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Abstract

Coach education and continuing career development have become a significant focus of global discussion within the sport domain. Current mainstream strategies for developing and assessing coaches in most countries, including China, are based on competency-based systems. However, there are many shortcomings of this system, especially when considering the varied practical challenges and needs of coaches and athletes; in short, such an approach does not facilitate enough adaptability. The purpose of this article is to critically review the literature, exploring both competence- and expertise-based coach development systems and their implications for coaching practice in China. Firstly, we introduce and discuss the competency-based approach, including its strengths and weaknesses and how this applies within the Chinese development system. Next, we introduce and evaluate an alternative, expertise-based development system characterised by adaptability and greater inclusiveness within the coaching domain, which is underpinned by a distinct set of cognitive decision making skills from the coach's perspective. In addition, we expand this discussion by explaining the implications of this approach for coach assessment and offer some future suggestions for research in this area.

Keywords: decision-making, education, expertise, social milieu

The nature of sports coach development in China: What are we trying to achieve?

Globally, coach education and continuous professional development (CPD) have been a significant focus of discussion and research as coaching becomes increasingly recognised as a profession in its own right. Such discussion is truly worldwide (e.g., Callary & Gearity, 2019b), including in the United States (Aoyama, 2003; Gilbert et al., 2009), New Zealand (Cassidy & Kidman, 2010), Canada (Edwards et al., 2020), the United Kingdom (Nelson et al., 2013) and China (Guan & Zhang, 2008; Zhang, 2010). At the same time, research has identified that informal learning, including self-directed learning experiences (Wright et al., 2007; Reade et al., 2008), past sporting experiences (Stewart & Sweet, 1992; Cushion et al., 2003; He et al., 2018) and interactions with other coaches (Abraham et al., 2006; Cassidy & Rossi, 2006) can all play a valuable role in coaches' development and career advancement. However, the impact and role of formal learning cannot be ignored, despite some evidence reporting its lack of impact for coaches' learning (Nelson et al., 2013; Piggott, 2015). Indeed, we argue that achieving a coherent and complementary balance across formal and informal activities is at the heart of effective coach development systems (see He et al., 2018). Consequently, this article will address key outcomes and underpinning philosophy to ensure improved effectiveness within the profession.

Taking China as the focus of this *Practical Advances* article, there is limited and only very recent literature that shows a competency-based (teaching *what to do and how*) development system to be characteristic of most formal coach education in mainstream sports (Chen & Chen, 2022). Specifically, there are two systems of coaching in China, one is the elite sports system and the other is a school (mass sports) system, managed by the General Administration of Sports (GAS) and the Ministry of Education (MoE), respectively. Both the GAS and MoE adopt a skill grading system as a way of developing and promoting sports coaches' skills. Comparable with systems in other countries, both have clearly defined the duties, qualifications, approval procedures and employment methods for the different coaching levels, with the assessment organised by the appropriate level of institution to evaluate theoretical knowledge and professional competence (Chen & Chen, 2022).

Where the system in China differs, however, is the requirement for coaches to improve their political awareness, publish academic articles at an international level, as well as demonstrating elite success with athletes, for the highest grade of accreditation. Moreover, proficiency in a foreign language has become one of the essential requirements for coaches in the revised grading system (State Ministry of Personnel & National Sport Commission, 1994). Notably, this foreign language requirement has been identified as a barrier to coach development with regards to understanding and speaking English (He et al., 2018). In summary, the coaching pathway in China can be viewed as very formulaic in terms of criteria that need to be achieved, with a focus on high academic qualifications and international coaching success as requirements for the highest-level of accreditation.

