., 2020), their skills and competencies  
309 do not derive solely from educational experiences (for example promoting meaningful development  
310 via reflective practice; Galatti et al., 2019). Although varying efforts are made to explain the  
311 backgrounds of the participants, the lack of specific details effects the possible interpretation and  
312 understanding of exactly how the CDs reached this point in their careers.

313         Researchers may be constrained in their reporting due to anonymity and ethical  
314 considerations, however, as Callary and Gearity (2019a) note there appears a lack of understanding of  
315 the lifespan of the CD. Two exceptions (Brasil et al., 2018; Ciampolini et al., 2020), sought to  
316 examine the experiences that shaped CDs' learning pathway. Their findings suggest that meaningful  
317 episodic experiences from formative stages of engagement in sport (a 'first fascination'; Langseth,  
318 2012) and positive experiences as coaches (including in coach development), result in a form of social  
319 responsibility to support the development of coach learners in their sporting context. Furthermore,  
320 Koh, Ho, and Koh's (2017) examination of mentoring found that the inclusion of leadership  
321 opportunities (e.g., as team captain) was a contributing factor to later becoming a mentor, and that  
322 CDs may have a progressive assumption of roles in a generational effect (i.e., coaches who have  
323 experienced mentoring may be more likely to want to become a mentor themselves in future).

324         Our review also suggests that opportunities to become a CD are dependent upon the  
325 professionalization of specific sports and cultural contexts (Brasil et al., 2018; Callary & Gearity,  
326 2019b) as well as contextual understanding of the role of the CD and access to appropriate resources  
327 such as funding, time availability (of the CD(s) themselves and opportunities to deliver), and  
328 standardized programming (e.g., Callary & Gearity, 2019b; Koh et al., 2017; Leeder, Russell, &  
329 Beaumont, 2019). Gender also appears to be a barrier to opportunity, with research indicating that  
330 female CDs are underrepresented due, in part, to inadequate options for coaching license accreditation  
331 (Norman, Rankin-Wright, & Allison, 2018) and training (Kraft, Culver, & Din, 2020). As mentioned  
332 in the sample characteristics section, there have been few studies that have included female CDs (e.g.,  
333 Norman, 2019), thus our knowledge of their journey and challenges in becoming a CD is limited.

334           Although providing some insights, there is currently limited understanding of the motivation,  
335 credentials, and opportunity, for entering the career pathway to become a CD. Further research is  
336 needed to advance our understanding of why and how CDs enter the pathway and to ascertain  
337 (in)consistencies in CDs' opportunities and pathways. Moreover, analysis of recruitment strategies by  
338 organizations employing and deploying CDs would reveal where the opportunities and challenges for  
339 prospective CDs are.

340           **Training of the CD appears inadequate.** The ICCE framework states that CDs should  
341 portray a growth mindset to support the skill progression intended on their training pathway. In the  
342 reviewed studies, CDs report learning opportunities that include drawing on experiences as an athlete,  
343 coach, and ongoing practice by other CDs and themselves (Brasil et al., 2018; Ciampolini et al., 2020;  
344 Cushion et al., 2019). However, CDs also describe feeling underprepared when delivering programs  
345 to develop coaches (e.g., Banwell, Stirling, & Kerr, 2019; Crisp, 2018; Stodter & Cushion, 2019),  
346 evaluating others (e.g., Kloos & Edwards, 2021) and often appear unaware of the pedagogical  
347 underpinnings and prior experiences that shape their practice (Culver et al., 2019; Cushion et al.,  
348 2019; Hussain et al., 2012; Leeder et al., 2019; Paquette, Trudel, Duarte, & Cundari, 2019). Despite  
349 these findings, there is currently little understanding of the training of CDs (McQuade & Nash, 2015)  
350 or 'learning programme designers' (Horgan & Daly, 2015) such as the content and intended outcomes  
351 of a training program for CDs and understanding of effective training (Stodter & Cushion, 2019).

352           Formal training is a relatively new phenomenon, rarely included in the learning pathway of  
353 the CD (Campbell, Fallaize, & Schempp, 2020). For those training programs that do exist, researchers  
354 have found that the primary focus is often on the CDs' role in the recontextualization of a  
355 predetermined curriculum (Campbell et al., 2020; Dempsey, Richardson, Cope, & Cronin, 2020;  
356 Watts et al., 2021) rather than their own learning and development. Additionally, and similar to  
357 research into CDPs (e.g., Allan, Vierimaa, Gainforth, & Côté, 2018), CD training programs have  
358 received criticism for content overload in the time available, failure to provide after-care in the form  
359 of consistent and ongoing support, and contextual relevance (Culver et al., 2019; Leeder et al., 2019;  
360 Stodter & Cushion, 2019; Watts et al., 2021). These criticisms could contribute to the uncritical

361 reproduction of organizational beliefs and assumptions of best practice in coach development  
362 (Downham & Cushion, 2020; Leeder & Cushion, 2020; Stodter & Cushion, 2019).

363         Despite a significant push towards learner-centered teaching (LCT) approaches within CDPs  
364 (Chapman, Richardson, Cope, & Cronin, 2020; Rodrigues, Brasil, Milistetd, & Trudel, 2021;  
365 Mesquita, Coutinho, de Martin-Silva, Parente, Faria, & Afonso, 2015; Paquette & Trudel, 2018),  
366 research has found CDs' perceptions of their training and subsequent 'implementation' in this regard  
367 often relies on their prior acquaintance and orientation to the teaching approach (Culver et al., 2019;  
368 Paquette et al., 2019; Reid & Harvey, 2014). While training may assist CDs in recognizing LCT  
369 methodologies and/or competency-based approaches, research suggests that CDs experience  
370 difficulties putting these into practice (Culver et al., 2019; Dempsey et al., 2021; Leeder et al., 2019;  
371 Stodter & Cushion, 2019). Additionally, and ironically given the movement towards LCT practices,  
372 studies report instructor-centered teaching (ICT) methods on CD training programs (e.g., Culver et al.,  
373 2019), and instructor perceptions that CDs are already competent to perform in their role(s) (e.g.,  
374 Stodter & Cushion, 2019).

