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A systematic review of coach developers' professional learning

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ABSTRACT

The objective of this paper was to systematically review the empirical evidence surrounding sport coach developers' (CDs) professional learning. CDs are key in coaching ecosystems because they influence coaches' learning. However, little is known about the processes and mechanisms involved in how CDs learn to practice, which has implications for their training and support requirements. A thematic synthesis was undertaken on the 30 included studies. Findings generated themes concerning (1) CDs' understanding and application of learning theory, (2) the influence of their employing governing body, (3) the role and importance of peers, and (4) expert facilitators in influencing CDs' professional learning and practice. These findings provide insights for CDs and organisations responsible for training and developing CDs. The limited body of literature highlights the juvenile state of CD research, and recommendations are made to further investigate CDs from a broader range of sports and contexts.

Introduction

The primary purpose of coach education is to raise coaching standards; however, research has found coach education to lack the sophistication required to support the complex reality of coaches' practices (Allan, Vierimaa, Gainforth, & Côté, 2018; Ciampolini, Milistetd, Brasil, & Do Nascimento, 2019; Lyle, 2007; McCullick et al., 2009; Trudel, Gilbert, & Werthner, 2010). One persistent reason for this has been the rigid, simplistic and decontextualised nature of coach education (Nelson, Cushion, & Potrac, 2013; Piggott, 2015; Watts, Cushion, & Cale, 2021a). Unsurprisingly, some coaches have reported coach education experiences as low value and a bureaucratic hurdle to continue practising or gain employment (Chesterfield, Potrac, & Jones, 2010; Nash & Sproule, 2012;

North, Piggott, Rankin-Wright, & Ashford, 2020). In response to these issues, more recently, sport organisations have attempted to shift focus from qualification and content-driven models of coach education to "learner-centred" models of coach development (Cope, Cushion, Harvey, & Partington, 2021; Paquette & Trudel, 2018a; Stodter, Cope, & Townsend, 2021). In other words, away from a one-size-fits-all "factory model" to a more personalised learner experience (Cope, Cushion, Harvey, & Partington, 2021), where recognising the idiosyncratic nature of coaches' learning seems to be a particular shift in emphasis (Stodter & Cushion, 2017).

A condition of learner-centred approaches is the deployment of highly skilled educators who can understand and employ various pedagogical methods (Bales, Crisfield, Ito, & Alder, 2020; Stodter, Cope, & Townsend, 2021). Although previously referenced in the literature as "coach educators", this population are now commonly referred to as "Coach Developers" (CDs) since the International Council for Coaching Excellence (2014) introduced their Coach Developer Framework. This relatively new "umbrella" role is multifaceted and encompasses a variety of responsibilities, such as mentoring, tutoring, and assessing, across various coach learning situations while responding to coaches' needs in context (ICCE, 2014; Jones, Allen, & Macdonald, 2023). The desire to support coach learning through CDs has increased interest and investment in this function (Callary & Gearity, 2019a; ICCE, 2014; Sport England, 2018). CDs can represent a significant financial investment for sport organisations and governing bodies, with full-time positions commonplace across numerous sports (e.g. football, rugby union) in the UK. Yet, despite increased popularity and investment, a well-developed understanding of how CDs effectively support coaches' learning and development is still to be fully appreciated.

CDs, like coaches, need high-quality education opportunities to support their learning and development (Lara-Bercial, Bales, North, Petrovic, & Calvo, 2022). Despite this, CD training programmes have tended to follow a strikingly similar path to coach education and replicated its failures, with criticisms labelling such training as too short, too simplistic and lacking relevant underpinning theory (Culver, Werthner, & Trudel, 2019; Leeder, Russell, & Beaumont, 2019; Stodter & Cushion, 2019). Moreover, the International Council for Coaching Excellence (ICCE) highlighted sub-standard CD training as an area of concern (Lara-Bercial, Bales, North, Petrovic, & Calvo, 2022). The resultant problem is that CDs, as former coaches and products of coach education systems, are influenced by their experiences rather than any training, and this creates dispositions and orientates and facilitates some forms of learning whilst inhibiting or preventing others (Cushion, Griffiths, & Armour, 2019). More recent

research has detailed more extensive, long-term professional development programmes for CDs in conjunction with higher education establishments (Campbell, Fallaize, & Schempp, 2020; Partington, O'Gorman, Greenough, & Cope, 2022; Redgate, Potrac, Boocock, & Dalkin, 2020; Vinson et al., 2022), suggesting a move towards more theoretically informed training and education for CDs. Yet, such work is an exception rather than the norm.

Research focussed on the CD as the "primary unit of analysis" is scarce, but as highlighted by Jones, Allen, and Macdonald (2023), these types of work are increasing. Areas of interest have included CDs' professional learning (Brasil, Ramos, Milistetd, Culver, & Do Nascimento, 2018; Ciampolini, Tozetto, Milan, Camiré, & Milistetd, 2020; Partington, O'Gorman, Greenough, & Cope, 2022; Vinson et al., 2022), CDs' understanding of learning (Stodter & Cushion, 2019; Watts, Cushion, & Cale, 2021a) and CDs' working practices (Downham & Cushion, 2020; Stodter, Cope, & Townsend, 2021). However, perhaps due to the short-term nature of the publication process, the general landscape of CD learning research is fragmented (Culver, Werthner, & Trudel, 2019). In such instances, there is a need to bring the body of work together to offer a clearer sense of what we can say about it. In this respect, reviews of literature have long been considered an essential aspect of academia for summarising current knowledge, providing more efficient access to that knowledge, and supporting future research agendas (Booth, Sutton, Clowes, & James, 2022).