Despite the competency-based system in China producing many successful coaches of elite athletes, the problems it has revealed are diverse. Firstly, the development of coaches under the school sports system is restricted by the influence of the 'Juguo Tizhi' policy; that is, the whole country should focus on supporting the development of elite sport and specific sports with a strong national identity (e.g., table tennis and football). Secondly, according to the regulation governing coaches' development, senior coaches must submit a special application to the GAS to advance to national level under the school system (General Administration of Sport of China, 2003). However, details of this special application process are vague and unclear, which presents a barrier for qualified coaches to progress (Chen & Chen, 2022). Thirdly, as the role of school coaches is often played by college and university physical education teachers (not full-time professional coaches), their CPD training and skills assessment is often lacking and aligned to the narrow agenda of the government's policy, which affects the professional competence of school and mass coaches (Li, 2006). Fourthly, even for elite coaches, Wu and Wang (2016) found that their education level and research capacity (i.e., academic skills) was low because they mostly entered their position following retirement as athletes, which limited their opportunity for further development under a competency-based development system. Reflecting the current approach, CPD in China can be viewed as placing a large emphasis on theory at the expense of applied practice and/or experience

(Wu et al., 2016). In this way, current coaching materials attach greater importance to traditional disciplines (e.g., biomechanics and physiology) rather than the more holistic needs of coaches, such as sports psychology, relationship management and motor skill development. Indeed, the idea of interdisciplinarity, which is a prominent feature of participant development in the UK coaching system (e.g., Bailey et al., 2010), is not strongly featured within the Chinese coach education agenda. For instance, understanding how to use an interdisciplinary approach might include the effective presentation of technical information to an athlete during the process of making small refinements to their movement (Carson & Collins, 2017). Accordingly, a coach may offer video feedback and consider the nature of verbal communication with the athlete to reflect the psychological challenge involved when trying to interpret the information (e.g., being encouraging, guiding and sympathetic to any confusion/misunderstanding/frustration/worry). In addition, the coach may utilise social factors by providing an example of another athlete who is held in high regard, with similar body dimensions and who can demonstrate the effective technique and/or demonstrated desirable psycho-social skills (e.g., being open with their support team, having realistic goals throughout a competitive season etc.) necessary to complete the intervention previously. Furthermore, the interactive nature of these disciplines in applied practice, in addition to the decision making to design and apply an optimum 'blend' for the context, are both lacking. As a result, the current competency-based development system in China warrants critical evaluation.

Given the issue discussed above, research should begin to address many aspects of the Chinese sports development and education system, including its aims and practices. In contrast to competency-based (teaching *what to do and how to do it*) development systems, the current coaching development literature proposes that a more appropriate expertise-based (teaching *what to do, how* and understanding *why*) approach is more appropriate to meet the needs of different sport participants (Collins et al., 2015b). Accordingly, in an attempt to accelerate the development of coach education in China, the purpose of this paper is to present our insights as coach developers on this important, yet relatively unaddressed (see Callary & Gearity, 2019b), topic. Specifically, we will

comment on the literature exploring how coach education has been developed and assessed, the most current approach and its implications for coaching practice in the context of our current scientific knowledge regarding systems in China.

What are we Developing and Assessing within Coach Education?

Competency-based Development Systems

Within coach development programmes, presentation of what the coaching process consists of has profound implications for how a coach conceptualises their work and for how the sports industry understands high-level coaching. In this regard, a competency-based development system is common in coach education that provides prescriptive actions for coaches within teaching materials and syllabi, specifies training time and 'competency units'. In short, teach *this*, in *this* way. Importantly, competencies are taught as a set of behaviours that a coach must be able to demonstrate, such as a sporting technique (e.g., how to correctly execute an overhead serve in badminton), the design of training sessions (e.g., warm up, explanation and demonstration of skill, practice drills etc.) and management of risks (e.g., location of participants at a safe distance when learning a racquet sport; Chinese Basketball Association, 2022; Chinese Badminton Association, 2021; Wang et al., 2021). Following a period of practice using these competencies, coaches are assessed in an environment where these same behaviours are observed and evaluated by specialist examiners. Although the accreditation content varies from country to country, the model or framework for training and assessment described above is very similar and this development pathway is considered central to the coaching support role (Trudel & Gilbert, 2006).

