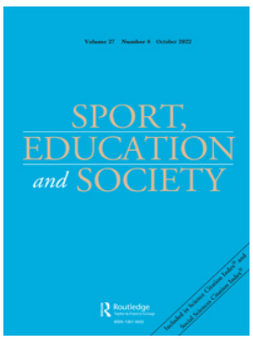

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An examination of content knowledge in formal coach education curriculum

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ABSTRACT

Sport coaching can be seen as an interdisciplinary endeavour, where coaches integrate multiple disciplinary knowledges to support participants achieving a variety of desirable outcomes (e.g. learn new skills, meet new people, develop greater confidence). Limited research however has considered *what* knowledge has been used as the basis for curricula, or how it has been structured into formal coach education courses. This is remiss because coaches not only need to learn, but need to learn something to ultimately aid their own (and others) development. Therefore, the aim of this study was to examine what content knowledge contributed to the English FA intermediate (i.e. level 2) formal coach education course, and how this knowledge was structured to form a curriculum. Data were collected using a document analysis of National Governing Body (NGB) and awarding body documents ($n = 10$), as well as observing two formal coach education courses, and interviewing coach developers ($n = 5$) that delivered those courses. A deductive thematic analysis identified three themes: (1) A Curriculum Partially Informed by Research, (2) A Strongly Classified Curriculum and (3) A Curriculum also Includes 'Professional Knowledge'. Findings reveal the socially constructed nature of content knowledge legitimised as worth knowing in formal coach education curricula. It prompts critical consideration of what knowledge is used (or not) and how this knowledge supports learners in the dynamic and often ambiguous context of coaching. The significance of the findings move beyond the case at hand, as wider educational institutions may wish to consider what content knowledge is used, and how it is structured within their own coach education and development provisions.

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Introduction

For Biesta (2013, p. 38) 'the point of education is never that students learn, but that they learn *something*'. However, little is known about the *something* that is taught to coaches as part of formal coach education curricula. This is remiss because curriculum construction is a social and political act, where stakeholders define, develop and disseminate specified knowledge to influence learning and ultimately practice (Bernstein, 2000). Curricula are therefore not neutral, but contestable social constructs that privilege some forms of knowledge and ways of knowing over others. Indeed, Muller

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and Young (2019) recognise that curricula often represent the knowledge and concerns of those in power (e.g. government), or those who have increased forms of capital (e.g. perceived experts in their field), and may or may not meet the needs of learners. On this basis, formal coach education experiences are not merely idiographic episodes, but are constructed by multiple stakeholders within wider coach education systems who may influence the specified content knowledge that is deemed necessary for coaches (Culver et al., 2019; Dempsey, Cope et al., 2021; Griffiths et al., 2018). Accordingly, curricula such as those on coach education courses are an area worthy of investigation, as is the knowledge within them.

Scholarship exploring knowledge has highlighted how coaches require declarative (knowledge about a topic) and procedural knowledge (knowledge of how to do) to be effective (Abraham & Collins, 2011). This knowledge includes a range of 'ologies' such as physiology, psychology, sociology and pedagogy, along with sport-specific technical and tactical knowledge (Abraham et al., 2006). However, not only do coaches need to draw upon multiple knowledges, it is important that the knowledge made available is supported by a sound evidence base (Stoszkowski et al., 2020). The evidence base is necessary to ethically and effectively support coaches' practices and the participants they work with. However, researchers have identified that not all knowledge provided to coaches is credible and pseudoscientific ideas (e.g. learning styles and neural linguistic programming) have pervaded the coaching domain via coach education courses (Bailey et al., 2018; Stoszkowski et al., 2020). Again, this suggests a need for a critical examination of the knowledge provided in formal coach education curricula.

While it is largely agreed coaches need a variety of evidence-based knowledge (Armour, 2014; Armour & Chambers, 2014), what knowledge to include in a coach education curriculum is not a straightforward decision. For instance, the ever-changing nature of practice requires coaches to draw upon multiple disciplines of knowledge to think, behave and reflect in different ways that meet a myriad of dynamic requirements from stakeholders (e.g. athletes, fellow staff, parents, management, supporters). Research has recognised that coaches' social environments might filter or reinforce knowledge that coaches have constructed on coach education courses (Stodter & Cushion, 2017; Stoszkowski & Collins, 2016). Specifically, content knowledge constructed on courses might generate thought, understanding, planning, or action in a specific domain, or alternatively may be deemed irrelevant or inappropriate to a coach's context, and thus, 'dismissed'. Given this context-specific nature of coach learning, it may be difficult to accurately predetermine what knowledge coaches need within their practice at any given moment (Potrac et al., 2016), and therefore what knowledge to provide in formal coach education curricula. Further, Jones and Wallace (2006) suggest that coaches not only need to draw upon knowledge from different 'ologies', but may need to do this simultaneously, because coaching actions informed by one 'ology' (e.g. physiology) are related to, impacted by, or will impact another (e.g. psychology). From this perspective, sport coaching is a complex phenomenon (Abraham et al., 2006; Armour & Chambers, 2014), which requires the integration of biopsychosocial knowledge to support participants. With reference to coach learning, this suggests there is not only a need to critically examine *what* content knowledge forms coach education curriculum, but also consider whether this knowledge is integrated.

In response to the above, this study aimed to examine (1) what content knowledge was included within a coach education curriculum and (2) how this content knowledge was structured. These aims were addressed by examining the English Football Association (FA) intermediate (i.e. level 2) formal coach education course. The contribution this study makes lies in supplementing existing research on formal coach education courses (e.g. Cushion et al., 2021) and in particular football. For instance, Chapman et al. (2020) demonstrated that coach education courses are socially constructed and reconstructed over time. Consistent with this, Dempsey, Cope et al. (2021) and Dempsey, Richardson et al. (2021) illustrated how FA courses are negotiated constructs developed by multiple stakeholders including policy makers both in and outside the FA, and coach developers on courses. Across all these studies it has been shown that coach education is a complex and contested social construct where multiple stakeholders influence how coaches experience assessment,

pedagogy and formal education. To date however, no study has examined what content knowledge is constructed by these policy makers, nor how that knowledge is structured as a curriculum to meet the needs of coaches. Accordingly, this study provides a novel analysis of a coach education curriculum that prompts course designers and wider stakeholders, including NGBs, universities and regulatory bodies to reflect on the *something* that coaches are taught.