The only systematic review of CD research to date has been that of Jones, Allen, and Macdonald (2023), who uncovered the multifaceted and complex role of the CD. A key finding from that study was the importance of CD training but the inadequacy of such training to prepare CDs for the role. The present study aims to build on Jones, Allen, and Macdonald (2023) by explicitly focusing on the published data related to CDs' professional learning, that is, the ongoing process of enhancing CDs' competence. Synthesising the research and summarising insights from different contexts can provide a comprehensive understanding of CDs' professional learning and help identify areas for future research. The purpose is to analyse CDs' professional learning processes, mechanisms, and influences. Doing so will contribute to a currently shallow evidence base and introduce CD research to a broader audience of practitioners and policymakers (Thomas & Harden, 2008), stimulating debate about how best to support CDs' learning requirements. The significance of this study is both theoretical and practical. While Jones, Allen, and Macdonald (2023) utilised a structured content analysis in their review, the current study offers a more interpretive and inductive approach, being the first thematic synthesis of data collected with CDs. As Watts et al. (2021b) argue, the CD has remained relatively silent in sport coaching research; however, synthesising the literature can "offer

a potential voice for … seldom heard groups" (Booth, Sutton, Clowes, & James, 2022, p. 11).

Methods

This review drew upon a thematic synthesis methodology to provide new interpretations beyond the original studies (Thomas & Harden, 2008). Thematic synthesis is often used to address questions regarding people's perspectives and experiences (Booth, Sutton, Clowes, & James, 2022) and is recommended when reviewing sparse fields with less analytical depth (Tong, Flemming, McInnes, Oliver, & Craig, 2012). Thematic synthesis is, therefore, relevant here, given the "pie-cemeal" nature of CD research (Culver, Werthner, & Trudel, 2019). Thematic synthesis adopts a comprehensive approach to the literature search and combines the principles of meta-ethnography and grounded theory to develop themes through constant comparison (Barnett-Page & Thomas, 2009). The process begins with the initial coding of data, which is then arranged into descriptive and analytical themes (Thomas & Harden, 2008). As with grounded theory, thematic synthesis is a predominantly inductive process that allows the researcher to generate novel insights.

This review was informed by the "enhancing transparency in reporting the synthesis of qualitative research" (ENTREQ) framework (Tong, Flemming, McInnes, Oliver, & Craig, 2012). ENTREQ is a 21-item list broken into five domains assisting researchers in reporting qualitative research synthesis. Sport coaching researchers have demonstrated ENTREQ's efficacy and described it as a "robust methodology for system-atically reviewing research in coaching science" (Bennie et al., 2017, p. 192).

Literature search and selection

Searching for qualitative literature in immature fields such as CD learning can be challenging, as characterised by issues with titles, indexing, poor methodological descriptions, and unreliable electronic database searches (Barroso et al., 2003; Franzel, Schwiegershausen, Heusser, & Berger, 2013). A "manual" pilot literature search was conducted to address these challenges before compiling the systematic search strategy, following Bennie et al.'s (2017) recommendations. Bates' (1989) concept of "berrypicking" informed the initial manual search. Berrypicking entails starting with a seminal paper (e.g. Stodter & Cushion, 2019) and working through citations and references to ascertain further relevant publications. Additional manual searches were conducted around key journals (e.g. International Sport Coaching Journal) and critical authors to get a further "feel" of the field. Google Scholar email

alert notifications were placed on all authors who had published research with CDs and all papers, including the key search terms within the inclusion criteria (see below).

Inclusion criteria

The CD is an "umbrella" term covering several roles (ICCE, 2014), so inclusion terms were expanded to include all roles fulfilled according to the ICCE (2014), UK Coaching (2019) and the Chartered Institute for the Management of Sport and Physical Activity (CIMSPA, 2021). The criteria included all full-text research published in peer-reviewed scholarly journals alongside relevant books and chapters. Studies were excluded if they were reviews (i.e. non-empirical) from a non-sport context, not peer-reviewed, not written in English, or not focused on the CD (i.e. data not collected on or with CDs).

This left the following search string:
"coach developer" OR "coach tutor" OR "coach educator" OR "coach learning facilitator" OR "coach presenter" OR "coach mentor" OR "coach assessor" OR "coach facilitator" OR "coach trainer" AND sport.

Data sources, search strategy and procedure

The "preferred reporting items for systematic reviews and meta-analyses guidelines" (PRISMA) flowchart (Page et al., 2021) is recommended for reporting search and screening stages in systematic reviews (see Figure 1).
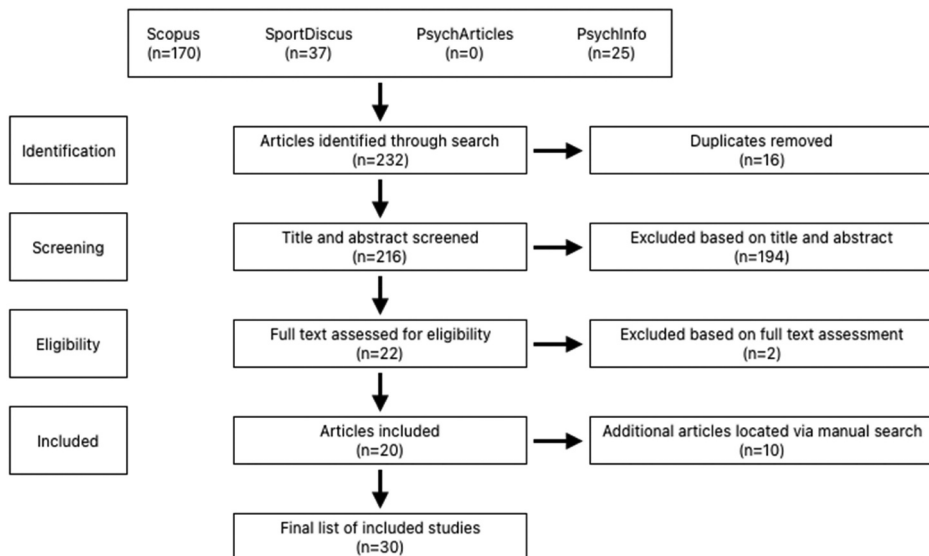
Figure 1. PRISMA Flowchart.