375         Unsurprisingly, recommendations made in the literature for improving CD training programs  
376 include learner-centered practices. These involve; incorporating structured and unstructured learning  
377 for interaction with, and influence by, peers (Campbell et al., 2020; Crisp, 2018; Galatti et al., 2019;  
378 Kloos & Edwards, 2021; Koh et al., 2017; Leeder et al., 2019; Redgate et al., 2020); connecting  
379 theory to practice via practical components (Campbell et al., 2020; Redgate et al., 2020; Van Hoye et  
380 al., 2015); tailoring (additional) CD training programs to the level of CDP being delivered and  
381 specific roles of the CD (Campbell et al., 2020; Culver et al., 2019; Koh et al., 2017); considerations  
382 for particular demographics such as women-only training programmes (Kraft, Culver, & Din, 2020);  
383 and situating training in the reality of their professional roles (ICCE, 2014; Redgate et al., 2020).  
384 Furthermore, research points to allowing CDs further time in training to cover content (e.g., Van Hoye  
385 et al., 2015) and positive perceptions of longer-term CD training programs featuring greater time for  
386 unstructured learning in the curriculum and valuing time in-situ to, “‘anchor their experiences’ while  
387 staying ‘connected with the whole process’” (Campbell et al., 2020, p. 133). Three recent papers  
388 indicate that implementation of these recommendations was viewed positively from both CDs as

389 learners (Partington, O’Gorman, Greenough, & Cope, 2021; Vinson, Simpson, & Cale, 2022) and  
390 from ‘Master Coach Developers’ training, evaluating, and supporting CDs (Kloos & Edwards, 2021).

391 The findings in this review suggest training of the CD to be a crucial and desired component  
392 in role success, clarity, and fidelity that is currently largely ineffectively supported by CD training  
393 programs (Bailey et al., 2019; Callary & Gearity, 2019b; Campbell et al., 2020). Encouragingly, more  
394 recent research into CD training programs report greater understanding of espoused and theories-in-  
395 use and increased confidence in professional identity and role (Partington et al., 2021; Vinson et al.,  
396 2022).

### 397 **What does the CD do?**

398 As described above, the CD term can be conceptualized to include various roles and  
399 responsibilities (McQuade & Nash, 2015), thus affecting what the CD does. Our analysis resulted in  
400 two themes: Multiple functions of the CD contribute to a lack of role clarity; and Top-down  
401 approaches to CDPs hinder the fidelity of CDs’ implementation.

402 **Multiple functions of the CD contribute to a lack of role clarity.** CDs are considered an  
403 expert workforce essential to coach development systems that impact coaches through the provision  
404 and facilitation of formal and non-formal learning opportunities (ICCE, 2014). The CDs in the studies  
405 in this review operated in multiple roles in the design, implementation, and delivery of coach  
406 development. Figure 3 shows a range of role descriptors given to the CDs, the most prevalent being  
407 ‘Developer’ (22 studies: 41.51%), ‘Educator’ (11 studies: 20.75%), and ‘Mentor’ (11 studies:  
408 20.75%). However, this paints just part of the picture, as individual CDs may specialize in one role or  
409 have multiple roles, with multiple responsibilities or ‘tasks’ (Abraham et al., 2013; ICCE, 2014).  
410 Indeed, in the reviewed studies there are instances of CDs operating as both Educator and Assessor  
411 (Allanson et al., 2021; Garner et al., 2020; Reid & Harvey, 2014), Designer and Educator (Callary,  
412 Gearity, & Kuklick, 2021; Cronin & Lowes, 2016; Rodrigues et al., 2021; Martin et al., 2019) and  
413 Educator and Mentor (Cushion et al., 2019; Downham & Cushion, 2020). This indicates that for many  
414 CDs the role can be multidisciplinary, combining several fields of expertise in concurrent roles. There  
415 are, however, few studies that specifically explore the different behaviors and interpersonal  
416 knowledge required to balance multiple functions (see Garner et al., 2020 discussed further below).



417 This furthers a previous point as to the importance of role clarity and an influence of culture and  
418 context on the typology and vocabulary used to differentiate and describe the CDs. Subsequently, the  
419 role descriptor(s) and associated role frame(s) used and detailed by researchers inconsistently denote  
420 the function(s) that CDs undertake.

421 **Top-down approaches to CDPs hinder the fidelity of CDs' implementation.** Our review  
422 found CDs in formal learning situations are tasked with implementing the whole, or part of, a CDP  
423 that is either disseminated to them with little or no prior input (e.g., Dempsey et al., 2021) or that they  
424 have, to varying degrees, designed themselves (e.g., Callary et al., 2021). Dissemination of coach  
425 education policy occurs via restricted layers of communication that can cause confusion and  
426 misinterpretation in implementation (Cassidy, Kidman, & Dudfield, 2015; Dempsey et al., 2021;  
427 Edwards et al., 2020; Griffiths et al., 2018; Stodter & Cushion, 2019). Indeed, a CD interviewed in  
428 Paquette et al., (2019) stated, "I can't help but think the people who create programs like this make it  
429 more complicated than it likely needs to be. Perhaps it's because these people are usually far removed  
430 from what's actually happening on the ground" (p. 278). These issues in dissemination and training  
431 have produced varied practice and approaches (e.g., Culver et al., 2019; Watts et al., 2021) and reports  
432 from coach learners of confusion and contradiction of content (Stodter and Cushion, 2019) effecting  
433 fidelity, especially for large-scale CDPs (Culver et al., 2019; Edwards et al., 2020; Griffiths et al.,  
434 2018).

435 The findings of several studies suggest that the process of implementation is somewhat  
436 problematic, happening via recontextualization, the, "decoding and recoding of policy" (Dempsey et  
437 al., 2021, p. 4) which, "is a complex, fluid, and inherently contested process" (p. 2). For example,  
438 there are CD delivery intention-action gaps due to inconsistencies in espoused and in-use theories  
439 (e.g., Stodter & Cushion, 2019), anti-intellectualism, and the misappropriation or misuse of  
440 pedagogical theory (Cushion et al., 2019) which challenge CDs' ability to facilitate coach learning  
441 (Cushion, Stodter, & Clarke, 2021; Dempsey et al., 2020). Furthermore, consistent with concerns  
442 raised by coach learners in formal education settings (e.g., Ciampolini et al., 2019; Piggott, 2012), the  
443 balance of content to time available and assessment-orientated processes seem to impair CDs' ability  
444 to address coach learners' needs (Culver et al., 2019; Dempsey et al., 2021). However, some research

445 has shown that this issue can be positively affected by longer-term and personalized engagement with  
446 coach learners (Ciampolini, Camiré, Salles, Nascimento, & Milistetd, 2021; Rodrigue et al., 2019)  
447 and the deliberate design for the adaption of content to learner's needs (Cronin & Lowes, 2016; Dray  
448 & Howells, 2019; Hussain et al., 2012; Martin et al., 2019). This requires the appropriate availability  
449 of time and resources in delivery, and CD agency and pedagogical knowledge (Ciampolini et al.,  
450 2021).