Theoretical framework – Bernstein's classification

Researchers in coaching (Griffiths et al., 2018) and physical education (PE) (O'Connor et al., 2022) are increasingly using Bernstein's socio-educational work to examine the social construction of curricula. Specifically, through interviewing course designers/learning development team and senior policy makers within the FA, Dempsey, Cope et al. (2021) identified the powerful dynamics that influence the construction of coach education policy. Additionally, Dempsey, Richardson et al. (2021) have used Bernstein's theory coupled with empirical observations to illustrate how coach developers reproduce courses in-practice, with a particular focus on pedagogical practice. Yet neither of these studies, nor others, have explored what content knowledge is constructed in FA courses and this means that we have little understanding of the 'something' that football coaches in England are expected to learn. To address this gap, this study similarly draws upon the work of Bernstein. For Bernstein (2000), the decision of 'what' knowledge informs curricula occurs during a policy creation, development and dissemination process that involves a negotiation between internal and external stakeholders. The outcome of this process results in a curriculum in-text and discourse that identifies what knowledge *should/could* be known by a given population of learners (Daniels & Tse, 2020). The text-based curriculum can manifest in lesson plans, schemes of work and curriculum documents that classify what knowledge is deemed as legitimate for learners on a given course. This in-text curriculum can also be supplemented or replaced by curriculum as discourse on course. Therefore, this study adopted Bernstein's classification concept, as a means of examining what content knowledge was constructed in text and on course, as a means of understanding what content knowledge defines coaching as part of the FA intermediate coach education curriculum.

Bernstein's classification concept not only explains *what* knowledge is classified as desirable knowledge within a specified curriculum, but also considers the space *between* content within a curriculum (Bernstein, 1975, 2000). This space between categories of knowledge (i.e. disciplinary subjects of knowledge) potentially determines different discourses in the learning environment (Bernstein, 2000). Bernstein explained that classification can be seen as being either *strongly* or *weakly* insulated from other categories of knowledge. For example, traditional educational subjects such as English and Maths are strongly classified because each subject holds its own unique identity through strongly insulated categories and therefore the space between each category is typically impermeable (Bernstein, 2000). Weak classification on the other hand offers a far more permeable insulation, where boundaries are more likely to be blurred as part of a more integrated curriculum. For instance, a weak classification could manifest in a coaching curricula which is permeated and connects both sociological and psychological constructs.

Depending on *how* knowledge is classified, curricula could be considered as either a *collection* or *integrated curricula* (Bernstein, 1975). A strong insulation of categories points towards a *collection* form of curriculum, where different disciplinary subjects are siloed from one another. In contrast, weak insulation between categories points towards an *integrated* form of curriculum, where links are made between disciplinary subjects and where concepts are connected (Bernstein, 1975). These boundaries between knowledge within curricula influence what learners are likely to know, while also conveying what knowledge is deemed appropriate within a given context. Given the multifaceted and interdisciplinary knowledge required in coaching, it would seem appropriate that coach education curriculum are more integrative, than collective.

More broadly, classification of knowledge not only reveals what knowledge is classified as legitimate, and the form of a given curriculum, but also illuminates the distribution of power amongst policy makers and course designers. For example, as policy is cascaded down a hierarchical chain, it presents an opportunity for individuals to influence the curriculum (e.g. by including and strongly insulating their preferred knowledge). Analysing curricula using classification begins to illuminate the influence of, negotiation between and non-influence of various stakeholders who determine a curriculum. Thus, classification presents an analytical tool for critically examining *what* knowledge is deemed legitimate for coaches, considering what form of curricula is provided to coaches, and to further understand the powerful influences upon coach education systems.

Methodology

Paradigmatic positioning

This research was underpinned by ontological relativism (i.e. reality is multiple) and epistemological constructivism (i.e. knowledge is constructed and therefore subjective) (Lincoln et al., 2018), which led to the research team exploring the social construction of FA curriculum for the level 2 coaching course. The methods and analysis detailed below demonstrate the explorative approach to understand *what* knowledge had been included, and *how* it had been structured in a coach education curriculum.

The context of the course

The FA Level 2 Certificate in Coaching Football (1st4Sport, 2018a, 2018b) was primarily aimed at coaches working in grassroots football and was optional. The course was delivered by a combination of full-time and casual coach developers employed by the English FA. The focus of the course was on providing safe, fun and engaging opportunities for players. At the time of study, approximately 5,000 coaches per year undertook this course. The course consisted of twenty workshops divided into three blocks of learning (Block 1–4 days; Block 2–3 days and Block 3–3 days). Each course lasted ten days in total but was mandated to be delivered over a minimum six-month period to enable learner's time to apply their learning between blocks. Coach developers also carried out a minimum of two *in-situ* visits to support coaches between blocks two and three, and after block three. On-course, learners engaged in PowerPoint presentations, group discussions, individual planning, delivery of sessions and evaluations of those sessions. Throughout the course, learners were assessed in three core areas: (1) attendance at all workshops (20); (2) completion of an individual learner project linked to the FA DNA, which is a key policy of the FA (The FA, 2020) and (3) delivery of 40 minutes or more appropriate practical delivery within the coach's own context.

Sampling

Over 200 level 2 courses were delivered annually and so a purposeful and convenient case sampling approach was adopted (Sparkes & Smith, 2014). Following university ethical approval, two courses were chosen to be observed in different parts of England. Contact was made with coach developers, who were gatekeepers to the courses. Across both courses a total of five FA coach developers (1 female and 4 males) were responsible for delivery and all agreed to participate in this study. Details of the participants have been included in Table 1, but limited to support their anonymity.