Four relevant sport research databases were identified (SportDiscus, PsychArticles, PsychInfo and Scopus). The first author executed the search string across each database in "all-text" (i.e. not just title and abstract) on 21 April 2022. Resulting references were uploaded into the web-based systematic review software "Covidence" for screening. The initial search yielded 232 studies, a relatively low number for systematic reviews but perhaps a reflection of the volume of CD research. From then on, the first and last authors collaborated on the screening process. Firstly, 16 duplicate studies were removed, leaving 216 studies for initial screening, which involved reading the title and abstracts of each publication against the inclusion and exclusion criteria and voting "yes" (include), "no" (exclude) or "maybe" (discuss until consensus reached). Here, 194 irrelevant studies were excluded. Irrelevant examples captured in the search included "Achieving Performance Excellence: Training the Trainer" (Kopf & Kreuze, 1991), a conceptual paper published in the American Journal of Business concerning learning in a corporate context and "Coaches Perceptions of their Coach Education Experiences" (Nash & Sproule, 2012). This left 22 studies to be read fully for eligibility, from which two were excluded. One of the exclusions was a book that had been indexed incorrectly (Allison, Abraham, & Cale, 2016). The other study (Paquette & Trudel, 2018b) was excluded as it became apparent upon reading that the "coach development administrators" noted in the abstract were performing roles irrelevant to this review. The full-text review left 20 studies for final inclusion and extraction to be reviewed in detail. After reviewing the final inclusion, some studies were missing from the pilot search. The first author conducted a further manual search using Google Scholar for articles related to or citing the final 20 publications that met the inclusion criteria. The manual search yielded ten additional studies, which the first and last authors discussed and agreed upon, leaving 30 studies. Given the significant number of relevant studies not picked up in the database search, this raises questions about the quality of database indexing within sport coaching journals and is an issue that journal editors should be aware of to address.

Appraisal

The consolidated criteria for reporting qualitative research (COREQ) (Tong, Sainsbury, & Craig, 2007) are established and widely used guidelines for appraising the methodological quality and rigour of qualitative research and have been used previously in a sport coaching context (Bennie et al., 2017). All studies were appraised by the first author using the 32-item COREQ checklist (Tong, Sainsbury, & Craig, 2007), and a table was produced to determine the quality, transparency and utility of each study's findings. A study scored one mark if it answered the COREQ question (e.g.

how many participants were in the study?) and zero marks if it was unclear or failed to answer the question. Discussion regarding appraisal and inclusion of studies occurred between the first and last authors at this stage. A consensus was reached that two studies (Callary & Gearity, 2019b; Callary et al., 2020) would be discarded due to their lack of methodological rigour and relevance to this review.

Synthesis of findings

Studies meeting the final inclusion were extracted and collated into a separate document (Table 1). Each study was imported into NVivo to assist with code and theme generation, which the first author led. The results, discussion, recommendations and conclusion sections of each included article were then analysed. Initially, paragraphs were coded into broad codes of "results discussion (general)", "results discussion (specific)", "recommendations", and "conclusions" sections for simple navigation. Free coding relating to meaning and content then took place. For example, the following extract (Figure 2) was coded under "Highly experienced CDs may take more time to transform":

Not every line contained a code, as there were sections that bore no relevance to this review. Some sentences were coded under multiple codes where necessary. This process left 523 total codes, most of which were unique, but some contained numerous references. For example, the code *"CDs limited understanding of learning – pseudoscience, confusion and conflation"* contained the most references (16). Keeping with thematic syntheses' intentions and moving beyond summarising studies, codes were split into "positives/preferences" and "negatives/challenges" related to CD professional learning experiences. Similar codes were sorted into clusters to develop a thematic framework. New codes were created to capture the meaning of each cluster (e.g. several codes describing CDs' positive responses to working with others were clustered under "peers community network"). The result was several layers of codes and clusters organised into a hierarchal structure (see Figure 3), which moved the themes from "descriptive" towards "analytical", where new interpretations were generated. Although the first author led the coding process, regular meetings between the first and last author occurred throughout, where conversations about the relevance of the themes and the extent to which they reflected the data took place. For example, critical discussion regarding interpretations of the influence of NGBs within the data was aided by our applied work experience. Once complete, the analysis generated four themes: "Weak foundations" – theoretical underpinnings about learning; NGB "forcefield"; Peers – community and network; Tutors, facilitators and mentors – significant others.
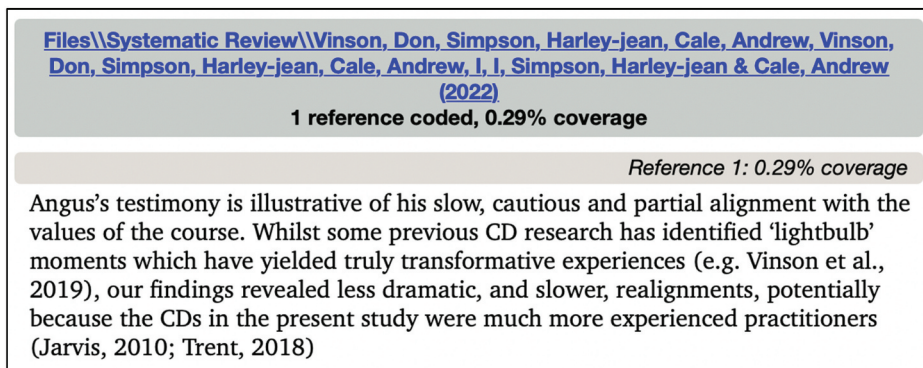
Table 1. Review articles included.