451 To date, our understanding regarding what the CD does is mostly drawn from document  
452 analysis and observation (e.g., Dempsey et al., 2020; Edwards et al., 2020; Griffiths et al., 2018;  
453 Stodter & Cushion, 2019). There is little explanation from the CDs themselves as to what they do,  
454 other than intimating a philosophy of (e.g., Ciampolini et al., 2021), or problems with, implementation  
455 (e.g., Dempsey et al., 2021). Further research is therefore needed regarding what CDs understand and  
456 perceive as their process and practice.

#### 457 **How does the CD Operate?**

458 There is limited research exploring the in-situ role of the CD (e.g., Abraham et al., 2013;  
459 Watts et al., 2021). Of the empirical research reviewed here, three themes were developed regarding  
460 How the CD operates: Shifts to learner-centered design presents challenges for CDs; Understanding  
461 of social dynamics and broader relational systems involved in CD practice is limited; and Intention-  
462 Action mismatches and evidence of knowledge reproduction.

463 **Shifts to learner-centered design presents challenges for CDs.** The designer in a coach  
464 development system can be split into two categories: the qualification designer and the learning  
465 program designer (McQuade & Nash, 2015). The former is responsible for mapping learning  
466 outcomes to national standards and appropriate guidance for assessment. The latter is responsible for  
467 the construction of a framework to support the coach's learning journey from start to completion of  
468 the qualification. Of the reviewed studies, 11 (20.75%) report on the qualification and learning  
469 program design, and four (7.55%) report on the learning program design only.

470 A consistent feature of the reviewed records is the moves towards learner-centered  
471 perspectives both in NSOs (e.g., Chapman et al., 2020; Culver et al., 2019; Dempsey et al., 2020;  
472 Paquette & Trudel, 2018) and HEIs (e.g., Cronin & Lowes, 2016; Galatti et al., 2019; Milistetd et al.,

473 2019; Rodrigues et al., 2021; Stodter, Cope, & Townsend, 2021). This shift implies learner-centered  
474 teaching (LCT) strategies such as active learning experiences that give coach learners, “the  
475 opportunity to think and act like coaches for as much of the learning time as possible” (McQuade &  
476 Nash, 2015, p. 344) and, “provide a flexible structure based on the coaches’ self-determined needs”  
477 (Hussain et al., 2012, p. 237). These are further underpinned by the promotion of a lifelong learning  
478 perspective (Culver et al., 2019; Rodrigues et al., 2021). Researchers do however contend that  
479 designing constructivist approaches should not be viewed as a ‘panacea’ (Rodrigue et al., 2019;  
480 Rodrigues et al., 2021). Indeed, any change in pedagogical or andragogical approach will experience  
481 tensions, power imbalances, and challenges (see Luguetti, Kirk, & Oliver, 2019; Milistetd et al., 2019;  
482 Stoszowski & Collins, 2017) that could result in a ‘flop’ if the application of learner-centered  
483 teaching strategies are not met with appropriate implementation (Callary, Gearity, & Kuklick, 2021).

484 **Understanding of social dynamics and broader relational systems involved in CD**  
485 **practice is limited.** The effectiveness of CDs (and by extension CDPs) relies heavily on the social  
486 interaction with other actors in a coach development system (Ciampolini et al., 2019; Nash & Sproule,  
487 2012). Yet, our knowledge about the social dynamics involved in CDs’ practice is limited (Cushion et  
488 al., 2019; Allanson et al., 2021). A small number of studies drew on sociological paradigms such as  
489 symbolic interactionism to elucidate an otherwise ‘invisible’ practice (Cushion et al., 2019, p. 534). In  
490 this research, CDs visibly seek to establish functional and meaningful relationships with coach  
491 learners. This appears as a need to develop rapport and a reciprocity in the initial stages whether in a  
492 mentoring (e.g., Bailey et al., 2019; Corsby et al., 2020) or coach educator position (e.g., Ciampolini  
493 et al., 2021; Garner et al., 2020). Ostensibly this is due to the need to work collaboratively, enacting  
494 learner-centered principles and sharing autonomy in the learning process (e.g., Ciampolini et al.,  
495 2021; Griffiths et al., 2018; Milistetd et al., 2019). However, particularly in formal settings, this  
496 requirement is underwritten by a need for symbolic capital (e.g., credibility, reputation, respect),  
497 whether with coach learners (e.g., Garner et al., 2020) or within the coach development system for  
498 employment opportunities (Allanson et al., 2021).

499 These studies found that some CDs were acutely aware of their interactions and reflexively  
500 read and write themselves into the social landscape of their work, engaging in micropolitical literacy,

501 impression management, and demonstrating situationally appropriate emotions and actions in their  
502 everyday work (e.g., Cushion et al., 2019; Allanson et al., 2021). This research casts the CD in a  
503 formal setting as a performer, requiring expertise in interpersonal knowledge and situational  
504 awareness and the ability to work flexibly with their ‘occupational identity’ (Cushion et al., 2019). In  
505 a more positive example of the reflexive and intentional ability to adjust behavior, Garner et al.,  
506 (2020) reported CDs purposefully adopting leadership traits such as humility. Furthermore, this study  
507 noted CDs’ balancing of several tasks (i.e., delivering education and assessment) that involved  
508 different behaviors and interactions with coach learners. They found that CDs intentionally moved  
509 from mostly transformational leadership to mostly transactional leadership behaviors as the CDP  
510 shifted towards assessment.