Data collection

Documents

Given that curriculum are negotiated social constructs that manifest as curriculum in-text, documents were used to enable 'social facts' to be observed (Bowen, 2009) and gain a better

Table 1. Coach developer information.

	Coach Developer 1	Coach Developer 2	Coach Developer 3	Coach Developer 4	Coach Developer 5
Name (Pseudonym)	Jamie	Ashley	Blake	Taylor	Casey
Age (Years)	57	30	50	37	36
Highest Coaching Qualification (held at time of course observation)	Level 5	Level 3	Level 4	Level 3	Level 3 (undertaking Level 4 at the time)
Tutor Role	Full time	Part-time	Full Time	Part Time	Part Time
FA Tutoring Experience	20 years	3 years	19 years	3 years	3 years
Previous/Other Roles (i.e. if not full time in football)	Coach development officer, 1st team manager, Director of football	(FA) Skills Coach, Football development officer, Teacher	(FA) Skills Team Leader. College tutor, FA County employee	School sport coordinator, own business (in football development sector)	Military role, Academy Coach
Number of Level 2's delivered up to the 2018/2019 season.	10–12 (since August 2016)	6–7 (since August 2016)	4 x full courses 4/5 x different blocks (1-3) (since August 2016)	6 (since August 2016)	6 (since August 2016)

understanding of the level 2 course and what it was trying to achieve (Chapman et al., 2020). Documents (see Figure 1) were analysed to understand: (1) what content knowledge made up the qualification; and (2) how it was structured (via a scheme of work).

In total, the FA along with the awarding body (1st4Sport) created a combined 112 pages of documentation as part of the level 2 course. The FA then created a further 234 PowerPoint Presentation slides for 16 of the 20 workshops (workshops 16–20 were classed as the same topic/theme and format), a 120-page A5 learner journal and designed A2 posters ($n = 12$) which were all examined.

- 1st4Sport/FA Qualification Handbook (QHB) (2018a)
- 1st4Sport/FA Qualification Specification (QS)(2018a)
- 1st4Sport/FA Unit Specification (US)(2018a)
- 1st4Sport/FA Delivery, Assessment and Quality Assurance Approach (DAQA) (2018b)
- 1st4Sport/FA Qualification Purpose Statement (2016)
- FA Scheme of Work (SoW) (Level 2) (internal FA document)
- FA Level 2 PowerPoint Presentations (x16)
- FA Level 2 Learner Journal (internal FA document)
- FA Learning Strategy (internal FA document)
- FA Coach Competency Framework (internal FA document)

Figure 1. FA Level 2 policy documents.

Semi-structured interviews

To gather background and demographic data, interviews were conducted with five coach developers, totalling 193 min (3 h and 13 min; mean: 38 min). Two of the interviews were carried out over the phone prior to the courses starting, with the other three interviews carried out on-site (i.e. at clubhouse). These interviews were undertaken to understand the perspective of those who reproduce the curriculum on the ground.

Observations

Observations were used to enable policy to be viewed in practice, and to understand how coach developers were reproducing the curriculum in discourse. Fifteen days (105 hours) of observations across two courses in different parts of England were undertaken. Palmer and Grecic's (2014) framework for field notes was used as a basis for structuring observation because it has been developed for observing coach education, and because curricula can differ between written policy and practice.

Data analysis

Deductive analysis began by first examining *what* content knowledge had been included within the curriculum. This was followed by then examining *how* this knowledge was structured, in line with Bernstein's classification concept. To do this we flexibly used procedures outlined by Braun et al. (2016). Stages 1–3 allowed the first author to read the documentation developed by the FA and 1st4Sport independently, and initial codes were detailed and transferred into NVivo 12. Further codes were constructed across multiple documents that led to the formation of initial clusters of codes informed by the classification concept. The first author then generated initial themes from the data (e.g. implicit and explicit knowledge; strong classification of policy; use of specific disciplines). These initial themes were discussed and debated with co-authors to inform further constructions of themes and ideas. Within this third stage, course observations were also read and coded against clusters of codes generated from the document analysis. Stages 4–6 saw further re-reading of documentation and course observations, as well as interviews to further code, debate and amend themes generated by the first author. Continued discussions with the authoring team created a messy, iterative set of debates until we constructed three themes that we felt best represented the data (e.g. implicit knowledge of industry around technical and tactical elements). These themes were debated prior to submission of this article, during the review process using the comments from the reviewers, and resubmission where theme names were again revisited and altered.

Rigour

Given the epistemological stance taken within the research, a collaborative approach was undertaken with the FA. This involved the FA providing funding for the project which was matched by the first authors' institution. This support enabled rigour by providing access to course documents, coach developers, and courses and enabled the observations and document analysis to be undertaken. Collaboration also extended to the research team, who each brought their own subjectivities to the process. For instance, at the time of data collection, the first author was a practicing coach developer within the FA. This provided the first author with partial insider knowledge of the curriculum (policy) and a degree of capital to access coach developers and understand the coach education process. To manage the first authors' subjectivity the first author kept a reflective journal that presented an opportunity to document decisions, thoughts and feelings and to self-critically question these. The second author also has experience of working at the FA, as a course designer. Again, this enabled an insider perspective, albeit from a different position. At the time of writing,

both authors have left their roles but nonetheless their positions enabled access to resources, materials, knowledge and personnel to explore the classification of content knowledge on the FA level 2. To ensure rigorous analysis the perspectives of both these authors were challenged by the research team which also consisted of three members with experience outside of the FA. In this way, members of the research team acted as critical friends (Smith & McGannon, 2018; Sparkes & Smith, 2014). For example, the first author often discussed the practical elements of course experience. In contrast, co-authors would challenge perspectives by focusing discussions on broader conceptual considerations (i.e. classification). We note these considerations here in order to offer a transparent and sincere approach to the research process (Sparkes & Smith, 2014). On this basis, we encourage readers to critically consider the theoretical transferability (Smith, 2018) of findings to their own context of course/curriculum design.