Article details	Context			Sample details		Study details	
Authors (year)	Country	Sport	Domain	CDs (Sex, f-t, p-t)	CD experience	Data collection	Analysis
Mccullick, Belcher, and Schempp (2005)	USA	Golf	Participation and performance	5F	Undisclosed	Interviews, document analysis, observations	Thematic
Werthner, Culver, and Trudel (2012)	Canada	Various	Performance	1F 3 M	≥15 years	Interviews	Thematic
Griffiths (2015)	UK	Undisclosed	Undisclosed	8 (f-t)	Undisclosed	Surveys, interviews, focus groups	Grounded theory
Van Hoye et al. (2015)	France & Norway	Football	Participation	12 M	Undisclosed	Interviews, videos, observations, surveys	Observation scale
Abraham (2016)	UK	Various	Undisclosed	2F 14 M	Undisclosed	Interviews, observations	Applied cognitive task
Koh, Ho, and Koh (2017)	Singapore	Basketball	Participation	1F 3 M (p-t)	Undisclosed	Interviews	Narrative
Brasil, Ramos, Milistetd, Culver, and Do Nascimento (2018)	Brazil	Surfing	Participation	2F 3 M (f-t)	>5 years	Interviews	Thematic
Crisp (2018)	UK	Various	Participation	6 (p-t)	Undisclosed	Meetings	Inductive content
Norman, Rankin-Wright, and Allison (2018)	UK	Football	Participation and performance	10F	Undisclosed	Interviews	Thematic
Allanson, Potrac, and Nelson (2019)	UK	Football	Participation and performance	1F 3 M (p-t & f-t)	2–18 years	Interviews	Phronetic iterative
Culver, Werthner, and Trudel (2019)	Canada	Various	Performance	12F 14 M	Undisclosed	Interviews	Thematic
Cushion, Griffiths, and Armour (2019)	UK	Football	Performance	4 M (f-t)	10 years average	Interviews, focus groups, observations	Thematic
Leeder, Russell, and Beaumont (2019)	UK	Football	Participation	3F 23 M (p-t)	Undisclosed	Interviews, focus groups	Thematic
Paquette, Trudel, Duarte, and Cundari (2019)	Canada	Golf	Performance	1F 5 M	0–21 years	Surveys, interviews, media	Thematic

(Continued)

Table 1. (Continued).

Article details	Context			Sample details		Study details	
Authors (year)	Country	Sport	Domain	CDs (Sex, f-t, p-t)	CD experience	Data collection	Analysis
Stodter and Cushion (2019)	UK	Football	Participation and performance	3 M (f-t)	12–31 years	Interviews, observations, media, field notes, document analysis	Integrated (thematic & grounded theory)
Campbell, Fallaize, and Schempp (2020)	Japan	Various	Undisclosed	5F 15 M	Undisclosed	Email	N/A
Ciampolini, Tozetto, Milan, Camiré, and Milistetd (2020)	Brazil	Rugby	Performance	1 M	5+ years	Rappaport time line, interviews	Interpretive phenomenological
Downham and Cushion (2020)	UK	Various	High performance	8 F 3 M	Various	Observations, field notes, interviews	Thematic
Kraft, Culver, and Din (2020)	Canada	Various	Undisclosed	3F 1 M	Undisclosed	Interviews	N/A
Leeder and Cushion (2020)	UK	Football	Participation	14 M (p-t)	0.5 – 4 years	Interviews	Thematic
Norman (2020)	UK	Football	Participation and performance	10F	2–12 years	Interviews	Constant comparative
Redgate, Potrac, Boocock, and Dalkin (2020)	UK	Football	Performance	28 M (f-t)	Various	Interviews, document analysis, observations	Content
Callary, Gearity, and Kuklick (2021)	Canada	Strength & Conditioning	Participation	1F 2 M	University professors	Email, journals, document analysis, interviews	Ethnography
Ciampolini, Camiré, Salles, Nascimento, and Milistetd (2021)	Brazil	Rugby	Participation	1 M	8 years	Observations, field notes, interviews	Thematic
Leeder et al. (2021)	UK	Football	Participation	10 M (p-t)	1–5 years	Interviews	Thematic
Stodter, Cope, and Townsend (2021)	UK	Football	Performance	1 M	8 years	Reflective conversations, interviews, focus groups	Thematic
Watts, Cushion, & Cale (2021a)	UK	Various	Participation and performance	3F 13 M (p-t)	2 – 20 years	Interviews	Thematic
Watts, Cushion, & Cale (2021b)	UK	Various	Participation and performance	3F 13 M (p-t)	2 – 20 years	Interviews	Thematic
Partington, O'Gorman, Greenough, and Cope (2022)	UK	Football	Participation	6F 17 M (f-t)	Undisclosed	Interviews, focus groups, observations, document analysis	Phronetic iterative
Vinson et al. (2022)	UK	Football	Participation	6F 18 M (f-t)	1–9 years	Reflective materials, focus groups, interviews, field notes, professional discussions	Thematic

Key – F = female; M = male; f-t = full-time; p-t = part-time.

Figure 2. Coding Example.

Figure 3. Coding Tree.

Results and discussion

Thirty studies were included to examine CDs' professional learning. This number indicates a relatively small body of literature surrounding CDs and less concerning their training or professional learning. A slow rate of publications suggests that CD learning is a fledgling field of study but one with the potential to influence sport coaching positively. The published literature is biased towards CDs operating in the sport participation domain (ICCE, 2013), particularly English association football, perhaps due to the convenience of access to this larger sample. The lack of research involving

high-performance domain CDs suggests a disconnect between scholars and this population. Many studies did not disclose CDs' experience in the role, while others noted the CDs' coaching experience instead. More relevant CD biographical information would help provide context to readers.

The lack of diversity within methodological approaches has proven challenging in linking evidence of training and development to learning in CDs. Interviewing CDs was the dominant method of data collection in the studies. Interviews provide a flexible and convenient but often retrospective method of collecting data, meaning that most of the evidence presented in the literature relies on CDs' self-report of their practice and what they perceive works in their professional development. Only nine studies observed CDs practising in a naturalistic setting (Abraham, 2016; Ciampolini, Camiré, Salles, Nascimento, & Milistetd, 2021; Cushion, Griffiths, & Armour, 2019; Downham & Cushion, 2020; Mccullick, Belcher, & Schempp, 2005; Partington, O'Gorman, Greenough, & Cope, 2022; Redgate, Potrac, Boocock, & Dalkin, 2020; Stodter & Cushion, 2019; Van Hoye et al., 2015), which leaves a shallow evidence base on which to form any conclusions. The following section presents the four analytical themes generated through the analysis.