511 **Intention-Action mismatches and evidence of knowledge reproduction.** To capture part of  
512 how CDs work, the concept of reproduction is used in several of the reviewed studies (n = 8, 15.09%).  
513 Drawing primarily on the work of Bourdieu, Bernstein and Foucault, reproduction has been employed  
514 to problematize teaching processes that focus on coach learners reproducing knowledge rather than  
515 encouraging problem solving and (re)examination of their beliefs and assumptions (e.g., Cushion et  
516 al., 2019; Galatti et al., 2019). In these environments created, “for coaches to become conforming and  
517 docile” the coach learner is deemed and developed to be ‘effective’ via the, “production of  
518 institutionalized and discursive bodies” (Cushion et al., 2021, p. 9). This is achieved by the CDs  
519 through use of symbolic capital in “the setting of the parameters for knowledge production to which  
520 everyone is required to tacitly respond” (Cushion et al., 2019, p. 534). In some cases, this is directly  
521 opposed to the intention of the CDPs and the CDs, occurring uncritically on their part and of the  
522 coach learner (e.g., Cushion et al., 2019; Cushion et al., 2021; Downham & Cushion, 2020; Leeder &  
523 Cushion, 2020). For example, Watts et al., (2021) found CDs’ practice appropriated legitimate, if  
524 questionable, methods and despite recognizing that knowledge of learning is important, their  
525 understanding of learning theory was “limited or confused” (p. 9).

526 Several studies suggest that micropolitical issues in interaction and assessment or competency  
527 driven design of policy lead to the inculcation of coach learners (and CDs) and intention-action  
528 mismatches (Cushion et al., 2019; Downham & Cushion, 2020; Leeder & Cushion, 2020). For

529 example, Downham and Cushion (2020) found CDs used dominant discourses to articulate views  
530 about and the use of reflection. In their setting, the symbolic power held by the CD(s) and the  
531 orchestration of practice resulted in ‘confessional’ reflection that was inauthentic, uncritical, or  
532 subject to criticism that further cemented capital and power away from the coach learner(s). However,  
533 this is not to say that CDs are necessarily to blame for this repeated issue of reproduction or that CDs  
534 should be viewed as a homogenous group. Concerns over job security were also found to lead to  
535 reliance upon policy and superficial artefacts of coaching practice, such as session plans (Bailey et al.,  
536 2019; Corsby et al., 2020) and privileging, “knowledge acquired from practice” (i.e., coaching  
537 experience; Cushion et al., 2019p. 542) to maximize and maintain their capital. Furthermore, a lack of  
538 agency (perhaps perceived) in CDs’ delivery in formal education and experiencing pressures to  
539 deliver content in a ‘strongly framed approach’ (i.e., the educator maintains control over the delivery)  
540 limited ability to produce coach development with learner-centered principles (Dempsey et al., 2021).  
541 Indeed, where CDs offer coach learners greater agency over their own development, they reported  
542 positive perceptions of value creation via the co-construction of knowledge and development in a safe  
543 and challenging learning environment (Mesquita et al., 2015; Milistetd et al., 2018; Milistetd et al.,  
544 2019; Rodrigue et al., 2019).

545 As such, reproduction appears to occur as a consequence of social and organizational  
546 structures (e.g., Cushion et al., 2019), assessment driven frameworks, “only satisfying institutional  
547 agendas” (Sawiuk, Taylor, & Groom, 2018, p. 629), misappropriation of pedagogical action(s) (e.g.,  
548 Downham & Cushion, 2020), and restrictions to CD agency (e.g., Dempsey et al., 2021; Sawiuk et al.,  
549 2018). These findings in relation to reproduction are confined to a particular group of authors and  
550 notably all of the research was in UK CDP settings. Further understanding of whether these issues are  
551 also true of formalized CDPs in other countries and sports is therefore needed.

## 552 **Limitations**

553 The goal of this systematic review was to identify current understanding of the CD through  
554 research in which they were directly involved. Whilst this review provides a comprehensive list of  
555 research focused on the CD and discusses key themes emerging from that research, it is not without  
556 limitations. Firstly, the search strategy was relatively open across multiple roles, organizations, and

557 cultures as well as within a variety of research designs to reflect and connect research appropriate to  
558 the ICCE ‘umbrella’ term. Secondly, there is commentary about the role beyond empirical academic  
559 research (e.g., Abraham, 2016; McQuade & Nash, 2015) and in policy development (CIMPSA, 2021;  
560 Sport Australia, n.d.). By excluding these sources, further insights may have been missed. However,  
561 given the scope of the review and systematic efforts taken to synthesize detail it is reasonable to  
562 submit that the studies included provide support for the claims herein. The included studies with  
563 varied ontological positions, employing a range of theoretical concepts, and disciplinary techniques  
564 and terminology, made analysis complex. Additionally, there are only a limited number of papers for  
565 each context, or that are informed by a particular research philosophy and/or theoretical framework.  
566 Therefore, although claims have been made about CDs which we have attempted to capture in this  
567 review, these are to a large extent still tentative and will require future research to verify, refute or add  
568 further depth to our understanding of the face of coach development.

#### 569 **Future Directions**

570       Having examined the current state of research in this area, it is valuable to note possible gaps  
571 and recommendations for future research and practicalities regarding the CD. While not exhaustive,  
572 these reflect some of the most relevant and pressing knowledge and practice gaps. Providing more  
573 detailed descriptions and explanations of participant CDs’ backgrounds and contexts is critical to  
574 enable others to understand, evaluate, and ultimately utilize the findings from research. From a  
575 methodological perspective, researchers should seek to explicitly display and discuss the  
576 philosophical, conceptual, and theoretical frameworks they are employing. This would not only help  
577 to increase the quality and robustness of research on this topic (Adom et al., 2018; Kivunja, 2018), but  
578 it would also aid in the formation of judgements, applications and transferability of research findings  
579 (Anney, 2014; Kivunja, 2018). Indeed, research that adopts multiple qualitative methods and a greater  
580 range of CD contexts by sport and geographical locations could support the identification of  
581 generalizations and divergencies specific to this role. Moreover, continuing to employ methods such  
582 as action research and collaborative research would likely improve this, with researchers forming  
583 research and working relationships with key coach development stakeholders.

584           Concerning specific areas in need of further enquiry, issues of role clarity and professional  
585 identity, the form CDs take, are matters raised in both research and in-situ. Whether or not agreement  
586 on conceptualization regarding the role of the CD is achieved, researchers should examine and  
587 articulate how CDs and their roles are construed, both within research by researchers, and by the CDs  
588 themselves and other stakeholders in the coach development system. Additionally, researchers should  
589 seek to better understand how CDs become CDs. Moving beyond broad categories such as  
590 qualifications and experience, researchers might explore various stakeholders' perspectives on the  
591 behaviors and knowledge CDs 'need' and key stakeholders 'look for' when recruiting or training  
592 CDs.