Findings and discussion

This section presents and discusses three themes from the data. Themes 1 and 2 use data included in Table 2, and have therefore been included below.

Theme 1. A curriculum partially informed by research

The FA level 2 consisted of a variety of knowledge from academic disciplines (Table 2, columns 5 and 6). This included knowledge and concepts mainly from sport psychology, physiology, and to a lesser extent, skill acquisition and pedagogy (Table 2, column 4). Of these disciplines, psychological concepts appeared most frequently, along with physiology, suggesting that the FA classified this as legitimate coaching knowledge. Physiology and sport psychology are relatively well-established disciplines within the sport sciences (Abraham et al., 2006; Stoszkowski & Collins, 2016), and it is not surprising stakeholders deemed these disciplines as appropriate sources of knowledge for the FA level 2 curriculum. This is noteworthy because the validation of knowledge often occurs over time, by disciplines creating and insulating their own unique epistemological identities (Muller & Young, 2019). In doing so, disciplines differentiate their particular 'academic' knowledge from everyday 'mundane' knowledge (Bernstein, 1975, 2000). Consistent with this, a body of foundational knowledge from sport psychology and physiology has been deemed credible by those stakeholders who constructed the FA curriculum. The presence of these explicit theories and research-informed model's counters concerns regarding the prevalence of pseudoscience ideas in coach education (Bailey et al., 2018; Stoszkowski et al., 2020), as can be seen in Figure 2.

Beyond knowledge from psychology, physiology, pedagogy and skill acquisition, the course also encouraged considerations of social and philosophical aspects of coaching. For example, in workshop 3 (the social corner) Casey (a coach developer) commented:

> this (social) is the biggest thing for me in the game, in fact, it's not just the game, it's in life … growing people on and off the pitch, is what grows the game.

Learners also saw the value of this workshop, as one stated:

> Listening to this (the social corner) has really hit home to me and how important it is to understand developing the person.

What is notable, however, is the absence of explicit research-informed content knowledge on the social aspects of coaching. Observations revealed that the social workshop tended to encourage general dialogue with players and significant others (e.g. parents, coaches, welfare officers, etc.) but unlike other discipline areas (e.g. physiology), there were no obvious research ideas/concepts drawn upon. Research was referred to in a general sense, yet no specific evidence was presented (Figure 3). Given the importance of social topics in coaching (e.g. power, identity, ethics, micro-politics, care), this coverage of the

Table 2. FA Level 2 breakdown.

Workshop number	Workshop title	Workshop theme and aims (as set out within PowerPoint presentations)	Disciplinary knowledge(s)	Sources of knowledge		Grey literature
				Explicit theories/models identified in Level 2 documents and resources.	Other concepts interpreted by researchers as implicit within curriculum materials	
Block 1						
1	Introduction to the FA Level 2 in coaching football	The assessment criteria and format for the Level 2 in Coaching Football Course learning culture. The FA Vision for Coaching and how it relates to you and your coaching				England DNA
2	Coaching Philosophy	Your role as a coach. What success might look like in your context. Coaching philosophy	Philosophy		Relates to ICCE (2013) Vision and Strategy	England DNA
3	Social Corner	The potential of football in contributing to player's social development. Methods of how to most effectively communicate with people	Sociology		Life skill development	
4	Helping Players Learn	Coaching behaviour and its impact on player learning	Psychology. Pedagogy	Abraham et al. (2009) (adapted) Decision-Making Model is present on slides. Coach Analysis Intervention System (Cushion et al., 2012) Mosston and Ashworth's (1990) – Spectrum of Teaching Styles. Vygotsky's (1978) Zone of Proximal/ Optimal Development concept.	Guadagnoli and Lee's (2004) Challenge Point Framework	
5	Motivation	What motivates players to take part in football? What motivates players to keep them involved in football? What constitutes appropriate coaching behaviours to promote player motivation?	Psychology	Self-Determination Theory (name presented in slides but no authors included) (Deci & Ryan, 1985). Growth Mindset Theory (included in notes section, not on slides) (Dweck, 2006). Creating a learning environment – coach-athlete relationships (Mageau & Vallerand, 2003).	Weiner's (1986) Attribution Model. Nicholl's (1989) Achievement Goal Theory	The FA's Youth Development Review 2012
6	Self-Esteem	Coaching behaviours that promote player self-esteem	Psychology		Self-Esteem (Weiss & Ebbeck, 1996). Nicholl's (1989) Achievement Goal Theory	
7	Practice Spectrum	Structuring coaching practice	Pedagogy	Contextual Interference (Shea & Morgan, 1979). Variability of Practice (Wulf & Schmidt, 1997).	Challenge Point Framework (Guadagnoli & Lee, 2004)	

8	Developing Skill	The process of developing technical skills	Skill Acquisition	Development Model of Sport Participation (Côté et al., 2007). Deliberate practice (Ericsson, 2006)	Zone of proximal/ optimal development (Vygotsky, 1978). Game-based coaching	
Block 2						
9	Review of How We Coach	Reflecting on practice	Psychology (Reflection)	Types of reflection (Schön, 1983)		England DNA
10	Player Potential	Opportunity and experience and its impact on player potential. The implications of player age, gender and maturity for coaching practice	Physiology. Psychology. Pedagogy		Novice – Expert spectrum. Relative Age Effect (RAE). Maturation. Early Specialisation	
11	Managing Difference	Demonstrate the use of the STEPS principle during practice in order to support player development.	Psychology. Pedagogy		STEP Model. Constraints based coaching. Challenge point framework	
12	Managing Behaviour	Differences in player behaviour. Methods to prevent player misbehaviour. Methods to promote appropriate behaviour during practice and competition.	Psychology		Achievement Goal Theory (Nicholls's, 1989)	
13	Managing Mistakes	Recognising mistakes as an important part of the learning process. Interventions to support player learning and independence	Psychology			
14	The Physical Corner	The physical development of players. The manipulation of practices to develop physical returns. Maturation and its impact on player development	Physiology		RAE. Maturation	
Block 3						
15	Review of course so far	None identified.	Psychology (Reflection)			
16–20	Planning/ Delivering	None identified	Pedagogy			England DNA