Analytical themes

"Weak foundations" – theoretical underpinnings about learning

The analysis highlighted CDs' limited understanding of learning theory and its subsequent application in practice (Culver, Werthner, & Trudel, 2019; Cushion, Griffiths, & Armour, 2019; Leeder, Russell, & Beaumont, 2019; Partington, O'Gorman, Greenough, & Cope, 2022; Stodter & Cushion, 2019; Watts, Cushion, & Cale, 2021a). As one CD stated, "I couldn't answer this is my view of learning. I can give you some sort of waffle and spiel about it, but I wouldn't have a finalised view of it" (Partington, O'Gorman, Greenough, & Cope, 2022, p. 165). Notions of learning were often a conflation of contradictory philosophies, positions, methodologies, and ideologies under a broad banner of "learning" (Cushion, Griffiths, & Armour, 2019). Moreover, evidence from this review and supporting other research (i.e. Stodter & Cushion, 2017) suggests CDs' understanding of learning is influenced by their biography, including being coached and competing as athletes within the culture of their respective sports (Brasil, Ramos, Milistetd, Culver, & Do Nascimento, 2018; Ciampolini, Tozetto, Milan, Camiré, & Milistetd, 2020; Culver, Werthner, & Trudel, 2019; Cushion, Griffiths, & Armour, 2019; Leeder, Russell, & Beaumont, 2019; Partington, O'Gorman, Greenough, & Cope, 2022; Stodter & Cushion, 2019; Watts, Cushion, &

Cale, 2021a), as summarised by one CD, "I can only go on my experiences as a coach and as a coach educator through things that I've been exposed to" (Stodter & Cushion, 2019, p. 311). These biographical influences can be reproduced in practice as "folk pedagogy" (Olson & Bruner, 2000), whereby CDs rely on experiences and perceptions of previous successes rather than an evidence-informed theoretical underpinning (Culver, Werthner, & Trudel, 2019; Cushion, Griffiths, & Armour, 2019; Partington, O'Gorman, Greenough, & Cope, 2022), " . . . I haven't actually thought in detail about what guides how I deliver. In the past, I just picked up on stuff and I used that". (CD, Partington, O'Gorman, Greenough, & Cope, 2022, p. 165).

CDs are an influence on coaches (Wang, Casey, & Cope, 2023), so their use of overly simplistic personal learning theories (Culver, Werthner, & Trudel, 2019; Downham & Cushion, 2020; Paquette, Trudel, Duarte, & Cundari, 2019; Stodter & Cushion, 2019; Watts, Cushion, & Cale, 2021a) can be problematic if left unchallenged. This is in part due to the complex nature of learning and coaching. Complexity brings uncertainty between intervention and outcome, so simple, predictable, and repeatable solutions to complex problems rarely exist (Stacey, 1995). Stodter and Cushion (2019, p. 310) observed CDs displaying "contradictory notions of learning as easily defined and systematic", which coach learners perceived as ambiguous. In contrast, coaches deemed CDs who acknowledged and embraced complexity and uncertainty in their approach without the need to put on a façade credible (Mccullick, Belcher, & Schempp, 2005), a view supported by Downham and Cushion (2022) concerning CDs' promotion of reflective practice.

The dominance of personal learning theories informing CD practice can perhaps be explained by the relatively short duration and, therefore, low-impact training and preparation, where various issues were evident in the literature. As one CD explained, "I've never had formal training in coach development, only concepts for sports coaching" (Campbell, Fallaize, & Schempp, 2020, p. 4). CD training was typically experienced over short, compressed timescales (e.g. 1–3 days) (Culver, Werthner, & Trudel, 2019; Leeder, Russell, & Beaumont, 2019, 2021; Stodter & Cushion, 2019; Watts, Cushion, & Cale, 2021a; Werthner, Culver, & Trudel, 2012), where remembering and reproducing subject matter took priority over learning theory and pedagogical knowledge:

> There is a lot of information to process and deliver in a short space of time, which limits, in many cases, real learning spread out over time . . . So, there are some real challenges in that process. Content drives the delivery. How much content can you deliver? How little content do you skip over . . . to bring it in the time frame so that people can get the majority of the curriculum?. (CD, Culver, Werthner, & Trudel, 2019, p. 303)

Consistent with coach education (Bailey, Madigan, Cope, & Nicholls, 2018), where CD training did address learning, CDs were exposed to overly simplistic models and pseudoscientific concepts. For example, in one study (Stodter & Cushion, 2019), CDs were exposed to "learning pyramids" and trained to sequentially reproduce a four-stage learning cycle (connect, activate, demonstrate, consolidate) in all learning situations. While another CD described, "The only thing we are really required to cover on learning is that it can be visual, auditory or kinaesthetic". (Watts, Cushion, & Cale, 2021a, p. 9). CDs reported their training as prescriptive (Culver, Werthner, & Trudel, 2019; Watts, Cushion, & Cale, 2021a) and was often rejected (Griffiths, 2015; Leeder, Russell, & Beaumont, 2019), which left them uncertain and unclear about their role (Campbell, Fallaize, & Schempp, 2020; Leeder, Russell, & Beaumont, 2019). NGBs justified the lack of training in some instances through the assumption that CDs, having been successful in their recruitment processes, are already positioned with the required expertise to fulfil the role and would, therefore, learn best "on the job" (Leeder & Cushion, 2020; Leeder, Russell, & Beaumont, 2019, 2021; Watts, Cushion, & Cale, 2021a). This review's evidence suggests a mismatch between CD recruitment priorities, the demands of the role, and the capacity of training to close the gap.