593           As highlighted by our discussion, the practice of the CD requires not only professional  
594 knowledge of coach learning, but also the ability to read and write themselves into the social  
595 landscape of coach development. Indeed, CDs demonstrate awareness of the various functions they  
596 fulfil, and the creation and maintenance of their professional reputation. It appears that these dynamic  
597 issues present barriers, or at least complications, to effective CD practice. Therefore, research that  
598 examines how CDs navigate and negotiate the coach development landscape would be useful.  
599 Additionally, research suggests current misalignment of system paradigm and pedagogical approaches  
600 with the lived realities of the CD. Given their central position in a coach development system, it is  
601 essential therefore that future research aims to further knowledge of what the CD does that  
602 acknowledges and illuminates the influence of the embedded and relational aspect of their specific  
603 context. Moreover, contextualizing the CD role to organizational expectations and curricula demands,  
604 for example by means of document analysis, would provide an indication of the relative fidelity to,  
605 and success of, disseminated curricula designed for the (re)production of coaching practice.

606           Therefore, continued inter- or trans-disciplinary methods will aid this body of literature to  
607 understand its complexities, diversity of perceptions, connect abstract and context-specific  
608 information, and build professional and practical knowledge (Ison, 2008). Collaborative processes of  
609 co-production (Norström et al., 2020), could help to move away from the current, 'face-value'  
610 understanding of the CD to a deeper interrelated knowledge and appreciation of the person and the  
611 role. For example, the work of North (2017) produced an ontological map for researching sport

612 coaching which was utilized by Muir (2018) to construct a conceptual framework to explore coaches'  
613 resources, reasoning, strategies, actions and behaviors (Allen & Muir, 2021). Frameworks such as  
614 these can then be used as thinking tools to inform coach development and coaching practitioners.

## 615 **Conclusion**

616 The findings of this systematic review highlight how research into the CD has expanded over  
617 the past decade. There has been a clear rise in interest and the beginnings of an increasingly diverse  
618 range of research designs seeking to observe and give voice to this important role. Our synthesis  
619 across studies found various interpretations of the CD's role and a lack of role clarity from researchers  
620 but also in the reports from the CDs themselves. We found that CDs adopt multiple roles both  
621 independently of each other and at the same time. Furthermore, although there is little research in this  
622 regard, CDs report a process of becoming and maintaining their position(s) that requires a fusion of  
623 credentials and opportunity. There is inference of an over-reliance on athletic and coaching  
624 experience in the recruitment and retention of CDs that appears to contribute to misappropriated or  
625 misaligned actions by CDs in their coach development roles. However, suggesting this issue is the  
626 'fault' of the CD alone presents only part of the problem. Research has found that the training of the  
627 CD is frequently insufficient in preparing them for the role and the continued push towards learner-  
628 centered practice(s). Additionally, there are significant challenges implementing coach development  
629 policy. Dissemination via various layers prior to reaching the CD causes recontextualization issues as  
630 CDs experience misalignment to the reality of their practice and insufficient agency to genuinely  
631 facilitate individualized and contextually relevant learning. Indeed, several researchers commented on  
632 the disconnection between seeking fidelity of practice across a CDP and the possibility of adapting  
633 practice to meet the needs of the learner. Comparatively, in a few cases where the CD is afforded  
634 greater time and resources to co-construct the coach development journey, this appeared fruitful.

635 Moreover, studies showed that there are various causal mechanisms that effect CDs  
636 engagement in micropolitical practices and performance. Cast as the 'face' of coach development it is  
637 reasonable to suggest this partly comes with the performance of being a CD, however, there are  
638 reports of CDs being acutely aware of the importance of gaining and maintaining reputation with all  
639 actors in a coach development system. Indeed, this may influence the adoption of contextually and



640 traditionally legitimate practice(s), anti-intellectualism, and misunderstood pedagogical theory, which  
641 intentionally or unintentionally reproduced coaching practice. Whilst some researchers have begun to  
642 address this, further study of the real-life environment of the CD is needed to further our  
643 understanding of their process and practice. This research will need to acknowledge the influence of  
644 the biography and identity of the CD, the embedded contextual requirements and nuances and the  
645 relational nature of the role(s). Thus, CD-related research would benefit from clearer understanding  
646 and description of the role frame and positioning of the CD(s) involved.

647         As called for by Callary and Gearity (2019a), progress is being made by bold theorizing and  
648 the use of many lenses to provide a breadth of detail. As this review shows, there is growing, if still  
649 insufficient, understanding of who the CD is, what the CD does, and how they do coach development.  
650 Whilst it is essential that research aims to further elucidate these, it is also important to employ  
651 methods that will consider the where and when; the circumstances of CD process and practice. In  
652 doing so, CDs and researchers may then employ disciplinary-based concepts to advance our  
653 understanding of this key role and their effectiveness in developing coaches.