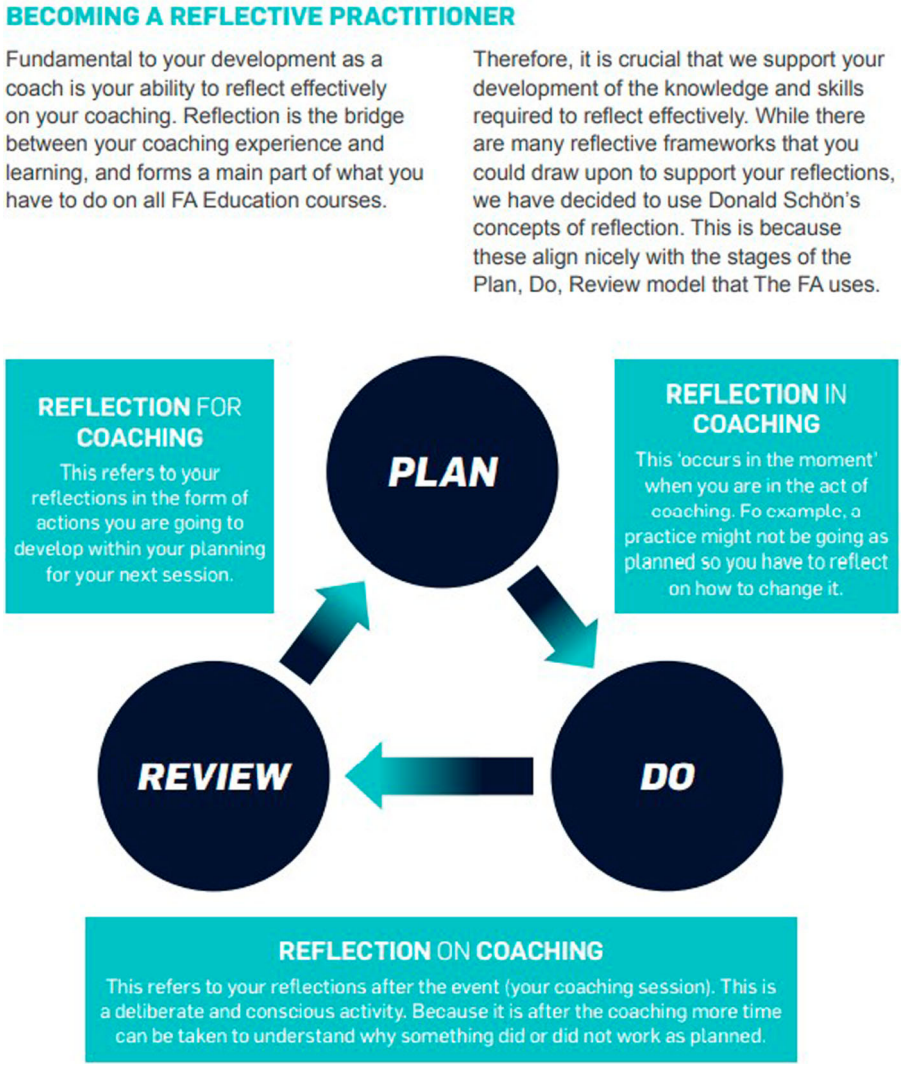

Figure 2. Schön's (1983) concept of reflection incorporated within learner journal.

social elements of coaching seemed inadequate and not reflective of the needs of the coaches, their environment, nor the evidence base available from the sociology of coaching.

Further, these vague references towards 'research' presented challenges for coach developers tasked with delivering the workshops on the social aspects of coaching. In the absence of explicit research-informed concepts on the in-text curriculum, discussions on the social corner were often cut short:

> We won't do the tasks (on the slide) because we are going outside and that's the best place to learn this (Casey).

In highlighting the need for more research-informed social and philosophical concepts, we do acknowledge that logistically not every aspect of coaching can be covered on a single course, particularly one of an intermediate nature. Related to this, Dempsey, Cope et al. (2021) described how course designers and department leads within the FA constructed coach education courses. With Bernstein's (2000) view of curriculum as a negotiated process in

Figure 3. Workshop 3 (the social corner) eluding to research, with no actual research referred specified.

mind, what theme 1 demonstrates is how these stakeholders deem knowledge, particularly from psychological, physiological and pedagogical disciplines as legitimate knowledge for sport coaches. It also demonstrates that while the social and philosophical aspects of coaching are recognised as important, they are less explicitly informed by research. This should prompt those who research the sociology of sport coaching and those course designers to consider how best to translate and integrate evidence-based research on the social aspects of coaching.

Theme 2. A strongly classified curriculum

Content on the FA level 2 was designed to be strongly classified and consisted of a *collection* rather than *integrated* curriculum. Table 2 illustrates this by providing a synthesis of the document analysis. Each workshop had specific aims (Table 2, column 3) and these were typically well insulated from other workshops. The strongly classified approach to knowledge meant that there was limited crossing of disciplinary boundaries on the courses observed. This could be problematic because coaches operate in dynamic contexts (Armour, 2014; Jones & Wallace, 2006), that require knowledge from multiple disciplines, and to understand how different disciplinary knowledge might interact to support positive sport experiences. This is because sport participation is always an interdisciplinary activity where physiological, psychological and sociological factors continually influence one another (Armour, 2014). However, observation notes from a discussion between Author 1 and Ashley (coach developer) highlighted the lack of integration between theory (i.e. classroom work) and practical (i.e. pitch work), Ashley comments:

> [Ashley discussing what he would say to learners] "What you've planned in the first day or what you brought onto your block two with you, just have a read of it, have a bit of a tweak, and then come and just show us," … [what Ashley then discussed with author 1] so there's not really been a directive of, if we're taking this concept of planning for learning, has there been direct planning for learning in relation to workshop 13, managing mistakes, that goes from theory to practical? No, there hasn't.