Beyond initial training, CDs generally reported little support from their NGB (Culver, Werthner, & Trudel, 2019; Leeder, Russell, & Beaumont, 2019) and were inherently trusted to be "doing the right thing" (Leeder, Russell, & Beaumont, 2019, p. 268). This seemingly devaluing, "hands-off" approach to CD training on behalf of NGBs is reflected in the broader culture surrounding coach development present within the studies (Ciampolini, Tozetto, Milan, Camiré, & Milistetd, 2020; Culver, Werthner, & Trudel, 2019; Mccullick, Belcher, & Schempp, 2005; Stodter & Cushion, 2019; Van Hoye et al., 2015; Watts, Cushion, & Cale, 2021a, 2021b; Werthner, Culver, & Trudel, 2012), with unrealistic time, programme, content and learner expectations placed on CDs concerning their delivery (Culver, Werthner, & Trudel, 2019; Paquette, Trudel, Duarte, & Cundari, 2019; Stodter & Cushion, 2019; Van Hoye et al., 2015; Watts, Cushion, & Cale, 2021b; Werthner, Culver, & Trudel, 2012). However, recent research points to a more positive trend where CDs, acknowledging the need to develop theoretical knowledge, have been provided opportunities to complete professional development programmes underpinned by and explicitly teaching established learning theory (Partington, O'Gorman, Greenough, & Cope, 2022; Redgate, Potrac, Boocock, & Dalkin, 2020; Vinson et al., 2022). CDs responded favourably to such programmes, demonstrating an enhanced understanding of learning in the process (Partington, O'Gorman, Greenough, & Cope, 2022). Further, CDs reported a preference for engaging with academia to maintain professional credibility

in an increasingly competitive work environment (Redgate, Potrac, Boocock, & Dalkin, 2020). Given the espoused "constructivist-themed" approach that many NGBs proclaim regarding their coach development programmes (Ciampolini, Camiré, Salles, Nascimento, & Milistetd, 2021; Dempsey, Cope, Richardson, Littlewood, & Cronin, 2021; Downham & Cushion, 2020; Stodter & Cushion, 2019; Werthner, Culver, & Trudel, 2012), further investigation into how CDs understand, process and apply relevant learning theory in practice could help to improve future CD preparation and delivery.

National Governing body (NGB) "Forcefield"

This review highlighted the relationship between the NGB and the CD concerning CD practice. More specifically, the NGB's approach to coach development and the position of the CD within it are essential factors influencing CDs' beliefs, attitudes and behaviours (Cushion, Griffiths, & Armour, 2019; Leeder & Cushion, 2020; Vinson et al., 2022; Watts, Cushion, & Cale, 2021b). Supporting Piggott's (2012) analysis of NGBs, CDs working for smaller, more agile organisations with perhaps a more liberal approach to coach development reported greater degrees of freedom and flexibility to work:

> We have to deliver the programme and assess certain things, but we are not told to do it exactly by the book. I do know that some educators in certain sports have to be very rigid, and I'm not sure I would fancy doing it like that. We want people to buy into the sport, it needs to be fun and engaging. (CD, Watts, Cushion, & Cale, 2021b, p. 8)

Smaller NGBs receive less funding and public scrutiny than their larger, more established counterparts, though, and some NGBs have tried to formalise a consistent coaching and playing philosophy in their respective sports (e.g. English FA's "DNA"; England Hockey's "Golden Thread"). In such cases, CDs often recognised that they are deployed as the disseminating vehicle to transmit and legitimise key messages and ways to coach, "my job is to transfer knowledge … I'm here to help you evolve and create and develop your sessions in line with how the NGB is looking to develop players" (CD, Leeder & Cushion, 2020, p. 286). This manifested in some CDs as a sense of constraining institutionalisation in the way they were expected to practice, highlighted by Vinson et al. (2022), p. 10) " … you almost had to conform to a certain way; we had a philosophy and we had to stick to it. I think when you've been doing it for so long that kind of becomes you".

This review suggests that part-time or "affiliate" CDs are particularly vulnerable to NGB influences due to their position in the field. Part-time CDs seem susceptible to forces that could be considered indoctrinating,

"I'm a disciple. So, I'm a disciple of the NGB's ID. I'm a sort of fully paid-up member, so therefore, my view is the NGB's view" (CD, Leeder & Cushion, 2020, p. 284). Part-time CDs are often driven to play political and relational games with full-time senior NGB staff to develop and maintain positive reputations and secure future employment (Allanson, Potrac, & Nelson, 2019; Watts, Cushion, & Cale, 2021b). Perceived expectations to act and practice in specific ways manifested in some part-time CDs as self-censorship:

> I guess the biggest thing I have learnt is that I can't always say what I feel because it can offend people and revealing my own thoughts in the wrong manner can sometimes be detrimental to my position and my reputation (CD, Allanson, Potrac, & Nelson, 2019, p. 8)

Watts et al. (2022) have previously discussed the tension between structure and agency concerning CD practice within NGBs, although NGBs are in a difficult position of trying to please a range of stakeholders (Wang, Casey, & Cope, 2023). They must balance coherence and stability in their visions for coaching without them becoming protected ideologies that inhibit CDs from making informed decisions. This is especially pertinent given how the role of the CD has evolved to include direct in-situ support for coaches. The situation is further complicated by the layers of NGB bureaucracy that messages must pass through before reaching the CD (Culver, Werthner, & Trudel, 2019; Dempsey, Richardson, Cope, & Cronin, 2020), thus raising the importance of support on the ground for CDs, something that CDs perceive to be lacking (Culver, Werthner, & Trudel, 2019; Leeder, Russell, & Beaumont, 2019).

The pervasive influence of NGBs on coach development is not new (Taylor & Garratt, 2010). Prior criticisms include fostering conservative, anti-intellectual cultures (Abraham, Muir, & Morgan, 2010; Taylor & Garratt, 2010) and protecting dogmatic ideologies (Piggott, 2012). However, evidence suggests some NGBs are responding and engaging with academic scrutiny regarding their coach development culture (Chapman, Richardson, Cope, & Cronin, 2019). Moreover, Vinson et al. (2022) found that critically evaluating the influencing forces of the NGB helped develop a maturing epistemological understanding in some CDs and would be worth further investigation. This review highlighted the sample imbalance of CD research. Over two-thirds of CDs in this review represented one NGB (The English Football Association). Further work is needed to investigate the experiences of CDs working in alternate sports and NGBs. Additionally, given the single-sport-focused dominance of CDs in this review, "freelance" CDs not tied to an NGB who work across multiple sports are worthy of investigation.