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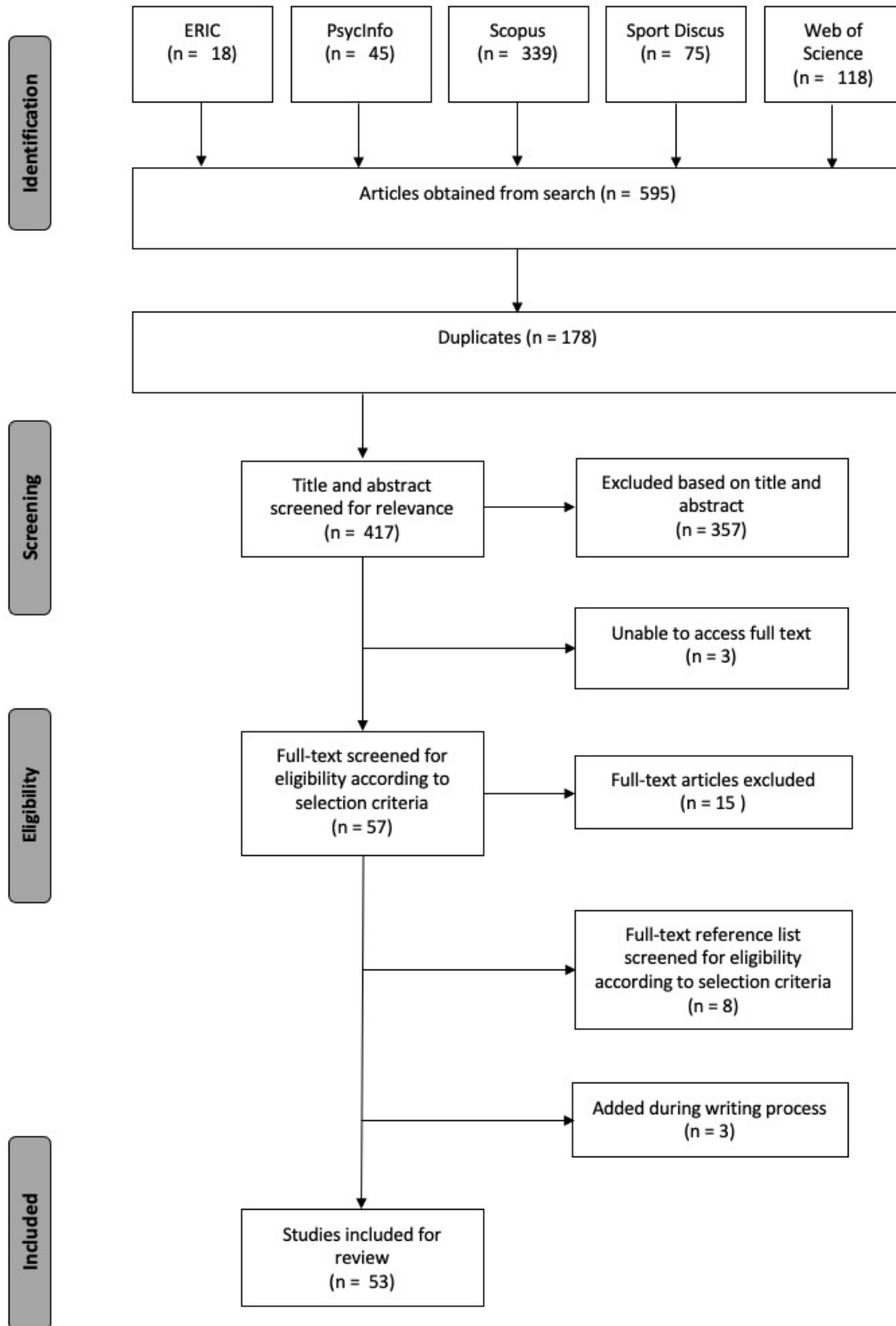
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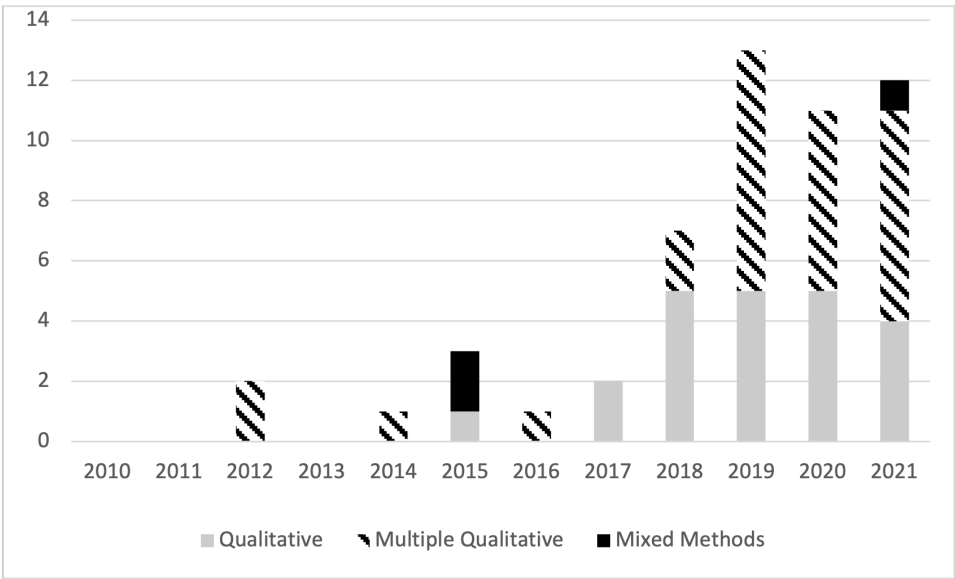
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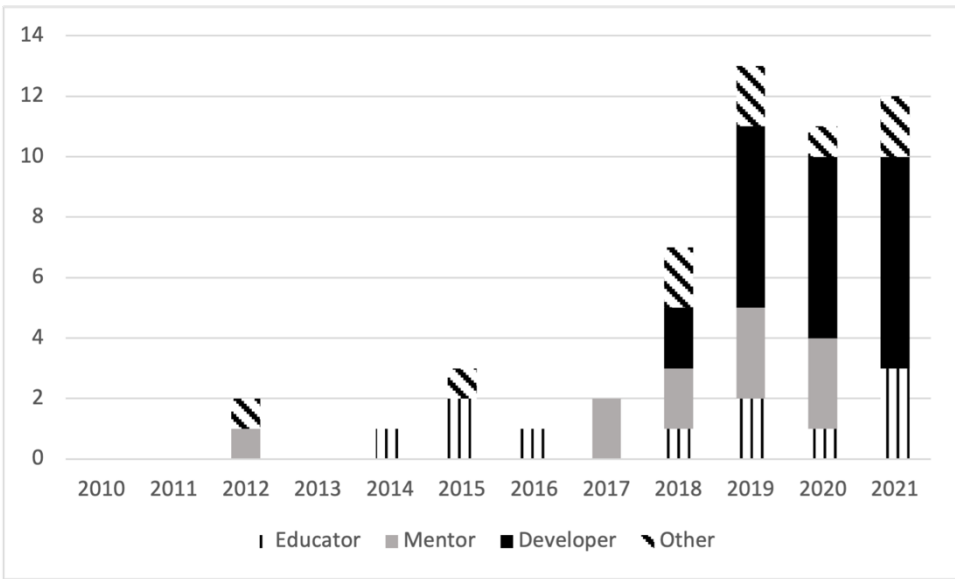
1003 **Figure 1.**  
 1004 PRISMA flow diagram documenting the study selection criteria.