In the policy text (i.e. scheme of work, Table 2), knowledge was represented as clear, accepted, non-contentious and as a consequence uncontested, and therefore strongly insulated. For example, psychological knowledge on motivation was largely insulated from physiological knowledge on maturation. This resulted in a *collection* form of curriculum where knowledge was

compartmentalised into discrete units of study (e.g. workshops) (Bernstein, 2000; Daniels & Tse, 2020). A collection curriculum may enable the FA to organise knowledge into manageable portions of information, which learners can focus upon. This approach to curriculum design could also be seen as efficient and pragmatic because the FA is charged with supporting large numbers of coaches nationally. For example, a collection curriculum governed by strongly classified learning outcomes and knowledge means that if a learner missed a specific workshop on one course, they could access the same knowledge via the same workshop on another course. As Dempsey, Richardson et al. (2021) allude to, this structured approach to curriculum maintains consistent content, sequencing and pacing across courses. This enables the curriculum to meet the logistical imperatives of stakeholders' (e.g. the FA and the awarding bodies who quality assure courses).

This *collection* form of curriculum design ultimately directed the coach developers' pedagogical process on-course, who focused on the specified topic within designated workshops. For example, Blake (another coach developer) commented 'we tend to stick to the format and order of the workshops throughout'. Further observations revealed that there was little integration or revisiting of previous knowledge from other workshops. Coach developers on course were concerned about whether this approach helped coaches with the complexity of their contexts. Blake (a coach developer) explained:

> The bit that I'm not always sure of is how they (the coaches) integrate it back all together … you go out and see the first in situ (visit) after block one and it'll be very much social-psych stuff.

To support coaches to integrate knowledge from different areas, Armour (2014) proposed and demonstrated the use of pedagogical cases as a relevant learning tool. The genesis of these cases lies in rich narratives from sport participants, multiple disciplinary analysis of the participants' needs, and the development of interdisciplinary pedagogical strategies to support participants. NGBs, such as the FA, could similarly develop pedagogical cases, to serve as materials that prompt coaches to consider how knowledge from different disciplines can be integrated to support sport participants. Additionally, coaches themselves could develop their own pedagogical cases and integrate disciplinary knowledge derived from workshops to meet the needs of those they work with. This may however be a challenge because of the competing demands of NGBs and awarding bodies who need to design courses in an efficient manner due to the large number of learners completing them (Dempsey, Cope et al., 2021; Dempsey, Richardson et al., 2021). Thus, empowering coaches to develop their pedagogical cases, select appropriate content and explore that content in relation to their cases is a pedagogical strategy that requires co-ordination amongst multiple stakeholders. Nonetheless, pedagogical cases may support coaches to utilise the collection of content knowledge that is predetermined by stakeholders, and grapple with the complexity related to who they coach and what their needs may be.

In sum, theme 2 demonstrated a strongly classified curriculum in both policy documentation and practice. This may help coach developers to provide workshops clearly focused on discrete topics and for learners to access this knowledge in insulated episodes. This may, however, not reflect the complexity of coaching which requires practitioners to have time and space to integrate disciplinary knowledge for the benefit of coaches (Dempsey, Richardson et al., 2021).

Theme 3. The FA level 2 curriculum also includes 'Professional knowledge'

Largely through discourse, the FA level 2 curriculum contained knowledge derived from the football industry. This contrasts with the knowledge from academic disciplines where specific theories and concepts were prescribed in-text to coach developers and learners (e.g. self-determination theory, Deci & Ryan, 1985). This means that the FA level 2 curriculum was not wholly comprised of strongly classified knowledge from academic disciplines, but also contained knowledge derived from coach developers' experiences of the football industry (e.g. developers shared knowledge on topics such as combination play, defending in a 1v1 situation, or how to shoot across goal). Most prominently, this

Figure 4. The England DNA core elements (5 pillars).

knowledge included 'the England DNA'. The England DNA is a framework created by the FA that describes their player development pathway (Figure 4).

In text, this knowledge was represented in posters presented which espoused principles for player development (Figure 5).

As materials from workshop 1 indicate, one of the overarching aims of the course was to:

> Develop a greater understanding and awareness of the England DNA coaching fundamentals, the principles of play and the technical components of play (PowerPoint Presentation, slide 5, workshop 1).

However, as Figure 6 illustrates, in text (i.e. the scheme of work) technical, tactical and strategic football knowledge was very briefly prescribed, and unlike other areas (e.g. psychological knowledge) there were no specific PowerPoint slides provided to share technical and tactical knowledge.

The limited prescription of *what* technical and tactical knowledge should form the curriculum within policy documentation, led coach developers to develop these aspects of the curriculum themselves. For example, coach developers used their agency to devise their own technical and tactical curriculum and to share this through discourse.

> Author 1: "does one (technical and tactical curriculum) exist?"
>
> Ashley (coach developer): "just links to the workshops really and its outcomes"
>
> Author 1: "so how do you know what to deliver practically at L2?"
>
> Ashley (coach developer): "I guess it's down to the coach developer to bring the detail out"

Due to their professional knowledge, coach developers were well positioned to share such insights because they inhabit the same industry and similar contexts as the coaches (Lyle, 2018). This technical and tactical knowledge was not only shared in the workshops in block 3 (workshops 16-20) as