While there is recognised merit in coaches being competent in their delivery of content and some situations requiring a black and white 'if this, then . . .' approach, many have critically argued that, in real-world practice, the challenges faced by coaches are often characterised by complexity, interdisciplinarity and uniqueness (Abraham & Collins, 2011; Collins et al., 2015a). In other words, rather than coaching solutions being right or wrong or black and white, they are often differentially effective based on a large range of factors (e.g., the amount of time afforded, athlete personality,

injury status, etc.) which present a more nuanced ‘shades of grey’ understanding. In fact, even if these differences are subtle, they are often meaningful towards the level of impact on participant development and performance. That is, coaching behaviour is not a programmed formula that has standard answers, but rather the result of considering myriad of influencing contextual variables within a very specific situation (Jones, 1997). These factors include the type and demands of the sport (e.g., Harvey et al., 2013), the age of the athlete (e.g., Partington et al., 2014), the gender of the athlete (e.g., Millard, 1996), the skill level of the athlete (e.g. Markland & Martinek, 1988), the philosophy of the coach (Cushion & Jones, 2001) and the stage of the season (e.g., Potrac et al., 2002), to name only a small number; thus, testing the depth and breadth of the coach's knowledge and their cognitive decision making ability. Effective coaching is therefore considered to require both a broad and deep level of relevant subject knowledge pertaining to sporting, situational and contextual variables (e.g., sport-specific, pedagogy and life skills), combined with a mastery of practical approaches (e.g., prioritisation, video analysis and periodic performance reviews) to plan, implement, progress and review participants’ pathways (see Abraham et al., 2006). Considering effective coaching with these factors in mind carries with it a significant cognitive load. Consequently, there is a need to develop specialist, interdisciplinary knowledge to address challenges in the professional environment, rather than relying on overly-simplistic, repetitive and recipe-like solutions that might not address the complicated and most important of situationally-dependent issues (Hoffman et al., 2012); in short, this need cannot be met solely by the competency-based development system. Crucially for coach developers, the current mainstream development pathway should, at the very least, be critically considered if it is to consistently produce effective practitioners (Collins et al., 2015a).

Empirically, evidence has supported both the beneficial and limiting role of the competency-based approach. Banack et al. (2012) found that novice cross-country skiing coaches were able to effectively acquire an understanding of prescriptive concepts within talent development and employ them within their coaching practice in a short time period. Demers et al. (2006) also demonstrated

the utility of a competency-based approach to training undergraduate university students in Canada, achieved through both knowledge acquisition and practical participation within specific environments. Key competencies within the programme were; making ethical decisions, practicing safely, analysing performance and providing prescriptive solutions, delivering training sessions, supporting athletes at competition, designing a season or 1 year programme according to defined guidelines and undertaking administrative duties. Self- and peer-to-peer reflections were used in a guided manner in relation to what was coached and how. However, it is acknowledged that these need to be less structured in later stages and there is a growing need for coach independence. This initial approach does seem to facilitate coaches to solve situational issues and offers a transition from classroom learning to on-site practice by internships. Despite this competency-based approach emphasising the importance of communication, it does not provide relevant training and evaluation. Mason et al. (2020) also demonstrated that interaction in competency-based approaches is often limited. In summary, there is need to further explore the effectiveness of this approach.

Indeed, the problems with the competency-based development system are varied and cannot be ignored. Firstly, as discussed above, this development pathway does not suit the existing professional environment or range of clients experienced by most coaches (e.g., in sport and/or school settings). For instance, effective coaching relies on interpersonal circumstances in which one interacts with clients/athletes/students/other colleagues. There is no doubt that the inability to communicate effectively and build good relationships with participants is not conducive to improved performer or team performance (Margaret et al., 2010). However, the competency-based approach does not appear to provide effective training for, or evaluation of, interpersonal related issues such as ethics, emotions and social skills, or at least not for the range of possible permutations within the coaching environment (Carson et al., 2021). For example, in the case of basketball, football and badminton coach education in China, the developmental focus is solely on theoretical knowledge and practical demonstrations. In doing so, the training disregards the importance of the interpersonal dimension and/or needs of each athlete (cf. Chinese Basketball Association, 2022;

Chinese Badminton Association, 2021; Wang et al., 2021). Furthermore, even if a coach demonstrates competence when being assessed, there is no guarantee that s/he will be able to properly utilise or adapt it in practice when required to meet any change in demands. In other words, acquiring a competency does not equate to making an individual competent in *transferring* the knowledge and/or behaviour within the sports coaching context (Mintzberg, 2004). Conversely, it is not possible to say that a person is incompetent in a role because they omit the demonstration of a skill during assessment.