1007 **Figure 2.**  
 1008 Publication timeline showing number of included studies by year and methodology (Note: 1 paper  
 1009 from 2022 included and not shown; 'Multiple Qualitative').  
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1011 **Figure 3**  
 1012 Publication timeline showing number of included studies by year and role descriptor of the sampled  
 1013 CD (Note: 1 paper from 2022 included and not shown; 'Developer').  
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1017 **Table 2.**

1018 Higher order themes and themes organized by overarching themes, detailing the clustering of findings from the reviewed studies

1019

<b>Overarching theme</b>	<b>Themes</b>	<b>Sub-Themes</b>
Who are they?	(In)Congruences with conceptualisations and role clarity of the CD	Multiple Role(s) and role frames Multiple components to the role
	Limited understanding of and inconsistencies in CDs' opportunities and pathways	Varying requisite credentials for CD roles Inconsistent opportunities for professional roles Experience of, and development of leadership qualities
	Training of the CD appears inadequate	Training inadequately prepares CD for role(s)
		Training programs are insufficient in time and content Difficulties in implementing training into practice
What do they do?	Multiple functions of the CD contribute to a lack of role clarity	CD role is multidisciplinary
		Responsibilities of the CD overlap
	Top-down approaches to CDPs hinder the fidelity of CDs' implementation	Recontextualization of disseminated policy Need for fidelity in delivery
How do they operate?	Shifts to learner-centered design presents challenges for CDs	Framing of curriculum for delivery

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(Lack of) CD agency in delivery

Need for appropriate resources

Understanding of social dynamics and broader relational systems involved in CD practice is limited

Development and maintenance of relationships

Development and maintenance of reputation

Intention-Action mismatches and evidence of knowledge reproduction.

Legitimacy of CD practices

(Mis)Alignment with theoretical 'best' practice

The (By)Product of coach development programs

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1022 **Table 1.**

1023 Articles Regarding the Role of the Coach Developer Published in English Peer-Reviewed Journals

1024

	Article Details			Research context		Sample Details			Study Details				
	Authors	Year	Country	Organisation	Sport	n.	Age (M, R)	Gender	Data Collection	Data Analysis	MMAT	Framework	Theorists
1	Allanson, et al.	2021	England, UK	NSO  The FA	Soccer	4	48.75,  27-59	3M, 1F	Interview	Phronetic Iterative	100%	Interactionist-  Dramaturgical	Kelchtermans  Goffman  Hochschild
2	Bailey, et al.	2019	United Kingdom	NSO	∅	8	∅	∅	Focus Group,  Interview	Thematic	86%	∅	∅
3	Banwell, et al.	2019	Canada	NSO  CAC	Mix	7	∅	3M, 4F	Survey, Interview	Descriptive  Thematic	100%	Theoretical  Mentorship Model	Zachary
4	Brasil, et al.	2018	Brazil	NSO  IBRASURF	Surfing	5	41.4,  ∅	3M, 2F	Interview	Thematic	86%	∅	∅

5	Callary, et al.	2019 b	Mix	NSO HEI	Mix	8	∅	∅	Survey	∅	57%	∅	∅
6	Callary, et al.	2021	Canada	HEI	S&C	3	∅	∅	Email, Document Analysis, Interview, Journals	Ethnography	100%	Confessional Tales	Van Maanen
7	Campbell, et al.	2020	Japan	NSO NCDA	Mix	20	∅	15M, 5F	Survey	∅	57%	∅	∅
8	Cassidy, et al.	2015	New Zealand	NSO	∅	1	∅	∅	Interview	Creative non-fiction	100%	∅	∅
9	Chapman, et al.	2020	England, UK	NSO The FA	Soccer	16	∅	Mix (∅)	Document Analysis, Interview	Thematic	100%	Pedagogy	Freire
10	Ciampolini, et al.	2020	Brazil	NSO BRF	Rugby	1	40, ∅	M	Rappaport Time Line, Interview	Interpretative Phenomenological	100%	Experiential Learning	Jarvis

11	Ciampolini, et al.	2021	Brazil	NSO BRG	Rugby	1	40, ∅	M	Observation, Field Notes, Interview	Thematic	86%	Learner-Centered Teaching	Weimer
12	Corsby, et al.	2020	∅	HEI	Mix	10	∅, 20-23	∅	Focus Group	Reflexive  Thematic	100%	∅	∅
13	Crisp	2018	England, UK	LSO	Mix	6	∅	∅	Meetings	Inductive  Content Analysis	86%	∅	∅
14	Cronin & Lowes	2016	United Kingdom	HEI	Mix	1	∅	∅	Observation,  Group Interview,  Reflection	Thematic	100%	Action Research	Stenhouse
15	Culver, et al.	2019	Canada	NSO NCCP	Mix	26	∅	14M, 12F	Interview	Thematic	86%	Cognitive Structure	Moon
16	Cushion, et al.	2021	∅	Mix	Mix	14	∅	∅	Interview,  Observation,  Document Analysis,	Discourse	100%	Discursive construction	Willig;  Foucault

17	Cushion, et al.	2019	∅	NSO	∅	4	∅, 30-55	M	Interview, Field Notes, Focus Groups	Thematic	100%	Epistemic Reflexivity	Bourdieu
18	Dempsey, et al.	2020	England, UK	NSO The FA	Soccer	14	45.21 28-66	12M, 2F	Interview	Thematic	100%	Pedagogy	Priestley and Humes; Bernstein
19	Dempsey, et al	2021	England, UK	NSO The FA	Soccer	3	47, 45-52	M	Document Analysis, Interview, Field Notes, Media	Thematic	100%	Creative Non-Fiction Pedagogy	Erickson et al. Bernstein
20	Downham & Cushion	2020	United Kingdom	NSO	Mix	11	∅	∅	Observation, Field Notes, Interview	Thematic	100%	Power and Knowledge	Foucault
21	Dray & Howells	2019	United Kingdom	HEI	Mix	1	∅	∅	Reflection	∅	57%	∅	∅
22	Edwards, et al.	2020	Canada	NSO NCCP	Mix	∅	∅	∅	Interview,	∅	57%	Interorganisational Relationships	Mitchell