Peers – community and network

Across the included studies, peer relationships were fundamental to CDs and their professional learning (Brasil, Ramos, Milistetd, Culver, & Do Nascimento, 2018; Campbell, Fallaize, & Schempp, 2020; Ciampolini, Tozetto, Milan, Camiré, & Milistetd, 2020, 2021; Crisp, 2018; Culver, Werthner, & Trudel, 2019; Griffiths, 2015; Koh, Ho, & Koh, 2017; Kraft, Culver, & Din, 2020; Leeder, Russell, & Beaumont, 2019; Mccullick, Belcher, & Schempp, 2005; Partington, O'Gorman, Greenough, & Cope, 2022; Redgate, Potrac, Boocock, & Dalkin, 2020; Vinson et al., 2022; Watts, Cushion, & Cale, 2021b), "Our group sessions are great for understanding how and what other [CDs] are doing as well as being able to step outside of own insular practices/thoughts – they are great for out of context learning" (Crisp, 2018, p. 9). CDs described preferences for learning within a community or a network of other CDs (Campbell, Fallaize, & Schempp, 2020; Crisp, 2018; Culver, Werthner, & Trudel, 2019; Griffiths, 2015; Koh, Ho, & Koh, 2017; Kraft, Culver, & Din, 2020; Leeder, Russell, & Beaumont, 2019) and relied on one-another to access, exchange and construct new knowledge (Campbell, Fallaize, & Schempp, 2020; Griffiths, 2015; Koh, Ho, & Koh, 2017). Acquiring new knowledge from peers was especially important for less experienced CDs who felt unprepared for the role (Leeder, Russell, & Beaumont, 2019). Preparing, training, and professionally developing CDs within peer groups was reported positively across several studies (Campbell, Fallaize, & Schempp, 2020; Partington, O'Gorman, Greenough, & Cope, 2022; Redgate, Potrac, Boocock, & Dalkin, 2020; Vinson et al., 2022) with the value derived from critical peer discussions, exchanging ideas and discussing potential solutions to complex problems (Partington, O'Gorman, Greenough, & Cope, 2022; Redgate, Potrac, Boocock, & Dalkin, 2020; Vinson et al., 2022). The CDs acted as a "sounding board" (Redgate, Potrac, Boocock, & Dalkin, 2020) to one another, which served as a stimulus for reflective processes (Brasil, Ramos, Milistetd, Culver, & Do Nascimento, 2018; Ciampolini, Tozetto, Milan, Camiré, & Milistetd, 2020; Crisp, 2018; Redgate, Potrac, Boocock, & Dalkin, 2020) and behavioural change (Redgate, Potrac, Boocock, & Dalkin, 2020). Redgate, Potrac, Boocock, and Dalkin (2020) found that CDs working together in smaller groups (circa 8) combined with various experiences and "social capital" led CDs to be open and honest in their discussions. Nurturing positive, trusting peer relationships fostered a sense of cohesion between CDs (Crisp, 2018; Partington, O'Gorman, Greenough, & Cope, 2022; Redgate, Potrac, Boocock, & Dalkin, 2020). Group cohesion encouraged CDs to experiment and take risks on their respective programmes (Partington, O'Gorman, Greenough, & Cope,

2022; Redgate, Potrac, Boocock, & Dalkin, 2020) and led to an "explicit acknowledgement ... of how their fellow practitioners help a great deal in their learning and development" (Crisp, 2018, p. 10).

Peer learning preferences can perhaps be explained by the isolated and lonely nature of day-to-day CD work (Campbell, Fallaize, & Schempp, 2020; Culver, Werthner, & Trudel, 2019; Redgate, Potrac, Boocock, & Dalkin, 2020). Although CDs often deliver in group environments such as courses and events, the opportunity to come together with peers and discuss their work remains rare and unreported in the literature (Watts, Cushion, & Cale, 2021b). Time away from daily activities to collaborate with peers in the context of a novel, professional development space provides the opportunity to form and develop new relationships (Redgate, Potrac, Boocock, & Dalkin, 2020; Vinson et al., 2022). Forming new relationships with other CDs within sport/NGB (Redgate, Potrac, Boocock, & Dalkin, 2020) and across sports (Crisp, 2018) presented various experiences for CDs to learn from. However, the influence of peers on CD learning was not entirely positive. Watts, Cushion, & Cale (2021b), Allanson, Potrac, and Nelson (2019), and Leeder, Russell, and Beaumont (2019) reported negative peer experiences among CDs due to conflict, power dynamics and a perceived lack of credibility. Although these experiences were used as a learning opportunity for some, "I have to say there is a power thing going on with many of them (coach educators). Some are very standoffish too. It's ridiculous, really, so when I deliver, I try to be the opposite" (CD, Watts, Cushion, & Cale, 2021b, p. 7).

The CDs reporting negative peer experiences were all part-time, unlike the positive peer-learning experiences noted by a predominantly full-time workforce. This may be explained by a relative lack of connection to the NGB from part-time CDs with limited and finite deployment opportunities distributed among peers. Cultural inconsistencies between full-time and part-time CDs have previously been reported in the literature (Norman, Rankin-Wright, & Allison, 2018). The potential for promoting peer-learning opportunities between CDs seems a prominent avenue for further investigation while exploring the different implications for full-time and part-time staff.

Tutors, facilitators and mentors – significant others

A recurrent theme among the data was the importance of skilled educators in facilitating CD learning on professional development programmes. Effective educators took time to understand the biographies of CDs and the organisational context they were working within (Partington, O'Gorman, Greenough, & Cope, 2022; Redgate, Potrac, Boocock, & Dalkin, 2020; Stodter, Cope, & Townsend, 2021; Vinson et al., 2022). This

included historical and contemporary political challenges within the NGB (Partington, O'Gorman, Greenough, & Cope, 2022; Vinson et al., 2022), "I think it's really important that [the CPD tutors] know [the organisation] but also that they are not directly apart. We have great chats about what we can and cannot do. It's a great place to discuss openly" (CD, Partington, O'Gorman, Greenough, & Cope, 2022, p. 167).