In addition, the competency-based development approach provides what appears to be a comprehensive but overly simplistic certification for sports coaches. In China, the qualification to become a Level E coach (i.e., who can only assist other coaches) in basketball, football or badminton, requires training and assessment of 10–23 theoretical and practical competency units within 40 educational hours (Chinese Basketball Association, 2022; Chinese Badminton Association, 2021; Wang et al., 2021). Similarly, UK Coaching (2022, 2023) stipulates that a qualified UK Level 1 basketball or badminton coach requires the development and assessment of approximately three competency units and the fulfilment of four sets of learning standards over 40 educational hours. In contrast, becoming a UK doctor requires the achievement of 16 outcomes in 5,500 training hours (General Medical Council, 2011). We therefore consider it dubious and epistemologically inconsistent to train sports coaches to become proficient in such a wide range of competencies in a limited timeframe.

Furthermore, the coaching materials used for training in this framework are likely out of date (e.g., Fitts & Posner, 1967). In fact, the rate at which new research findings are translated and compiled into valuable material is slow within applied settings (Farrow et al., 2008). It is suggested to take at least 10–20 years to apply coaching theory to practice (Rushall, 2003). Finally, even though the competency-based approach is able to develop success in sport, it does not satisfy the practical and global demands associated with different settings (e.g., cultural, regional and types of sports). That is to say, with increased globalisation of the sports industry, working with cross-cultural teams

and athletes, or in an unfamiliar social environment, has become a common challenge (Griggs & Gibbons, 2014). Such challenge is truly diverse and significant, including important factors relating to the coach–athlete relationship (Yang & Jowett, 2013), pedagogic approach (e.g., using physical punishment; Hagiwara & Wolfson, 2013), culture (collectivist culture vs. individualist culture; Yang & Jowett, 2013) and management style (Wang & Calloway, 2011). Accordingly, the competency-based approach lacks consideration of these important and nuanced challenges to the delivery of training practices. Therefore, coaches progressing through such a system may struggle to transition when working in other contexts around the world or with different participants.

Despite this criticism, competency-based development can be beneficial for novice coaches without practical experience. Specifically, it contributes remarkably to the early development of a coach's career, for example, by systematically developing theoretical knowledge, providing guidance on technical actions and managing and responding to simple risks. Indeed, the initial experience and knowledge base of most coaches is often gained through 'apprenticeships of observation' as an athlete (e.g., Cassidy & Rossi, 2006; Harvey et al., 2013). Although, learning from expert practitioners is limited unless consideration is given to *why* coaches take the actions they do (Martindale & Collins, 2010). Thus, competency-based systems provide a valuable keystone for coach development in the first instance to better understand what principles might look like. However, while the foundational activities in practice, including safety checks and planning of sessions, are aligned with the standards trained in the competency-based framework, when the challenges encountered are more esoteric and difficult, the system does not meet the needs of the practitioner and it is impossible to cover all possible solutions within coach education training. As discussed above in relation to the variety of contextual variables, the issues faced by practitioners in complex situations are often dynamic, uncertain and unpredictable. Coaches need to work towards integrating and applying interdisciplinary knowledge to achieve different training objectives to meet the diverse needs of their clients and, most crucially, understand why they are doing what they are doing (Olsson et al., 2017). For example, for athletes who are recovering from a serious illness and want to

rebuild their athletic ability and confidence, coaches often need to integrate psychological and communication skills to fulfil athletes' demands, rather than just designing physical sessions and demonstrating movements that take into account injury history. Another example when coaching young participants and/or beginners is the delivery of instructions when learning a motor skill. In this instance, making the verbal instructions personally and culturally more meaningful and functionally-relevant should be reflected in the content, modality and volume of instructions provided (Bobrownicki et al., 2019). However, these common challenges in practice cannot be fully addressed by a competency-based development system. Therefore, this framework no longer seems practical for those coaches wanting further development because by its very nature it separates and isolates specific procedural tasks from the complex entirety of the coaching role (see Olsson et al., 2017).