									Document Analysis				
23	Galatti, et al.	2019	Brazil	HEI	Mix	2	∅	∅	Reflection	∅	57%	∅	∅
24	Garner, et al.	2020	France	NSO	Alpine Skiing	4	∅, 40-50	∅	Interview, CLAS	Thematic	100%	Critical Realism Leadership Model	Bhaskar Bass & Riggio
25	Griffiths, et al.	2012	United Kingdom	LSO	∅	6	36, ∅	4M, 2F	Questionnaire, Focus Group, Interview	Grounded Theory	100%	∅	∅
26	Griffiths, et al.	2018	United Kingdom	NSO	∅	8	∅	∅	Interview, Focus Group, Document Analysis	Grounded Theory	100%	Pedagogy	Bernstein
27	Hussain, et al.	2012	Canada	NSO Triathlon Canada	Triathlon	1	∅	∅	Interview, Field Notes, Conversations, Memos	Thematic	100%	∅	∅

28	Kloos & Edwards	2021	Canada	NSO CAC	Mix	10	∅	6M, 4F	Interviews	Constant Comparative	100%	Constructivist Grounded Theory	Charmaz
29	Koh, et al.	2017	Singapore	NSO BAS	Basketball	4	50.5, 33-68	∅	Interview	Narrative Research	100%	∅	∅
30	Kolić, et al.	2020	United Kingdom	NSO	Mix	3	∅	∅	Observation, Field Notes, Interview	Thematic	100%	Symbolic Interactionism	Blumer Strauss
31	Kraft, et al.	2020	Canada	NSO	Mix	4	∅	1M, 3F	Interview	∅	100%	Ecological Systems Value Creation	Bronfenbrenner Wenger et al.
32	Leeder & Cushion	2020	United Kingdom	NSO	∅	14	35.21 28-61	∅	Interview	Thematic	100%	Social Constructionism	Bourdieu
33	Leeder, et al.	2019	United Kingdom	NSO	∅	26	40 ∅	23M, 3F	Interview, Focus Group	Thematic	100%	Social Constructionism	Bourdieu
34	Martin, et al.	2019	USA	HEI	∅	∅	∅	∅	Reflection	∅	29%	∅	∅

35	Mesquita, et al.	2015	Portugal	HEI	Volleyball	1	∅	M	Observation, Field Notes, Recordings, Focus Group, Reflective Journal	Observation Instrument Thematic	100%	∅	∅
36	Millistetd, et al.	2018	Brazil	∅	Tennis	1	34, ∅	M	∅	∅	43%	Narrative Collaborative Coaching Appreciative Inquiry	Stelter et al. Cooperrider
37	Millistetd, et al.	2019	Brazil	HEI	P.E.	1	∅	M	Focus Group, Reflective Journal	Thematic	100%	Learner-Centered Teaching	Weimer
38	Norman	2020	United Kingdom	NSO	Soccer	12	∅, 22-50	F	Interview	Constant Comparative	100%	Organisational Culture	Schein
39	Norman, et al.	2018	United Kingdom	NSO	Soccer	10	∅, 22-50	F	Interview	Thematic	100%	Organisational Culture	Schein

40	Paquette, et al.	2018	Canada	NSO Golf Canada	Golf	7	47.3 27-70	6M, 1F	Document Analysis, Interview	Content Thematic	100%	Learner-Centered Teaching	Blumberg
41	Paquette, et al.	2019	Canada	NSO Golf Canada	Golf	6	∅	5M, 1F	Survey, Interview, Media	Thematic	100%	Learner-Centered Teaching	Weimer
42	Partington, et al.	2021	England, UK	NSO	∅	23	∅	17M, 6F	Observation, Focus Group, Interview, Document Analysis	Phronetic Iterative	100%	Theory in Practice	Argyris and Schon
43	Redgate, et al.	2020	England, UK	NSO The FA	Soccer	∅	∅	∅	Document Analysis, Interview	Content Analysis	100%	Normalisation Process Theory	May and Finch
44	Reid & Harvey	2014	England, UK	NSO RFU	Rugby	4	∅	∅	Interview, Field Notes, Questionnaire	Constant Comparative	100%	Game Sense	Light

										Grounded Theory			
45	Rodrigue, et al.	2019	Canada	NSO	Rugby	1	29, ø	M	Narrative Interview, Conversations, Document Analysis	Narrative	100%	Narrative Collaborative Coaching Value Creation	Drake et al.  Wenger et al.
46	Rodrigues, et al.	2021	ø	HEI	ø	1	ø	ø	Interview, Reflection, Observation	ø	100%	Learner-Centered Teaching	Weimer
47	Sawiuk, et al.	2017	United Kingdom	NSO	Mix	15	45.4, 24-64	11M, 4F	Interview	Thematic	100%	Mentoring at work	Kram
48	Sawiuk, et al.	2018	England, UK	NSO	ø	3	47, 35-59	M	Interview	Thematic	100%	Social Constructionism	Bourdieu
49	Stodter & Cushion	2019	England, UK	NSO	ø	3	47, 35-59	M	Observation, Media, Field Notes, Document	Integrated	100%	Signature Pedagogy	Schulman

									Analysis, Interview				
50	Stodter, et al.	2021	United Kingdom	HEI	Soccer	1	29, ∅	∅	Reflective, Interview, Conversations, Focus Group	Thematic	100%	Reflective Practice	Multiple
51	Van Hoyer, et al.	2015	France, Norway	NSO	Soccer	12	41.5, ∅	∅	Video Recordings, Questionnaire	Observation Scale	100%	RE-AIM Framework	Glasgow et al.
52	Vinson, et al.	2022	United Kingdom	NSO	∅	24	40.65, ±9.5	∅	Reflective materials, Focus Groups, Field Notes, Interviews, Conversations	Thematic	100%	Participatory and Appreciative Action and Reflection Landscapes of Practice	Ghaye et al.  Wenger-Trayner
53	Watts, et al.	2021	United Kingdom	NSO	Mix	16	∅, 24-54	13M, 3F	Interview	Thematic	100%	Social Constructionism	Bourdieu

1025 *Note:* M = male; F = female; MMAT = Mixed Methods Appraisal Tool; BAS = Basketball Association of Singapore; BRF = Brazil Rugby Federation; CAC = Coaching Association of Canada; HEI = Higher Education  
1026 Institution; IBRASURF= Instituto Brasileiro de Surf; LSO = Local Sports Organisation; NCDA = The NSSU Coach Developer Academy; NCCP = National Coaching Certification Program; NSO = National Sports  
1027 Organization; PE = Physical Education; RE-AIM = Reach, Effectiveness, Adoption, Implementation, and Maintenance; RFU = Rugby Football Union; The FA = The Football Association.

1028