CD training has been criticised for being decontextualised (Stodter & Cushion, 2019); however, these data show the potential for adequate preparation with programmes grounded in practice and delivered by skilled educators who understand the "messy reality" of developing coaches (Callary, Gearity, & Kuklick, 2021). Effective educators were deemed approachable, credible and relatable due to their attention and sensitivity to contextual factors surrounding CDs (Partington, O'Gorman, Greenough, & Cope, 2022; Redgate, Potrac, Boocock, & Dalkin, 2020; Vinson et al., 2022). Such perceptions allowed educators to create safe, supportive and challenging environments, which enabled them to facilitate difficult conversations and push CDs into an "uncomfortable place" (Partington, O'Gorman, Greenough, & Cope, 2022, p. 167) to reflect upon their practice (Partington, O'Gorman, Greenough, & Cope, 2022; Redgate, Potrac, Boocock, & Dalkin, 2020; Vinson et al., 2022):

> I have been 10 years at the organisation now from the age of 22 when I first joined. I was very influenced by the [NGB] – I would deliver in the [NGB] way. This is the first course that has made me go and challenge that. They pose questions that play devil's advocate. It makes you challenge everything. . . . (CD, Vinson et al., 2022, p. 9)

Skilful educators were able to adopt various roles based on the situation (Stodter, Cope, & Townsend, 2021; Vinson et al., 2022), understanding when to go off-topic to enhance the learning experience whilst recognising the need to stay "on track" (Redgate, Potrac, Boocock, & Dalkin, 2020). Effective educators could "flatten the hierarchy" between themselves and CDs (Partington, O'Gorman, Greenough, & Cope, 2022; Vinson et al., 2022). In one instance, this was done via a "learning facilitator" acting as an intermediary between tutors and CDs, which enabled participants to engage with challenging learning situations on a deeper level (Vinson et al., 2022).

Previous reviews of coach development programmes have highlighted the critical role of skilled learning facilitators who can use CD practice as a reference point (Lyle, 2021) whilst managing the complex interplay of delivery and design (Paquette, Trudel, Duarte, & Cundari, 2019). The tutors reported most favourably within this review were working within carefully designed programmes linked to higher education awards with experienced, full-time CDs. Although experience does not guarantee expertise (North, 2012), novices, particularly novice educators, approach problems differently

and have different learning needs (Swanson, O'Connor, & Cooney, 1990). As evidenced by a novice CD discussing training shortcomings, "I think not seeing the Master CDs facilitate was a major loss" (Culver, Werthner, & Trudel, 2019, p. 302). Further, in broader educational psychology, it is generally accepted that feedback from significant others is a powerful influence on learning and that novices require higher amounts of external feedback than experts (Hattie & Timperley, 2007; Kirschner & Hendrick, 2020). This review suggests that CDs, regardless of experience, are not frequently exposed to developmental feedback on practice from significant others. The only CDs in this review receiving feedback on practice were role-playing in a decontextualised environment (Campbell, Fallaize, & Schempp, 2020). Although the experience and expertise of the CD may influence the role and the learning requirements, a greater training emphasis on providing and receiving feedback with other CDs would seem worthwhile. How effective educators manage these learning requirements is yet to be investigated, providing an opportunity for future research.

Limitations

Interpreting qualitative data is inherently subjective, and the thematic synthesis process is therefore influenced by the researchers' perspectives, backgrounds, and preconceptions, potentially leading to selective interpretation of data. By using an inductive approach, this review aimed to capture the nuances and richness of the qualitative data, providing a comprehensive synthesis of coach developers' professional learning. However, with such richness and nuance comes complexity, especially given that the aims of some included studies were not directly related to CDs' professional learning.

   As a research team, it is essential to acknowledge our positionality. Our background in coach development and experiences with various NGBs and sport organisations have inevitably shaped our approach to this research. Throughout the process, we have strived to maintain reflexivity, being aware of, transparent about and discussing potential biases. This reflexivity is crucial to ensure that the synthesis accurately reflects the data from the included studies rather than our preconceptions. However, we are conscious that our biographies will have somewhat influenced the analytical themes generated.

   The broad inclusion criteria and search process were open to include as much research related to the CD as possible. However, this review ignored CD literature published in languages other than English. Given the growing global interest in CDs, there are perhaps more empirical studies that may influence the findings in this review. We are aware of more recent

publications in this space since the search and subsequent analysis, and these results reflect the CD field at the time.

Conclusion

This systematic review examined the evidence base surrounding CDs and the processes, mechanisms and influences on their professional learning and practice. The findings suggest CDs often lack sufficient understanding and subsequent use of learning theory, perhaps partly due to inadequate training, preparation and support. Analysis revealed that CDs primarily learn experientially, through peer interactions, and guided reflection, emphasising the importance of collaborative environments and practical engagement. CDs reported quality learning experiences when facilitated by experts with the autonomy to design programmes grounded in relevant underpinning theory. These mechanisms – experiential activities, peer learning, and expert facilitation – highlight the dynamic and interactive nature of CD professional development. Understanding these processes may be helpful for NGBs and sport organisations when considering how best to recruit, train, develop and support their CD workforce.

Expanding future research to include a more diverse population of CDs is a priority. This study's findings must be interpreted with the knowledge that they arrived through a limited and narrow data set. However, we acknowledge that the rate of publications has increased since 2022. The likelihood is that quality programmes support a wider range of CDs, but they are yet to be evaluated from an academic perspective. In his critical commentary, Lyle (2018, p. 432) concluded that sport coaching research should:

> . . . attempt to situate the findings within the particularities and interdependencies of domain, purpose, and context. This would be facilitated by an increased number of case studies, action research studies on interventions, and "application" research in naturalistic settings.

Given the context-dependent and situated nature of CD practice, future research involving CDs should reflect this. The current "umbrella" CD term is broad and encompasses a range of roles and responsibilities, leading us to a somewhat fragmented understanding of their professional learning. Future research that takes an in-depth, in situ examination of CDs to uncover the factors that drive their decisions in practice and the mechanisms by which they learn would benefit the field, notwithstanding the challenges of presenting such deep, longitudinal work within the constraints of journal word limits. Cushion et al. (2010) provided a comprehensive review of coach learning and development and concluded by stressing the

need to recognise the learning requirements of CDs to enhance coach learning. Over a decade has passed since that review, and there is still a lack of robust evidence regarding CDs and their professional learning. By better understanding the influences and processes involved in how CDs learn, sport organisations will be able to offer appropriate professional learning opportunities to enhance and professionalise a workforce that has the potential to accelerate coach learning.

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