Expertise-based Development Systems

In contrast, expertise-based approaches address the limitations of the competency-based system described above. Before proceeding to a more in-depth discussion, it is beneficial to clarify exactly what we mean by expertise for better understanding. Collins et al. (2016) utilises the work of Hoffman (1998) to define expertise as:

> (a) cognitive development (progression from superficial and literal understanding to articulated, conceptual and principled understanding); (b) knowledge structure (more sophisticated knowledge organisation, and more elaborate mental models); and (c) reasoning processes (enhanced perceptual skill, more case-based reasoning and greater reasoning flexibility). (p. 3)

In fact, this is similar to the general definition of expertise (not sport or practitioner-specific) in the Chinese context: (a) solid meta-competence; (b) systematic knowledge and; (c) the ability to solve practical problems (Zhiliao Haoxue, 2021). In addition, in Chinese, expertise is also considered to have the capacity for continuous career progression based on personal growth (Zhiliao Haoxue, 2021). In summary, expertise acknowledges the necessity for thinking skills, a propensity to understand differences, self- and situational awareness in the face of different performer and/or

sporting demands and an ability to justify *why* coaching actions are taken and others are not. In doing so, the expertise-based development system advocates *active* development of flexible and adaptable cognitive factors (e.g., meta-competence) as an extension to the behaviours and systematic knowledge on which the competency-based system focuses. Unfortunately, as explored earlier when addressing the Chinese coach development system in sport, crucial consideration of these characteristics seems to be missing when evaluating high-level coaching practice.

Specifically, expertise-based solutions assume that the options available to coaches when attempting to solve a particular practical problem are diverse and that the best strategy usually requires a combination of approaches that are adapted for each individual (Girot, 2000). Indeed, an expertise-based approach can be more difficult for coaches since it comes with additional procedures to ensure that an effective solution is being provided as a situation develops. As such, coaches must be able to monitor their actions, their impact and the potentially changing demands of the situation/performer needs. This means that, following an initial analysis, coaches must decide on a most appropriate solution, track and understand the nature of a performer's progress and audit their decisions in context. Based on this perspective, a focus on the cognitive factors (i.e. *why*), including learning reflective, reasoning and adaptive skills (Knowles et al., 2013), becomes the focus of the abilities that coaches need to develop, which is also the focus of the expertise-based framework. This is clearly more in line with the needs and circumstances of practitioners working with different participants than the competency-based approach's emphasis on the behavioural factors alone (i.e., *what* to do and *how* to do it). With these skills comes an ability to professionally develop, by working to support performers on more complex problems (e.g., assessing poor performance causes across multiple factors such as fitness, imagery ability and lifestyle) and over longer timescales that require higher-levels of planning and knowledge (e.g., 4 year Olympic cycles).

In this regard, decision-making has been recognised as key to many professions (Smith et al., 2004). Therefore, understanding and improving decision-making skills is an example of what an expertise-based system should embed to effectively develop coaching skills (Collins et al., 2015a).

Specifically, scenario-based training and formative testing of professionals' expertise (e.g., awareness and rationalisation of situational demands) are central to this development pathway. Its contribution to practitioners is diverse, including facilitating the learning of complex and interdisciplinary knowledge structures, building a more complete mental model of practice, providing a model of 'cognitive apprenticeship' to enable their thinking to be seen by peers and themselves and developing 'cognitive authenticity' (Ross & Pierce, 2000). It is worth emphasising that, unlike a competency-based system, the review of key sporting, situational and contextual factors (e.g., athlete attitude, family involvement, physical attributes, time afforded, level of competition, etc.) will be *prioritised* in this approach based on their weighted level of impact. Only those factors that are most important in influencing the identified issues will be considered for review and evaluated by the coach.

Assessment within Coach Development

Discussing the different assessment process of the competency versus expertise approach facilitates a deeper understanding of the characteristics of, and values within, both systems. In the former approach, the assessor will systematically observe the coaching process and evaluate the performance of the coach against established criteria. Examples within Chinese basketball coach assessment include “successful demonstration of skills for training objectives”, “reasonable planning of session procedures” and “accurate and correct use of teaching language and terminology” (Chinese Basketball Association, 2022, para. 3 and 4). Although systematic observation is considered a valuable tool and one of the most commonly used methods to understand coaching behaviour (Gilbert & Trudel, 2004), its limitations cannot be ignored (see Kahan, 1999) since it only attaches importance to behavioural factors and not an understanding of an authentic coaching context. Indeed, it is possible that a coach might simply copy the behaviours of another coach, or learn to the criteria of the assessment which might not be suitable when presented with a slightly different problem needing to be solved. In this regard, existing research has focused on mixed methods approaches by combining systematic observation and interpretive interviewing (Cope et al., 2017;

Hall et al., 2016). That is, not only are coaching behaviours considered, but also coaches' rationale, such as why a behaviour was chosen and used, whether alternatives were considered and the reasons for not choosing alternatives are explored (Collins & Collins, 2014). This idea of valuing both the process and meta-processes of the behaviours associated with the key sporting, situational and contextual factors is precisely the systematic approach to assessment that is central to expertise.