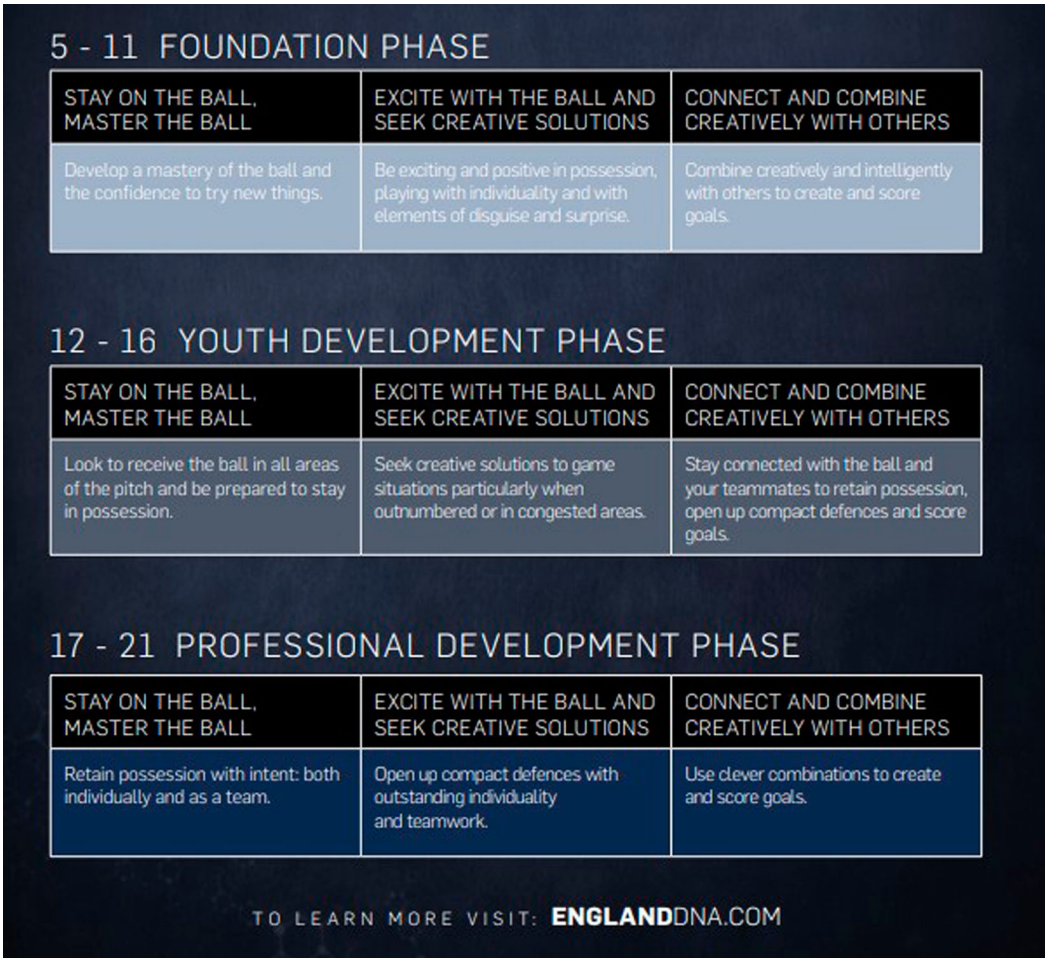

Figure 5. England DNA principles of player development.

SCHEME OF WORK - WORKSHOP (16-20)

Workshop (mins):	Delivery Method:	Topic/Workshop:	Assessment Method[1]:	Learning Activities:		Supporting Materials and Resources:	Notes / Comments:
				Tutor:	Learner:		
0 - 60	Guided Learning (tutor and learner led)	Planning		• Demonstrate planning process • This will either be in-possession, out of possession of goalkeeping (transition should be covered in either in or out of possession) • Planning process to include: - moment in the game - number of players available - formation - player considerations • Supporting and guiding learners to plan effectively	• Show their planning process relating to their players • This will either be in-possession, out of possession of goalkeeping (transition should be covered in either in or out of possession) • Planning process to include: - moment in the game - number of players available - formation - player considerations	• Tutor PowerPoint • Session Planner • Learning Journal	
60 - 70							
70 - 210	Guided Learning (tutor and learner led)	Delivering		• Supporting and guiding learners to deliver effectively • May support learner practically to deliver practical sessions if the learners requests help	• Leading the delivery of a practical session • Other learners to participate in session and/or take notes	• Practical Observation Feedback Sheet • Learning Journal • Session Planner	

Note: Tutors should use this scheme of work as guidance to ensure consistency of delivery and reliability of assessment across courses. The scheme of work is not designed to be prescriptive, rather providing an outline from which the tutor must tailor their delivery to meet individual and group

1 Assessment Methods: Portfolio of Evidence (PoE), Observation (O), Open Response Questions (OR), Closed Response Questions (CR), Role Play (RP), Multiple-choice Question Paper (MCQ), Alternative Response Question Paper (ARQ), Question and Answer (Q&A), Professional Discussion (PD), Written Examination (WE), Oral Examination (OE), Viva (V), e-Assessment (eA).

Figure 6. Workshops 16–20 (block 3) focused on technical and tactical components.

Table 3. Coach developer led practical delivery.

	Course 1	Course 2
Block 1	Workshop 3 (the social corner) – Out of possession – defending the diamond (1v1/unit). Workshop 7 (the practice spectrum) – Retain and build possession & Defending principles	Workshop 2 (coaching philosophy) – 1v1 into 4v4 games (no explicit topic, linked to coach developer philosophy). Workshop 3 (the social corner) – Risky Business (wave practice). Workshop 5 (motivation) – Creating Space (collaboration with learner). Workshop 6 (self-esteem) – SSG (7v7) Playing into and through midfield.
Block 2	Workshop 11 (managing behaviour) – Switching play, Pass and Move and Finishing (5 goal bingo). Workshop 13 (managing mistakes) – shooting/finishing and passing combinations	Workshop 14 (the physical corner) – 5x foundation phase mini practices linked to the physical corner (no explicit topic) i.e. Fox and Hound/Catch the Tail, 1v1s, etc. Also youth development style practice around shielding the ball.
Block 3	Workshop 15 (review of course so far) – Goalkeeping (handling & footwork techniques). *note – workshops 16–20 centred around: planning and delivery (no other explicit themes were included). Workshop 16 – in possession concepts (specific topic unknown). Workshop 17 – compactness in central areas and high press. Workshop 19 – pressing, counter pressing and counter attacking.	Workshop 15 (review of course so far) – receiving and shooting and passing and receiving. *note – workshops 16–20 centred around: planning and delivery (no other explicit themes were included). Workshop 17 – defensive principles of play (specific topic unknown). Workshop 20 – defending wide areas.