Therefore, given the limitations of the competency-based approach discussed above, we deem that it is not sufficient to assess *only* 'what coaches do'. Instead, the expertise-based approach is more appropriate for developing coaches because it focuses additionally on the 'why they do' (and, of course, why not) that helps to develop practitioners' aforementioned frameworks of thinking, reflective and analytical skills to meet the demands of their dynamic, changing and interdisciplinary professions. The next section discusses the practice and impact of this approach in coach development in more detail.

Implications of an Expertise Approach on Coach Development

Some national institutions have realised that understanding and developing coaching should meet the demands of learners in each particular context (e.g., UK Coaching, 2018). Considering that expert coaching places high cognitive demand on decision-making processes, training and developing decision-making skills helps coaches to fulfil their career ambitions of having an impact with a range of participants. In order to improve this capacity, Collins et al. (2016) suggested that its development requires much thought in the form of metacognition, or in short, thinking about thinking through planning, monitoring and reflecting on a coach's behalf. Given this background, Abraham and Collins (2011) explored and created an integrated approach for professional judgement and decision making (PJDM), of which metacognition is considered a fundamental to this process (Collins et al., 2016). Within the PJDM approach, coaches must decide on and undertake an on-going audit of their strategy to meet specific participant needs in relation to situational demands and the coaching context. Indeed, such a process requires coaches to possess both depth and

breadth of knowledge and procedural skills when formulating their intention for impact (Martindale & Collins, 2005).

Reflecting PJDM in practice, applications regarding this approach are currently focused across a range of practical contexts, including adventure sports that are characterised by diverse participation motivations and demands (e.g., Collins & Collins, 2016) and within the strength and conditioning domain to realise the contribution of multiple disciplines that contribute toward effective athlete engagement (Downes & Collins, 2021). Specifically from our first example, Collins et al. (2015b) examined the role of adaptability and creativity in PJDM and found that adventure sports coaches were particularly good at recognising and managing the interdependencies of context, content and individual demands. Similarly, Downes and Collins (2021) exemplified the professional practise of strength and conditioning coaches by suggesting and revealing the decision-making processes and emphasising the necessity of communication, confidence and flexibility for successful coaching. It is therefore not surprising that PJDM plays a significant role in developing effective outcomes (Collins et al., 2018).

Considering the importance of PJDM and how it may best be developed, Collins and Collins (2021) proposed the 'Big 5' in conjunction with general expertise approaches (Cruickshank & Collins, 2015) to stimulate active cognitive development. Specifically, the 'Big 5' is designed as a series of progressive considerations to reflect on the performance of coaching processes and outcomes experienced. Firstly, coaches are prompted to focus on what happened or what the coach did during the coaching process. Secondly, they are asked to consider the other options that may have been available to them at the time, in order to establish a clear understanding of the events that took place in the session. Thirdly, coaches should then provide the reason(s) for choosing a decision. Fourthly, the Big 5 challenges coaches to consider what would need to have been different about the situation/performer/etc. in order to select a different option. Finally, coaches are asked to simulate their actions and behaviours in a hypothetical scenario and explore possible contingencies. This structured approach gives the coach opportunities to share ideas with colleagues, to reflect

critically on their coaching and to maintain cognitive honesty by thinking through alternative scenarios.

The Big 5, as an expertise-based approach, is a combination of PJDM-based and other theories in coaching development. In fact, this approach requires coaches to frequently share ideas and statements with colleagues; that is, to develop coaching through social interaction (cf. Stoszkowski & Collins, 2014). Through this process, coaches discuss with each other and share knowledge in pursuit of progress, which is a key factor to informing a community of practice (Lave & Wenger, 1996) or a learning community (cf. Gilbert et al., 2009). This interaction also helps to generate shared mental models (Cannon-Bowers et al., 1993) to anticipate and cater for the actions of others to manage risk (Mees et al., 2020) or to adapt training practices for motor outcomes with advanced performers (e.g., Carson & Collins, 2017), for example. Finally, this structured social interaction follows the cognitive apprenticeship model (e.g., Cassidy & Rossi, 2006) and other expert support roles (e.g., Martindale & Collins, 2010). In summary, a number of ideas in coaching development provide a significant theoretical basis for the Big 5 approach.

Reflecting it in practice, the feedback from 50 experienced adventure sport coaches showed that the Big 5 intervention is positive and able to meet their coaching needs (Collins & Collins, 2021). Furthermore, this approach is recommended to improve the coaching of outdoor instructors (Mees et al., 2021) and football coaches (Price et al., 2023). Considering the obvious importance of the expertise approach in coach education, however, the amount of research attempting to address the application of this advanced developmental system in the Chinese context is notably absent. In fact, changing to this system may benefit coaches in China by clarifying the use and conceptualisation of specific knowledge, but more importantly, assist in the development of key inter-personal and communication skills (i.e., engaging openly with the Big 5 in peer-based learning context) that do not exist in current coach development systems (i.e., Chinese Basketball Association, 2022). However, residential training approaches are the most common method for training coaches in China and are already criticised by researchers in China due to its inaccessibility with modern life and work

demands (Ma et al., 2004; He, 2019). This approach might therefore be challenging since adaptive expertise takes longer to develop, if it is possible at all.

In summary, there is a broad recognised need for more research on the process of coach development from the coach developers' perspectives, including their applied lived experiences (e.g., Callary & Gearity, 2019a), learning by E-Portfolios (Dray & Howells, 2019) and workplace learning (Leeder et al., 2019) when delivering coach development programmes. Therefore, we encourage this direction of research in general and by focusing on the Big 5 application and impact specifically, for diverse sport needs and with different cultural backgrounds such as in China.

Conclusion

After discussing both competency-based and expertise-based development systems, this article has demonstrated the significant and important contribution the latter could provide to coaches in China to improve their coaching skills. To be clear, this does not mean that the competency-based approach is not helpful to practitioners. For example, it can be used to a greater extent during early stages to develop theoretical knowledge and necessary practical competencies. However, when considering more advanced coaching situations and how a coach education system might best prepare early career coaches to progress to these stages, the limitations of a competency-based approach becomes apparent. Notably, this article has highlighted the need for greater nuance within the professional coaching environment, which has implications for coach training content and assessment demands. Therefore, an expertise-based approach that focuses not only on *what* and *how* coaches work, but also on decision making factors to understand *why* those actions (and *why not* others) were taken, is suggestively more appropriate in meeting the dynamic and complex professional environment faced by coaches.

In practical terms, the need for an expertise-based approach to coach development is growing increasingly more important with the globalisation of the sports industry. Indeed, this is reflected, for example, by the transfer of athletes/players across professional sporting leagues (e.g., in football) from many European countries to China (e.g., Paulinho from Tottenham Hotspur FC to

Guangzhou Evergrande and Oscar from Chelsea FC to Shanghai Port FC). Furthermore, coaches are also moving to and from China to take up professional coaching opportunities at academies, national organisations and with teams around the world (e.g., PGA, 2020; Tao et al., 2019). Domestically within China, an expertise-based approach may also enable greater participation in sport, for example by broadening the sports available or the nature of participation within those sports (Collins & Carson, 2022). Accordingly, there is an increased need and benefit that can accrue from offering an approach that embraces, is inclusive of and tailors for different peoples' needs. There are undoubtedly differences between cultures around the world, but recognising and learning how to negotiate these differences and adapt practice to improve a range of outcomes (e.g., performance, competitiveness, enjoyment or health) is essential within the global context. In order to accelerate progress in China toward this approach, future research should address some of the limitations presented in this article due to its somewhat speculative nature due to an absence of research, by assessing existing coaching practice and coaches' understanding through observation and interview methods. Finally, we recognise that the social environment also plays a part in any implementation of new coach education approaches and research should sensibly consider important factors within this domain in China.

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