per the brief scheme of work, but also during practical sessions in other workshops, resulting in a weakly classified technical and tactical curriculum. For example, observations of workshop 4, which focused on coach behaviour and player learning, revealed that Blake showed learners posters of the principles of play/technical components, stating 'have an idea of your intentions for your session, what do you want to get out of it?'. Here, they integrated technical football knowledge with psychological and pedagogical knowledge of how players learn. Similarly, when exploring practice design in workshop 7, Blake also encouraged learners to think about and integrate technical knowledge:

> Blake "OK, I'm gonna complicate it a bit more now … what happens before-during-after the ball arrived, tech (nique) carried out, after it's gone!?"
>
> In response to this prompt, observation revealed that learners considered technical information including "body shape, looking up, weight, trajectory, how I will pass (range)"

The weak classification of technical and tactical elements on the course was influenced by coach developer's own experiences and beliefs. For example, observations in workshop 3 revealed that Casey (coach developer) 'values, a lot more the technical and tactical stuff'. Casey commented in their interview prior to the course starting that:

> I think, for me, the big step up I see between Level 1 and Level 2 is the technical detail, the technical detail and how it then impacts on a player. I see a lot of Level 2 sessions where they're still facilitating a practice; they're not coaching a practice. That's what I try and get across, they've got to go in, got to impact upon a player.

In Casey's own words, 'it's essential and you need to have it (technical and tactical knowledge). It's got to come before block three. It's got to'. However, it should be recognised that coach developers across the two courses observed provided different technical and tactical concepts to the coaches on each course. Table 3 demonstrates the difference in practical activities delivered on each course observed. Here, different professional knowledge was shared via discourse by coach developers, with some sharing more knowledge of activities focused on improving performance, whereas others shared knowledge on increasing mass participation.

This demonstrates that in terms of technical and tactical knowledge, coach developers are powerful stakeholders that can influence the curriculum. This power arises from their industry knowledge and experiences and the absence of a prescribed technical and tactical in-text curriculum. It does

however raise questions for future research to explore. For example, how do we know that the technical and tactical knowledge shared with learners meets their needs, rather than those of the coach developer? Where will learners access consistent technical and tactical knowledge, if it is not explicitly in the text of formal coach education curriculum? To what extent is the technical and tactical knowledge provided on course credible? Given these questions, and because technical and tactical knowledge is part of the interdisciplinary knowledge required by coaches (Abraham & Collins, 2011), NGBs and universities may wish to continue exploring how technical and tactical knowledge derived from industry is constructed, codified, quality assured and made accessible to coaches in text, as well as, discourse.

In sum, professional knowledge such as the technical and tactical elements of the game formed a key part of the curriculum as discourse, but was less explicit in-text. Knowledge of this framework was weakly classified across the workshops. Coach developers used their personal experiences to construct this aspect of the curriculum, and this meant that the technical and tactical knowledge shared was inconsistent across the two courses observed.

Conclusion

The aim of this study was to provide the first examination of *what* content knowledge contributed to the English FA intermediate (level 2) formal coach education course, and *how* this knowledge was structured to form a curriculum. This is significant because while it is common for studies to examine *how* coaches learn (e.g. Cushion et al., 2021), there has been little consideration of *what* coaches learn. In response, this study identified disciplinary knowledge borrowed from well-established disciplines across a wider education system that was strongly classified within the coach education course. Psychologically informed content knowledge (e.g. self-determination theory) was most prevalent within the case study course examined. This was supplemented by theories and concepts informed by physiology (e.g. maturation) and sport pedagogy (e.g. Mosston's teaching styles) that were classified as legitimate coaching knowledge. Yet sociological and philosophical research, theories and concepts were largely absent from the curriculum. Typically, knowledge and concepts were strongly insulated from each other resulting in a *collection* rather than *integrated* curriculum. There was also a body of technical and tactical knowledge used on-course which was typically derived from coach developers' own experience of the football industry, again illustrating how a wider system contributes to what is classified as legitimate coaching knowledge.

Based on the findings of this study, some considerations have been offered below to prompt further reflection of formal coach education policy within and beyond the context of the FA. Firstly, policy makers, curriculum designers and researchers may want to (re)consider the value of alternative disciplines to support coaches. For example, sociological and philosophical insights on power, micro politics, relationships, gender, race and disability may warrant more explicit inclusion in future coach education courses. Cautiously however, we are not suggesting replacing one piece of content knowledge with another, but suggesting that across the coach education landscape, these disciplines may have much to offer coaches. Secondly, given the interdisciplinary nature of coaching, it may be worth academic and professional bodies authentically collaborating to develop integrative elements that connect physiological, psychological and sociological knowledge. The curriculum examined herein structured these knowledges into discrete workshops, but there may be value in helping coaches to connect insights from different disciplines. Thirdly, within the current case and perhaps more broadly, technical and tactical knowledge was derived and reliant on the experiences and beliefs of coach developers. Coach developers used their power to weakly classify and share technical and tactical knowledge through discourse. This meant that the technical and tactical curriculum was somewhat idiographic and far from explicit. Given this, there may be value in further considering how technical and tactical knowledge, which is often generated in industry, could be demystified, defined, demarcated as quality knowledge and democratically shared to help coaches develop.

In sum, this study offers a significant contribution to coach education by exploring *what* knowledge is deemed as legitimate within an intermediate formal education course, and *how* it was structured to support learners. In doing so, the questions provided here prompt further reflection and research on curriculum in coach education, knowledge in coaching and the social construction of education systems, including the 'something' to be taught.

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